

EARLY BRYOLOGICAL LITERATURE

A DESCRIPTIVE BIBLIOGRAPHY OF SELECTED
PUBLICATIONS TREATING MUSCI DURING THE FIRST
DECADES OF THE NINETEENTH CENTURY AND
ESPECIALLY OF THE YEARS 1825, 1826 AND 1827.

PROEFSCHRIFT

TER VERKRIJGING VAN DE GRAAD VAN DOCTOR IN DE WIS-
KUNDE EN NATUURWETENSCHAPPEN AAN DE RIJKSUNIVER-
SITEIT TE UTRECHT, OP GEZAG VAN DE RECTOR MAGNIFICUS,
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PROMOTOR: PROF. DR. F. A. STAFLEU

Aan *Veronica*
Marjolein
Robin

V O O R W O O R D

Bij het afsluiten van dit proefschrift wil ik allen, die mij daarbij geholpen hebben, hartelijk bedanken.

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Vervolgens, en zeker niet minder welgemeend, gaat mijn dank uit naar Prof. Dr. R. van der Wijk, voor het verwezenlijken van een reeds vroeg door ons gekoesterde wens, een *Index Muscorum* tot stand te brengen en het mogelijk maken van mijn aandeel in de voorbereiding. Ook voor alles wat hij voor me gedaan heeft tijdens deze periode ben ik hem zeer dankbaar. Ik stel het op prijs dat hij dit proefschrift door heeft willen lezen en mij kritische opmerkingen heeft willen doen toekomen. Ik hoop, dat het hem een genoegen doet, dat een aantal problemen, die rezen bij het bewerken van de *Index Muscorum*, opgelost zijn.

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Vervolgens wil ik al degenen bedanken, die niet genoemd worden en toch bijgedragen hebben aan het totstandkomen van dit proefschrift.

S A M E N V A T T I N G

PROBLEEMSTELLING.

Verschiedene problemen, die een nadere behandeling vereisten, rezen bij mijn werk aan de *Index Muscorum*. Deze index geeft een opsomming van alle Latijnse namen voor geslachten, soorten en variëteiten van bladmossen (*Musci*) met toepassing van de moderne internationale nomenclatuurregels. In verband met het fundamentele prioriteitsbeginsel hierin is het nodig, de juiste datum van publicatie te kennen van de boeken of artikelen, waarin nieuwe Latijnse namen voorkomen.

Enkele belangrijke problemen betroffen publicaties uit de jaren 1825, 1826 en 1827, waarvan de preciese datum niet was opgespoord, en ook de volgorde, de relatieve datum, onzeker was. Elk van deze drie jaren kwam in aanmerking voor het artikel van G.A. Walker Arnott: *Nouvelle disposition méthodique des espèces de mousses*. Het exemplaar van het tijdschrift dat voor de *Index Muscorum* geraadpleegd werd, had het jaartal 1827 op de titelpagina; er was evenwel aanleiding om te veronderstellen dat de betrokken aflevering in 1826 was gepubliceerd, maar de literatuurcitaten gaven 1825 op. Vervolgens was er twijfel betreffende de publicatie-data van de 2 delen van S.E. Bridel: *Bryologia Europaea*, waarvan het voorbericht gedagtekend was 16 Dec. 1826, zodat publicatie van deel 1 in 1826 twijfelachtig leek. Een belangrijke moeilijkheid was de relatieve datering ten opzichte van enige van de 11 afleveringen van C.F. Schwaegrichen: *Species Muscorum ... Supplementum*.

In verband met deze problemen werden de jaren 1825-1827 uitgekozen voor een nader onderzoek, toen zich in het kader van het botanisch-bibliografische project *Bibliographia Huntiana* van de Hunt Botanical Library te Pittsburgh, Pennsylvania, de gelegenheid voordeed, een speciaal hoofdstuk te bewerken. Dit project beoogt een gedetailleerde bibliografie te geven van alles wat over botanie gepubliceerd werd in de periode van 1730-1840.

Mijn onderzoek begon met het raadplegen van alle toegankelijke publicaties uit de genoemde drie jaren, waarvan het mogelijk geacht werd dat er mossen in behandeld waren. Boeken die inderdaad mossen noemen, werden verder bestudeerd, ook al betrof het minder belangrijke werken, b.v. populariserende boeken. Het tijdschriftenmateriaal werd minder grondig bestudeerd in verband met de arbeidsverdeling in het gehele project. Gezien de ervaring verkregen door mijn werk voor de *Index Muscorum* is de kans echter niet groot dat er nomenclatorisch belangrijke publicaties over het hoofd zijn gezien.

Van de werken die wel zijn behandeld, zijn in het algemeen ook andere delen of afleveringen opgenomen. Van enkele belangrijke auteurs zijn alle bryologische werken vanaf omstreeks 1800 bestudeerd. Enkele publicaties zijn beschreven in verband met andere boeken van dezelfde auteur, hoewel er geen *Musci* in genoemd zijn.

Bovendien is een aantal bryologische publicaties van de jaren 1822-1824 behandeld. Dr. G. Sayre bestudee de periode 1801-1821 in haar werk: *Dates of publications treating Musci ... 1801-1821*, 1959, en een aansluiting was wel gewenst. Ik heb echter niet gestreefd naar volledigheid betreffende publicaties van deze periode; enkele werken waarin nieuwe soorten zijn beschreven, zijn niet opgenomen.

METHODE

De behandelde publicaties zijn in de eerste plaats beschreven volgens de moderne methode van de descriptieve bibliografie, zoals deze vervolmaakt is door Sir Walter Greg in Engeland en door F. Bowers in Amerika, en door Alan Stevenson aangepast werd aan de specifieke problemen van botanische boeken. Zijn methode werd, in verband met de probleemstelling, niet volledig gevolgd; zo werd b.v. het lettertype hier niet beschreven. Een belangrijk verschil met de methoden van de genoemde schrijvers is, dat de inhoudsbeschrijving niet verwijst naar katern-merken, maar naar bladzijden. Dit geeft minder kans op fouten en is veel gemakkelijker te gebruiken. Tevens wordt echter een systeem voorgesteld om onduidelijkzinnige bladzijde-verwijzingen mogelijk te maken in die gevallen, waarin verschillende nummeringen in één boek voorkomen, of verschillende stellen ongenummerde pagina's. Voor de collatie-formule zelf worden enkele verfijningen voorgesteld.

Deze methode van boekbeschrijving is uitvoerig uiteengezet in het hoofdstuk *Descriptive bibliography applied to botany*. Ten behoeve van de juiste vermelding van het bibliografische formaat is een determineertabel van formaten voor boeken op handgeschept papier toegevoegd, waarin gegevens van Johnson: *Typographie ...*, 1821, verwerkt zijn, en eigen waarnemingen en overwegingen.

Het gedetailleerde onderzoek van de structuur van de boeken en van enkele tijdschriften is de basis voor de vaststelling van de inhoud van delen en afleveringen en van eventuele

Het gedetailleerde onderzoek van de structuur van de boeken en tijdschriften, die in afleveringen verschenen zijn, is de basis voor de vaststelling van de inhoud van delen en afleveringen en van eventuele varianten. Ook geeft het aanknopingspunten voor de preciese datering.

Belangrijke gegevens voor de datering werden verkregen uit de aankondigingen en besprekingen in de contemporaine literatuur. Dank zij de vriendelijke toestemming van de medewerkers van de Hunt Botanical Library: Dr. C. Weber, Mej. I. H. Vegter, en de Heer F. Schütz, kon een gedeelte van het door hen bijeengebrachte materiaal benut worden. Ik heb getracht, die besprekingen en aankondigingen, die voor de datering van belang konden zijn, zelf te zien, maar dit is niet in alle gevallen mogelijk geweest. Bovendien is het aantal tijdschriften, waaruit de gegevens geput zijn, beperkt en voorts konden enkele belangrijke bronnen niet geraadpleegd worden.

In diverse bibliotheken en archieven bestudeerde ik handschriften-collecties. Dit leverde belangrijke nieuwe informatie op. Ook in dit opzicht moesten er nog belangrijke collecties buiten beschouwing blijven.

RESULTATEN.

De boekbeschrijvingen van de behandelde boeken en tijdschriftartikelen zijn bijeengebracht in het hoofdstuk *Special bibliography*. Zover ik weet is dit de eerste keer, dat deze beschrijvingsmethode is toegepast op alle publicaties over een botanische groep uit een bepaalde periode. De catalogus die door Allan Stevenson geschreven is, betreft alle boeken uit één bibliotheek.

De data van deze publicaties zijn zo nauwkeurig mogelijk uitgewerkt als de beschikbare bronnen toelieten. Een opsomming van aan aantal concrete punten volgt.

1. Het eerste artikel met een belangrijk dateringsprobleem, dat van Arnott, bleek in niet minder dan 5 verschillende vormen gepubliceerd te zijn. Zonder twi-
fel is de eerste hiervan het separaat in quarto-formaat met het jaartal 1825 op de titelpagina en de verkorte titel: *Disposition méthodique des espèces de mousses*. Naar mijn mening is dit in januari 1826 verschenen; die is uitvoerig geargumenteed, maar absolute zekerheid kon niet verkregen worden. De later gepubliceerde vormen zijn nomenclatorisch niet geheel zonder betekenis door enkele indirecte verwijzingen naar publicaties (Schwaegrichen en Gaudichaud), die in de tussenliggende periode verschenen.

2. De twee delen van Bridel, *Bryologia universa*, bleken inderdaad in 1826 en 1827 te zijn gepubliceerd, zoals de titelpagina vermeldt, met de beperking, dat het supplement op deel 1 alsmede het voorbericht en de classificatie-overzichten tegelijk met het tweede deel verschenen zijn; dit verklaart de late datum van het voorbericht.

3. De verschillende stukken van de Supplementen van Schwaegrichen zijn voldoende nauwkeurig gedateerd om de volgorde ten opzichte van de andere belangrijke werken te bepalen. Een betere benadering is voor sommige stukken nog wel gewenst.

4. De relatieve datering van verschillende andere nomenclatorisch belangrijke werken werd bepaald. Zo bleek Greville zijn *Flora Edinensis* te hebben gepubliceerd vóór aflevering 20 van zijn *Scottish cryptogamic flora* inplaats van erna, zoals verondersteld werd tijdens de voorbereiding van *Index Muscorum*.

5. De inhoud van de afzonderlijke afleveringen van boeken en van enige tijdschriften, waarvan de details nog niet alle bekend waren, is met behulp van de bibliografische methode vastgesteld. Met name betreft dit twee werken van W. J. Hooker: *Musci exotici* en *Exotic flora*. Bij het laatste werk is onder meer gebruik gemaakt van off-set afdrukken van verwijderde aflevering-titels op de eerste of laatste bladzijde van de afleveringen van een bepaald exemplaar.

6. Enkele publicaties werden gevonden, waarvan de mossennamen tot nu toe over het hoofd gezien waren in de bryologische literatuur (Cambessedes, Chevallier).

7. De eerste kleurendrukken van afbeeldingen van mossen, die mij bekend geworden zijn, vallen in de behandelde periode. Dit betreft mosprotonema in het artikel van T. F. L. Nees von Esenbeck, 1824, en gehele mosplanten in de werken van Sommerfelt en Chevallier, beide in 1826.

8. In verschillende werken werden cancellantia geconstateerd, waarvan tot nu toe geen vermelding gevonden werd in de literatuur, b.v. in het nomenclatorisch belangrijke boek van Hedwig, *Species Muscorum frondosorum*.

9. Het velijn-papier, dat oorspronkelijk in hoofdzaak gebruikt werd voor luxe-uitvoeringen van boeken, kwam blijkbaar in de behandelde periode in grotere hoeveelheden en tegen relatief lagere prijzen beschikbaar, aangezien in verschillende boeken een overgang gevonden werd van geveergeerd papier naar de nieuwe soort. Machinaal vervaardigd papier werd echter nog weinig voor het drukken van boeken gebruikt. Ik heb het alleen kunnen constateren in een deel van de *TRANSACTIONS OF THE LINNEAN SOCIETY*, namelijk dat van 1827 (zie Greville n.2);, andere delen hiervan heb ik niet onderzocht.

Als algemeen resultaat van het onderzoek heb ik de historische ontwikkeling van de bryologie in de eerste drie decaden van de negentiende eeuw kunnen bespreken. Hieraan gaat een schets vooraf van de ontwikkeling in de periode vóór 1800. Ik heb hierbij aandacht geschonken aan het invoeren van een natuurlijke classificatie voor de bryophyten en aan de diverse opvattingen over de levenscyclus van de mossen.

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INTRODUCTION

BRYOLOGY BEFORE 1900.

Bryology, the study of mosses (*Musci*) and liverworts or hepatics (*Hepaticae*) began with Dillenius (1687-1747), who wrote the first book explicitly devoted to this group of plants: *Historia Muscorum*, Oxford, 1741. Dillenius followed the general concept of his predecessors, including under "mosses" every low-growing plant which was not clearly a flowering plant, a fern or a fungus: *Musci* (in the present-day sense), *Hepaticae*, *Lichenes* and *Algae*, plus some fern allies, *Lycopodium* and *Isoetes*, and even a flowering plant, *Subularia*. This concept still lingers in the popular ideas about "moss": when bryologists ask their correspondents for mosses they often receive lichens instead. The words used in various languages reflect the same concept, e.g. the word "korstmos" in Dutch, for lichen. Another use of the word in a more general sense is its application to the area where such plants grow, especially marshy areas: "moss" in Scotland, "mossa" (plural "mossar") in Sweden (moss being "mossa", plural "mossor"), and "Moos" in Southern Germany.

Dillenius considered the capsule of mosses to represent anthers, since the spores resemble pollen. P.A. Micheli (1679-1737), however, had already observed that spores of hepatics germinated and concluded that they were not equivalent to pollen. He took the cylindrical bodies in the star-like cups of the mosses for female organs and the paraphyses for male organs. Dillenius, on the other hand, was impressed by the stalked heads with gemmae of *Aulacomnium androgynum*; he wrote that these probably were female (*Appendix. Cat. plant. ... Gissam ...* 1719). He created a separate genus for this moss, using the name *Mnium*¹). Later he added to the genus several other species, including a few hepatics, with similar heads of gemmae.

The significance of Linnaeus (1707-1778) for bryology should not be underestimated. He introduced the binary system of nomenclature for the names of species, and used it consistently in his *Species plantarum*, 1753. He moreover limited the *Musci* to the special group of plants for which the name is now in use. However, he included the genus *Lycopodium* in this group, as well as some *Hepaticae* (the same ones as were included by Dillenius in his *Mnium*, plus the genus *Porella* which he knew only from the insufficient illustration and the erroneous description in the work of Dillenius). The other genera of *Hepaticae* were arranged under *Algae* by Linnaeus in his *Species plantarum* as well as in the sketch of a natural method, *Fragmenta Methodi Naturalis*, in his *Philosophia botanica* of 1751.

Linnaeus did not use microscopic characters. In his opinion a group based solely on such characters did not merit the rank of species. This attitude is comparable to the reluctance of some present-day taxonomists to use cytological or chemical characters in the delimitation of species.

The life history of the bryophytes interested Linnaeus in connection with his sexual system of plants. In the *Hortus Cliffortianus* he indicated the sexes correctly but in later works he adopted the opinion of Dillenius. In *Semina Muscorum*, the thesis of P.J. Bergius (1730-1790), a pupil of Linnaeus, the concepts were reviewed and the idea of spores representing pollen was maintained, because of their similarity in burning: the propagula of *Aulacomnium androgynum* were considered to be seeds, and the "stars" of the mosses, already described by Micheli, were considered to be female plants.

Adanson (1727-1806) described natural families of plants in his *Familles des plantes*, knowing an unpublished outline of the natural classification by Bernard de Jussieu (1699-1777). Adanson accepted the *Hepaticae* as an independent group, and, remarkably, removed them from the *Musci* (which still included *Lycopodium*). The *Musci* were placed far from the other cryptogams at the end of his families, after the conifers. In his scheme the *Musci* represented the group of plants closest to the minerals in the "chain of being", a concept amply discussed by Lovejoy (1936). In his manuscripts (collection at the Hunt Botanical Library) Adanson explicitly mentioned "dryness" as a criterion for this arrangement; possibly he also had in mind a resemblance to conifers on the one side and to dendrites in minerals on the other. However this may be, he certainly did not think in terms of a transition to minerals; this is clear from the same manuscript notes. Though Adanson used the microscope frequently for the study of infusoria, I have found nothing indicating that he used it for the taxonomical study of bryophytes.

¹) The species concerned, *Mnium androgynum*, was placed by Schwaegrichen in the genus *Aulacomnium*. S.O. Lindberg (1836-1889) tried to reestablish the use of the name *Mnium* for this genus, apparently considering *M. androgynum* to be the historical type. The name *Aulacomnium Schwaegrichen*, however, was well established and was later placed on the list of nomina conservanda.

The founder of bryology undoubtedly is Johann Hedwig (1730-1799). He was the first to use the microscope intensively for the study of mosses. He discovered the male and female organs, now called *antheridia* and *archegonia*, and the spermatozoa; he studied the development of the sporophyte and of the calyptra as well as the structure of the peristome. He created several new genera based on the characters of the sporophyte in combination with those of the male "flower", the group of leaves surrounding the antheridia. He illustrated his own books, and several of the drawings are still unsurpassed. His importance for taxonomy was recognized in 1910, when the International Botanical Congress selected his *Species Muscorum* as the starting-point for the nomenclature of *Musci* (*Sphagnum* excepted).

The idea of sexual reproduction of mosses was opposed by N.J. de Necker (1730-1793)²). He had experimented with small pieces of mosses and hepatics and had found that new plants could grow from any part. Moreover, he tried to hybridize *Marchantia* and *Conocephalum*, with the Dillenian concept in mind of spores as pollen and gemmae as seeds. The result of his experiments was negative, and he drew the correct conclusion that the gemmae represent a vegetative form of propagation. Other experiments to sow spores directly did not succeed either and this led him to the erroneous generalization that mosses did not reproduce sexually.

The natural classification of Bernard de Jussieu was developed and published by his nephew, Antoine Laurent de Jussieu (1748-1836). In his great work, *Genera plantarum*, 1789, the *Musci* and *Hepaticae* were grouped together under *Acotyledones*. A very clear, concise history of the various concepts on sexuality in mosses was added; this already mentioned Palisot de Beauvois, but not de Necker. The treatment of genera of bryophytes was conservative, and a natural classification within the group was not worked out.

BRYOLOGY FROM 1800 - 1830.

The French Revolution and its aftermath, the Napoleonic wars, had a great influence on the political and economic situation in Europe and, indirectly, on the climate for scientific developments. It ended the era of royal patronage of science on the continent, especially in France, where the *Académie des Sciences* was abolished in 1793; it was revived in 1795 as the *Institut de France*.

The wars, the blockade of the continent by the British and the French answer, an effort to make the continent self-supporting, made the economic conditions very difficult. Possibilities for travel and publication came to a minimum. Periodicals stopped publication, either completely or temporarily, especially during the most difficult years known as the Napoleonic pause (1810-1813). Collecting was only possible locally, unless done by physicians or pharmacists in the army in their spare time. Shipping collections was dangerous; Palisot lost several collections in this manner.

Nevertheless in the first years of the century some important publications were published. Hedwig's last work, *Species Muscorum*, was published in 1801 by Schwaegrichen. Since this book later became the new starting-point for names of *Musci* (*Sphagnum* excepted) the nomenclatural importance of this period increased, and even minor local floras may have to be cited as sources of valid publication of names.

Of more than local importance are the books of Bridel and later the Schwaegrichen supplements to Hedwig's *Species Muscorum*; both authors adopted the Hedwigian classification and proposed new genera, either peculiar forms of exotic mosses or segregates of European genera. Bridel especially proposed several new genera, basing them on characters of the calyptra.

After the Napoleonic wars normal conditions were restored. Scientists traveled again, opportunities for publishing improved, and collecting was once again possible. A lively exchange of specimens, publications and ideas followed. Another important factor in the development of bryology, and of the study of cryptogams in general, was that more and better microscopes became available. Microscopic details could be studied with greater precision and ease, and they began to play a more important role in the delimitation of species and other taxa. Life history studies became more accurate. This motivated an intensification of the work begun by Hedwig. Yet some botanists who worked with mosses, e.g. William Baxter and A.E. Sauter, never used a microscope.

²) The date of birth of N.J. de Necker is sometimes given as 1729. I checked the registration of baptism in the books of the parish of Saint-Étienne in Lille, France, of Natalis Martinus Joseph, son of Jacob Deneckere and Anna Theresia Berthe; it was dated 25 Dec. 1730. Because of the second (Christian) name, Martinus, I felt there was some doubt that the baptismal certificate concerned the botanist. Checking the alphabetical registers of the relevant period of all four parishes of Lille I found only two other registrations of children of the same parents, with different Christian names. I therefore can agree with the biography: Leclair, Edm.: Noël-Martin-Joseph De Necker botaniste Lillois. Bull.Soc.Études Prov.Cambrai 10: 184-189. 1907.

A further important trend in bryology was the change from the Linnaean system to the natural classification. This was especially the case in the third decade.

An example is Hooker's *Flora Scotica*, 1821. The bibliographic analysis shows that the author changed his plans during the printing of the work, which began with the phanerogams in the Linnaean classification. Coming to the cryptogams, he was not satisfied with this system; instead he treated them in a second part, using the natural classification. The genera of phanerogams were again enumerated, and arranged in natural "orders" which were described in collaboration with J. Lindley (1799-1865) and others.

The generic concepts used by W.J. Hooker were rather broad. He did not accept several of Hedwig's genera; he united *Fissidens* with *Dicranum*, *Barbula* and *Tortula*. In both sets the genera were distinguished in the Hedwigian system by the form of the organs surrounding the antheridia. Hooker united *Blasia* with *Jungermannia* in his *British Jungermanniae*, because of the similarity in the sporophyte; the older authors had taken the vegetative gemmae for sexual structures. This conservative concept was important, since it founded a tradition in Great Britain which was difficult to break. Hooker certainly proposed some new British genera (*Tayloria*, and with Taylor: *Anomodon*, *Zygodon*), but these apparently had striking differences in the peristome. The genus *Drepanophyllum* is another example of a new genus accepted by Hooker. Schwaegrichen founded the new species *Fissidens falsofolius* in 1816 for vegetative specimens. This was in agreement with Hedwig's concept of *Fissidens*, which was characterized by a bifid peristome and axillary antheridia, but of which the vegetative plants were mainly with leaves in two ranks. Hooker included this species in the genus *Dicranum* in 1818. Soon afterwards L.C.M. Richard (1754-1821) sent him drawings of the sporophyte, showing a naked mouth, and the description of this species, with the proposal of a new genus, *Drepanophyllum*. This was published by Hooker. Possibly the peculiar vegetative structure of this moss, together with the absence of a peristome, played a role in the creation of the genus. Without this vegetative structure Hooker might have arranged the species in the genus *Gymnostomum* or *Hymenostomum*. Hooker's conservative attitude is evident from a comparison of the treatments in the two editions of the *Muscologia Britannica* and in the *Flora Scotica*.

In this connection it is significant that an early attempt to apply the natural method to British plants was ignored: S.F. Gray: *A natural arrangement of British plants*, 1821 (not treated in this thesis). The genus *Jungermannia* of Linnaeus was segregated by Gray into several smaller genera. One of the reasons for the neglect of this work was the use of the ending *-us* for the names of the new genera derived from the personal names of men, e.g. *Riccardius* and *Bassanias*, now conserved with the ending *-a*: *Riccardia*, *Bassania*. It is likely that Hooker did not appreciate this segregation in a group on which he had published a generic concept still broader than that of Linnaeus.

G.A. Walker Arnott is another British author who was interested in a natural classification of the mosses. He learned microscopic botany in Edinburgh, together with R.K. Greville, from John Stewart (d. 1820)³⁾. From the correspondence between Arnott and Ad. Brongniart it can be inferred that Arnott discussed the natural classification and its application to *Musci* with Brongniart during his first stay in Paris, in 1821. Though Arnott was not in a position to write a *Synopsis Muscorum*, a plan discussed with Brongniart in 1821, he prepared his *Nouvelle disposition méthodique des espèces de mousses*, an arrangement of species and genera in groups of which he did not indicate the rank; Kittel treated these groups as "tribus". The generic concept adopted by Arnott was mainly that of W.J. Hooker. In the monographs which Arnott published together with Greville long discussions and descriptions of a few genera were given, but only one new genus was proposed: *Dissodon* Grev. & Arnott. In Arnott's own article of 1826 there was only one: *Macrodon* Arnott. Arnott did not accept many of the new species and genera of the German authors, sometimes on superficial grounds. Kittel criticized some of Arnott's opinions in his notes in the 8th issues of the same article. Bridel reacted somewhat sharply to remarks of Arnott and Kittel in his preface to the *Bryologia universa*.

Greville concentrated more on the descriptions and drawings of Scottish species, and especially on microscopic *Fungi*, a group to which he had contributed in Hooker's *Flora Scotica*.

³⁾ One is tempted to consider John Stewart the moving force and the editor of the Edinburgh reprint of Dillenius: *Historia Muscorum*, 1811. An indication might be that this reprint was published by C. Stewart. In any case a contemporaneous botanist with knowledge of cryptogams must have added the list of current binomials for the plants illustrated in the work.

In France the natural classification was applied to the bryophytes (and other cryptogams) by A.P. de Candolle, in the third edition of the *Flore Française* (1805-1815); he proposed a number of new species and new combinations, but not a new classification of groups within *Musci*.

The most important French bryologist of the period was Palisot de Beauvois, who proposed several new genera in 1804 and new species in 1805. His work *Muscologie*, 1822 [1823?], might have been more important had he lived to supervise the printing. In 1824 his pupil, N.A. Desvaux, indicated several corrections to that work.

Palisot de Beauvois proposed a different theory with regard to the sexuality of mosses (as was mentioned by A.L. de Jussieu, *Genera plantarum*, 1789). This was maintained in his later publications. He considered the capsule to be hermaphroditic, with the spores as male pollen and female cells in the columella. This probably was based on the observation of moving particles from crushed cells of the columella. The teeth of the peristome with their hygroscopic movements were supposed to have a fertilizing function. Desvaux did not accept the theory of Hedwig; but he could not support Palisot's view of the function of the columella, since he knew that the occurrence of moving particles after crushing cells was a general phenomenon, even though R. Brown had not yet published his researches on the Brownian movement.

The influence of Adolphe Brongniart (1801-1876) on bryology is underestimated if only his original publications are taken into account. He was one of the first authors to describe fossil bryophytes (*Histoire des végétaux fossiles*, 1828-1837, not treated in this thesis). He also described living representatives of plant groups, comparing vegetative details of living plants with fossil remains, and thereby opened the way for recognition of the importance of vegetative characters in plant taxonomy. It is likely that this had an influence on Wilhelm Philipp Schimper (1808-1880), also a palaeontologist and moreover the main author of the *Bryologia Europaea*, 1836-1855, by Bruch, Schimper and GümbeL, in which many segregated genera were proposed, especially of the old genus *Hypnum*.

In France a natural classification was also worked out by F.F. Chevallier, in his *Flore des environs de Paris*. He did not propose new genera, but changed circumscriptions of genera and of species, and included many varieties. His classification of *Musci* was not adopted, and the new combinations were overlooked by E.G. Paris (1827-1911) and other indexers. The second edition, published in 1836, consists mainly of the old sheets, but with a number of cancels.

A most active development of the taxonomy of bryology took place in Germany. Schwaegrichen described new species received from various parts of the world and published fine drawings in the supplements to Hedwig's *Species Muscorum*. Bridel developed a new classification, especially in his *Bryologia universa*, the culmination of his bryological studies. He was undoubtedly the best bryologist of the period. He proposed numerous new species and a considerable number of new genera. The synonymy given in his last work is complete; virtually every place where the name of a moss species was published was listed.

Most other German bryologists, e.g. Hornschuch, C.G. Nees von Esenbeck, Fürnrohr and Bruch, supported the trend of generic segregation. Their works show a detailed knowledge of the plants, possible only with the aid of a microscope. A mild criticism of Bridel's segregation is found in the review of the *Bryologia universa* in *Linnaea*. This review, probably written by the editor, von Schlechtendal (1794-1866), questioned the number of new genera: "... sind deren nicht zuviel?" (are there not too many of them?). It is probable that the reviewer influenced the later bryologist, C. Müller (1818-1899), also of Halle, who advocated large genera and small species.

The life history of the mosses was also thoroughly studied by German authors. T.F.L. Nees von Esenbeck cultivated mosses from gemmae and spores and described the early stages, publishing the first color prints of parts of mosses, to my knowledge. This protonema stage, which had previously been clearly described and illustrated by Hedwig, was the subject of philosophical considerations, since it resembles *Algae* so closely that some authors claimed that *Algae* changed into *Musci*.

This problem, as well as that of *generatio spontanea*, was studied by Cassebeer in experiments with the cultivation of mosses, e.g. of crushed sporophytes. He had the sound idea, long before Pasteur, to sterilize his vessels and culture-media in some way (boiling), but apparently he was unable to realize the role of microscopical contamination introduced with the plant material. His conclusion was that *generatio spontanea* was not correct, but *generatio aequivoca* was. Different moss species gave, in his opinion, different types of "Priestleyan green matter", which he considered to represent larvae of the moss. This was not the protonema, which he also observed and described from germinating spores.

The works of the Swedish algologist C.A. Agardh (1785-1859) should be studied in this connection, since he advocated similar ideas a development of species of *Algae* into other species or into *Musci*. He included the moss protonema in his considerations. Moreover he expressed an early idea of the cell theory.

The German "Naturphilosophie" should also be mentioned. It was advocated by Oken, C.G. Mees von Esenbeck and others. Oken constructed a system for biology and mineralogy in which nearly everywhere a division into 3 or 4 groups was present, more or less following the elements of the old philosophers: fire, air, water and earth.

An early reaction to this construction of systems on preconceived ideas can be found in Perleb: *Lehrbuch der Naturgeschichte des Pflanzenreichs*, 1826; he stressed the descriptive character of natural history and opposed to the "Naturphilosophie". Later the word "Naturphilosophie" even became in a way synonymous with speculative biological theory.

The dissemination of knowledge, a special chapter in the history of biology, is not extensively treated here. The handbooks and popular introductory books of the period 1825-1827 are included in the bibliography, but this period is too short to warrant a general outline. Exsiccata, however, are treated from a much longer period, since they can contain new names. Several interesting series are described in this thesis. The long series of Funck and the impressive quarto publication of Mougéot and Nestler were influential; several authors published exsiccata with a similar make-up.

PRIORITY IN BOTANICAL NOMENCLATURE.

The principle of priority is of basic importance in biological nomenclature. When different Latin names of the same rank exist for the same taxon (a systematical unit of any rank), in general only that name which was published first is considered correct. However, the International Code of Botanical Nomenclature (ICBN), published under the auspices of the International Botanical Congresses, contain a number of limitations of the principle of priority.

A very important limitation is the freedom of the botanist to use his own scientific judgment as to the circumscription of genera, species and taxa of other ranks. For example, a binary name of a species does not have priority over another name for that species in another genus. Instead, the principle is applied solely to the specific epithet; the earliest validly published epithet should be used in combination with the name of the other genus, unless there is a legitimate reason preventing its use in that position. Such a reason is the existence of an earlier homonym in the genus to which the species is transferred, that is the existence of the same name for another species; in such a case the next oldest validly published epithet has to be used. The priority rule governs the use of epithets of taxa of lower rank than species (subspecies, varieties) in the same way, although this is limited to epithets in the same rank.

This rule of priority of epithets was not always accepted. Many authors in the early nineteenth century felt free to use a new epithet when transferring a species to another genus. Obviously one of their reasons was the avoidance of combinations of generic names and specific epithets which are contradictory, e.g. *Bryum bryoides*. Instead, these authors counted priority for the complete name, the combination of generic name and specific epithet. W.J. Hooker and his son, J.D. Hooker, used this rule. It was therefore applied in the well-known index of names of phanerogams, *Index Kewensis*; hence the name "Kew-rule".

Another limitation is the use of starting-points. Names published before the starting-point are considered not validly published, though they can have importance for the typification of the validly published one. For most groups, including the *Hepaticae* and *Sphagnum*, the starting-point is the work of Linnaeus: *Species plantarum*, 1753. For *Musci* (*Sphagnaceae* excepted) it is Hedwig: *Species Muscorum*, 1801.

As a consequence of the importance of priority it is necessary to establish dates of publication of many books in which new names are published. Effective publication is defined (ICBN Art.29) as follows: "Publication is effected ... only by distribution of printed matter (through sale, exchange, or gift) to the general public or at least to botanical institutions with libraries accessible to botanists generally." Since the word "institutions" is an unqualified plural, the minimum of two different libraries would fulfill the requirement for effective publication, though this is certainly not to be recommended for future usage. However, for proof of the existence of an article or book in the past it is a handy criterion. If two reviews were published, giving independent opinions, it may be taken for granted that the book was in existence at the time of the reviews. There is a possibility of pre-publication copies, having been sent to the reviewing journals before the actual date of availability to the

public, but in general the writing of reviews took some time, and the reviews may be assumed to have come out after the actual date of publication of the book itself. Announcements should be differentiated in pre-publication announcements, definitely stating that the book was not yet published, and post-publication announcements, citing pages of the book or in any other way making certain that the book existed at the day of writing or publishing the announcement. Other announcements should not be trusted fully.

The words "exchange, or gift" include methods often excluded from publication. When an author sends separates from articles in periodicals to his correspondents, this constitutes effective publication, even if these separates have the same page numbers as the article and no additional title-page. If we apply the same minimum here, two correspondents would be sufficient for proof of effective publication. Letters from the author to botanists accompanying copies are important to establish the dates of publication of books in general and of these separates in particular.

A modern compilation of the Latin names of *Musci* was authorized by the VIIIth International Botanical Congress (Paris, 1954). 4 volumes have so far been published: R. van der Wijk, W.D. Margadant & P.A. Florschütz: *Index Muscorum*, vols. 1-4, 1959-1967 (the 5th volume is in preparation). The current rules of nomenclature are applied consistently in this work, such as the change of the starting-point, the priority of epithets, and the requirements for valid publication. Moreover references are given to taxonomic synonyms as was done by Paris in his *Index bryologique*, and in the *Index Kewensis*. A new feature is, however, the citation of the author who is responsible for the taxonomic opinion.

The exact dates of publication of many works were needed for this compilation. During the preparation Dr. G. Sayre published her *Dates of publications describing Musci, 1801-1821*, 1959, listing all publications containing names of *Musci* in the years mentioned, as well as the information concerning the exact dates of publication which she as embodied during a year of work in American and European libraries. Sayre's work proved to be very helpful for all those cases in which names were published more or less simultaneously in that period. For other periods the compilation published by Mrs. M.J. van Steenis-Kruseman in *Flora Malesiana*, 1954, was indispensable. Nevertheless many dates had to be ascertained from other sources, which proved to be a time-consuming task. For several important works provisional dates were used. It was found that especially the period 1825-1827 presented some important problems.

This concerned in the first place the article by G.A. Walker Arnott with the head-title *Nouvelle disposition méthodique des espèces de mousses*. Several sources indicated the date 1825 for this publication, but the journal consulted during the preparation of *Index Muscorum* had a title-page with the date 1827. However, there was some reason to assume that the fascicle concerned was published in 1826.

Secondly the actual years of publication of the two volumes of S.E. Bridel: *Bryologia universa*, were open to doubt: because the preface date is 16 Dec. 1826 it was difficult to accept 1826 for this part. Moreover a supplement to vol. 1 was clearly issued later than the main part of vol. 1, but the date 1827, used for this part in *Index Muscorum*, was assigned to it on rather loose grounds.

In the third place the two foregoing publications had some connection with parts of Schwaegrichen: *Species Muscorum ... supplementum*. Therefore, these parts too had to be dated correctly.

Having the opportunity to select a special part in the preparation of the *Bibliographia Huntiana*, of the Hunt Botanical Library (HBL), Pittsburgh, Pennsylvania, I chose these problems. This large project aims at giving a detailed bibliographical description of all botanical books published in the period 1730-1840, using the methods of descriptive bibliography, as developed by Greg, MacKerrow, Bowers and Alan Stevenson, and adapted to the special purpose.

I examined all botanical books and articles in periodicals that I could trace which were published during 1825, 1826 and 1827, and prepared a detailed bibliographical description of those works which had some bryological contents. Works which had several parts or volumes were treated completely, including those published outside these three years. For this reason the starting-point book for *Musci*, Hedwig's *Species Muscorum*, is included, since Schwaegrichen considered his supplements to belong to Hedwig's book. Of some authors I included earlier bryological works, e.g. W.J. Hooker, because their treatment elucidates some peculiarities of the preparation of the books useful for works within the three years mentioned.

Besides works of these three years I also studied those published in the years 1822-1824, thus bridging the gap between 1825 and the last year studied by Dr. G. Sayre, 1821. For these years, however, I did not make an effort to trace everything which might have some bryology and I only checked those works in which many names of *Musci* were present as well as some others which happened to come to my attention; some publications with new names are not included because the time did not permit to do so.

The methods used for the bibliographical descriptions are explained at length in the chapter on general bibliography; it is sufficient to mention here that the methods aim at giving a description of the book as a physical object and to elucidate its history of printing and publication.

For the task of tracing reviews and announcements I had the valuable collaboration of the team of workers of the Hunt Botanical Library, who excerpted the periodicals of the period 1730-1840 for *Bibliographia Huntiana*: Dr. Claude Weber, Geneva (now Ithaca, N.Y.), Roman languages, Miss I.H. Vegter, Utrecht, the English language, and Mr. C.F. Schütz, Utrecht, Germanic languages. They kindly consented to publish a few of their findings here, for which I warmly thank them. In many cases I checked these items myself, especially if the dating of the publication in question could depend on the wording of the review or announcement, but it was not possible to do so for all references.

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VIII

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DESCRIPTIVE BIBLIOGRAPHY APPLIED TO BOTANY

1. CONCEPT OF DESCRIPTIVE AND ANALYTICAL BIBLIOGRAPHY

Since a major part of this thesis is devoted to the bibliographical descriptions of books, an introduction to the methods of descriptive bibliography as described by Greg, McKerrow, Isdaile and Bowers is thought necessary.

The term bibliography is used in different senses. The usual meaning is a list of titles of books and articles on a particular subject, branch of knowledge, or of a particular author. When given at the end of a scientific paper the purpose is to identify those books and papers referred to in the text. Usually only a minimum of information is given, and sometimes even not enough for the identification. The words "literature", "references", or "sources" are preferred by bibliographers for these lists.

An annotated catalogue of books on a particular subject, such as for botany Pritzel's *Thesaurus literaturae botanicae*, is usually included in the concept of a bibliography. In my opinion it will be difficult to change this use; nevertheless bibliographers of the analytical school prefer the word "catalogue", or "annotated catalogue", or "bibliographical catalogue" for this type.

The restricted concept of bibliography includes only those lists of which every book has been checked in a number of copies, so that a reasonable chance exists that variants have been traced; a technical condensed description of the book as a physical object is given, including the variants found.

For this descriptive bibliography and its companion, analytical bibliography, the thorough study of the book as a physical object in as many aspects as possible is the main point. The description resulting from this study is given in a condensed form, in the same way as a chemical formula represents in a very short form the result of the study of the chemist on a certain compound. With this description the trained bibliographer can compare other copies to detect variants. The reasons why variants came into existence can be understood when the processes of printing are known, and the history of the book can be deducted from the variants. In this way the descriptive bibliography becomes analytical bibliography: a number of copies have to be studied and critically compared.

The different bibliographical terms used and the method followed here will be discussed under the headings: Paper (p.1); Printing (p.3); Binding (p.6); Edition, issue and state (p.6); Title description (p.9); Bibliographical format (p.10); Key to bibliographical formats (p.15); Collational formula (p.22); Pagination (p.25); Contents (p.26); Plates (p.27); Paper description (p.28); Dates of publication (p.28); Reviews, announcements etc. (p.29); Signs (p.29); Abbreviations (p.30); Sources (p.33).

2. PAPER

Originally all European paper was handmade from linen rags. Though Réaumur (1683-1757) pointed to the wasps and their paper-like nests from wood pulp, it was scarcely before 1800 that paper was manufactured from wood. About the same time attempts were made to construct paper-machines, but they came into regular use much later. In the traditional paper mills, usually in a region with water power and clean water, the fibres are loosened by beating to form the pulp, a suspension of the fibres in water. The vatman, named after the vats containing the pulp, dipped his mould in the pulp. This mould was a rectangular frame, covered with two systems of copper wires. Those parallel to the shorter sides, the *chains*, were rather widely spaced, e.g. 2 cm. Those parallel to the longer sides, supported by the former, were the *wires*, closely set, e.g. with distances of 1 mm. This frame was covered by another upper frame, the *deckle*. This had an oblique inner side at one border along which the vatman could pour back into the vat the superfluous pulp. This frame obviously determined the size of the sheet, allowing, of course, for shrinking during the drying process. The important task of the vatman was to ascertain an even thickness of the pulp over the whole frame with a fairly equal distribution of fibres lying in different directions. This was achieved by a shaking movement of the mould, a skill not acquired easily and occasionally lost overnight. This loss would be the end of the career of the vatman and it is the origin of the Dutch expression "de hussel kwijt zijn", probably identical with "de kluts kwijt zijn", now meaning "to be

at a complete loss". The borders of the hand-made sheet, the *deckle-edges*, are irregular in outline and thickness, since the pulp could creep between the deckle and the frame, or fail to reach the deckle in some places. They play an important role in the identification of the format of books. These deckle-edges are different from *torn edges*, resulting from cutting a sheet with a paper knife, producing numerous small protruding fibres.

The chains and wires caused thinner places in the paper, the *chain-* and *wire-lines*. They are characteristic for this type of paper, *laid paper*. They can be seen when the paper is held against the light, or when the wet paper is placed on a dark background. Moreover, a *watermark* may be present, visible in the same way. It was produced by tying some design of bent copper wires to the chains and wires of the mould. Each vatman had at least two moulds to a vat, and several vats might have been in use in one mill. Therefore, though a mill had a certain general design in all moulds for paper of a certain size, the individual designs varied, occasionally even quite markedly. Paper parties from one mill contained these modifications at random, and so do the books printed from such a supply. This should be kept in mind when watermarks are used for dating purposes. Alan Stevenson, expert on watermarks, pointed to the results of the considerable wear of the copper designs, so that the same mould at different times gave marked differences in the watermark, e.g. distortions or even complete disappearance of certain parts. Afterwards some attempt could be made to repair the fault. An able bibliographer may establish the relative age of certain paper, and therefore, of the printing of publications.

Originally the watermark was placed in the center of one half-sheet. Many different designs have been used. Some designs became indications of certain paper sizes, e.g. pot, foolscap, crown, and in France grapes (raisin). The trademark of a papermaker or mill was also used as a design, e.g. a bee-hive for the papermaker Honig (Dutch for honey), or a whale after the name of a windmill. Initials of the papermaker were often added, or a device, e.g. Pro Patria. A watermark in the opposite half-sheet, named the *countermark*, consisted, especially in France, of the name of the papermaker, the place or region of the mill, an indication of the quality (in French papers *fin*, *moyen* or *bulle*), and a year number. The watermark and its countermark are separated in the descriptions by a long equal-sign =. When nothing to the contrary is stated, it is placed in the centers of the half-sheets. The dates in the watermarks can be helpful for establishing dates of publication and it should be standard procedure for natural history bibliographers to check watermarks in critical cases. The dates, if correct, cannot be later than the dates of printing. Mistakes in watermarks are not rare, especially mirror positions of letters such as N. Mistakes in dates may occur, but I do not know of any case of post-dating. Certainly dates in the watermarks of plates can be found which are much later than the year on the title, but these copies of the plates were obviously printed after the original publication, when the number of plates originally printed was exhausted.

Normally paper for printing was consumed within a few years, and the dates do not differ too much from the dates of publication. An obvious exception is a stock of paper set aside by a publisher or printer for a special book or serial in instalments, which will show the same mark for a long time. A rather amusing discrepancy was caused by a French decree of about 1742, which prescribed papermakers to add their name, place, and the year in the watermark. It gave an explicit example, mentioning the year 1742. For about three decades onwards many French papermakers strictly adhered to the letter of the law, putting the date 1742 in the watermark throughout the years.

A new type of paper with a smooth surface was produced first in England about 1755, probably by the papermaker James Whatman (died 1757), and was used in Baskerville's *Virgil*, 1757. This paper, *wove paper*, was not much used before 1800, but became the most important paper several decades later. It was made on a mould with a mesh of copper wires closely set in both directions. The resulting lines are sometimes visible in the early wove paper. A watermark could not be realized in the same way as in laid paper, since the mesh had no room for the tiny wires which held the watermark wires in place. Therefore early wove paper is as a rule without a watermark. However, another technique was developed: with a special tool a design was pressed into the wet paper. As a result the watermark in handmade wove paper is usually situated not far from the border of the sheet, e.g. the lower left part of the sheet. It may appear near the base of one of the first four leaves of an octavo

gathering, or in the fold of a conjugate pair. Knowing this method I can explain exceptional cases of a double watermark in one sheet in wove paper, of which the large majority had one watermark only (Hooker, *Exotio flora*, Greville, *Scottish cryptogamic flora*, and Cobbett, *The American gardener*; see *Huntia* 2: 71-73, 1965). My explanation is that by error a few sheets were treated twice with the same tool in different places. This unusual phenomenon first seemed to be caused by cancellantia (irregularities in the watermarks are very helpful in detecting cancellantia), but conjugacy, deckle-edges and the study of other copies showed that in these few cases no cancellantia were involved.

A very important development was the paper machine. The closely woven mesh of wire was made endless by fastening the ends together to rotate over rollers. The connection of the two ends can occasionally be seen as a watermarklike seam in the paper. The pulp traveled continuously with this web and underwent necessary operations until the paper was strong enough to be lifted off. The great difficulty which had to be overcome was the correct shaking of the traveling pulp. Still, the result was not equal to good handmade paper, since the fibres have a preference for a direction in connection with the traveling, which is clearly observable in the curling when two strips cut in different directions are pasted together. In this type of paper a watermark could be added by letting the still wet paper pass through a pair of rollers, the *dandy-rolls*, which embossed the desired design into the paper. This would give a repetition of the mark at certain distances. Chain- and wire-lines could be faked in the same way.

An important stage in the paper making process is the drying. As a first measure the wet handmade sheets were often placed between felts, under pressure, so that moisture was pressed out. After that the sheets were dried by hanging in well-aired sheds. In some papers the impression of the felt fibres can clearly be seen under slanting light. In machine-made paper, the drying was still more critical. When the continuous band of paper was to be lifted from the wire-cloth, it had to be dry enough. This was achieved by passing the paper through several rolls and exposing it to a drying stream of air.

Finally the finished sheets were checked for faults, probably sorted into quality classes, and prepared for shipment. It is clear that the quality and especially the thickness of handmade paper cannot be standardized as it is in modern paper. There might be overlapping in classes of different thickness, as is sometimes seen in books with thicker paper for the plates.

The question of names of paper sizes can be mentioned here. In the course of time a considerable number of paper sizes have been made, and many names have been in use. These names had a different meaning in different regions. Labarre gives a selection in his *Encyclopedia of paper-making*, and Stevenson also compiled a list with their dimensions. However, I came across quite a number of books of which the paper size could not be classified satisfactorily with these classifications, even in uncut form, and stating a name of the nearest larger class without any certainty does not appeal to me. I preferred to drop these names except where other evidence was present, such as announcements of publishers. Instead the leaf height is stated of the largest copy measured, and in some cases the dimensions of the sheet from an uncut copy.

Paper colors are given only when other than white. The white papers may have a variety of brownish colors now, because of aging. No attempt has been made to describe the browning, unless there was some reason to mention differences.

3. PRINTING

Some main points will be discussed to give an idea of the necessary steps in the production of a book so that its physical make-up may be understood.

Before printing can begin, the format, the size of the printed part of the page, and the font-size and type must be decided upon. The format will be discussed later; the dimensions of the type-page are the result of the chosen format and paper, and the font is usually selected from those available in the printer's shop. It is a very rare occasion when a special type is bought or made for a book. Movable type, so essential for printing, exists in a large variety of sizes and forms. Some trained bibliographers are able to recognize fonts used by early printers, who usually cut their own types. With the division of labor special type-foundries came into

existence. Their products became available commercially, and in rare cases special fonts were made on order. With some experience it is not too difficult to guess the general period of the type-font. Not much critical work has been done on the recognition of the type-fonts of special printers in the 18th and 19th centuries. However, the type-font can easily be recognized in special cases, e.g. the small horizontal line in the stalk of the letter "l" in the font of the Imprimerie Royale at the Louvre, Paris (this can be seen in the first edition of Lamarck's *Flore Française*, 1778). Bibliographers use general names or the fonts. Also accurate measurements of 20 (sometimes 10) lines are often given; these lines should not be leaded (viz. provided with thin strips inserted between the lines to give more space). The type-fonts have not been described in this thesis.

The setting of the type is done by the compositor. Line after line is set, and these are arranged into pages. At the top of the page is added the head-line, containing the page number and the running title. At the bottom is added the direction-line, which contains the signature, the catchword and the indication of title and volume number. Any of these three may be absent. The *signatures* are the letters or numbers assigned to the gatherings and the individual leaves. A gathering is the set of leaves which are folded together as a unit in binding. Usually one gathering consists of one sheet, but in "quired" sheets two or more sheets are folded within each other; in smaller formats half-sheets or smaller parts are used for one gathering. Each gathering has a special mark, letter or number, and individual leaves are numbered within each gathering. If a gathering of 8 leaves has the indication A, its individual leaves are A₁-A₈. These indications, the signatures, are printed on a part of the leaves (always on the rectos, or front sides), except for the omission of the cipher 1 on the first leaf. For a long time the number of leaves signed per gathering was half the total number per gathering plus one. Mainly in the course of the 19th century the number of signed leaves was gradually reduced to one leaf, the first one only. In some formats another system was adopted: in gatherings of 6 or 12 leaves the part with cut leaves which was laid in the middle of the gathering, was provided with a special signature, often an asterisk, or the letter of the gathering with the number "2", not indicating the leaf number as usual, but the cut part of the gathering.

The *catchword* is the first word of the next page printed in advance as a check for the binder. The older custom was a catchword on every page. This was cut down to having a catchword only on the last page of a gathering. The absence of a catchword in a place where it normally would be present may be an indication of a break in fascicles and should therefore be recorded by the bibliographer. The title indication is rarely present in the direction-line; the volume indication is more usual. These indications can also have a meaning for the bibliographer, as I explained in a case of 18^e in 6s, where this was the only intrinsic clue for the format (*Huntia* 2: 167. 1965: Aglaé Adanson, *La maison de campagne*, Paris, 1822).

When the compositor had set enough pages to fill one sheet (or in the case of quired sheets, one gathering), he arranged the set pages together in two frames, called the *formes*, one forme for each side of the sheet, as a preparation for printing. This is the *imposing*, and the arrangement is the *imposition*. The forme containing page 1, or the corresponding first (odd) page of a sheet, is referred to as the *outer forme*, and the other, containing page 2, or the corresponding even page, as the *inner forme*. In a special imposition, referred to as *half-sheet imposition*, both groups are arranged in different halves of the same forme: the complete blank sheets are printed at one side; following this the other side is printed with the same forme, in the reverse position, so that rectos and versos (back sides) of each leaf match. In this way each sheet, after printing is completed, contains two identical half-sheets. Watermark and countermark will appear at random in different half-sheets in the same copy of a book, and also in the same gathering in different copies; statistically the mean will be 50% for each mark. This method has the obvious advantage for the printer that the type-font can be reused sooner than with full-sheet printing. Smaller printing-shops will consequently have a preference for this method. It has also been used for plate-books appearing in fascicles and with a limited amount of text per fascicle. The results of the different types of imposition will be treated in the discussion of formats (7, 8).

After the imposition of a sheet is finished, a proof can be printed. The modern usage of printing proofs in long strips of paper, galley proofs, obviously was not possible in the time of hand-made paper. The proofs usually were (and are) read by

the corrector, who compared them with the manuscript, and indicated other possible corrections. More important are the corrections of the author himself. Often he will want to change what he wrote in the original manuscript; the high costs of this extra correction need not be stressed here. After these corrections have been made and a second proof has been read, usually the fiat for printing is given. Accordingly the number of sheets set by the publisher is struck off. Bibliographical problems result from changes during printing. Type-font could break or fall out, e.g. page-numbers, or parts of the forme could be distorted. The printer, stopping the press, could try to repair the damage and inadvertently introduce errors. The author could visit the printer, discover a sentence not to his liking, and order a *stop-press* correction, a practice abhorred by all printers. The sheets already printed before such alterations were not discarded but used for copies of the book. Variants in different copies have to be studied thoroughly so that can be indicated which one was printed first. Analytical bibliography has been able to prove in several cases that guesses based on the text had been erroneous. Such first states are eagerly sought for by bibliophiles, and indeed, are valuable for tracing the history of printing of the book concerned. However, they do not necessarily represent the first published copies since in many cases the changed sheet will have been prepared for sale first, being on top of the pile of printed sheets.

Another method of making important corrections after the beginning of printing was to reprint complete new leaves with the changed text. The original leaves with the mistakes should be discarded, canceled, to be replaced by the new leaves. The replaced leaf is known as the *cancellandum* (plural *cancellanda*) and the replacing leaf as the *cancellans* (plural *cancellantia*). A cancellans pasted to the remaining stub of a cancellandum is easily recognized, provided the copy is not too tightly bound. It is more difficult to detect cancellantia which are *tipped in* (pasted along a narrow strip) to another leaf, or which consist of a pair of conjugate leaves. They show at once in unopened copies; uncut copies are helpful too, since the edges can be checked. The chain-lines and the watermarks give useful indications when they do not match in places where they should be intact gatherings. The bibliographer has to take it for granted that he will overlook conjugate pairs of cancellantia, especially in wove paper, unless chance brings an uncut copy or a copy with both cancellanda and cancellantia under his eyes. Of course, he helps chance by studying a number of copies.

Usually the cancellantia were printed together with the last parts of the book, as well as the index and preliminaries. Evidence in some books, as Bridel's *Bryologia Universa*, makes it likely that cancellantia were the result of making the index: in this case the author found that he had treated two species each twice, in two different genera. Two leaves were canceled and one new leaf inserted instead. This was printed as part of one of the last sheets. The binder was supposed to cut this out, remove the cancellanda, and tip the cancellans in at the right place. In some copies this was not done, so that the original sheets could be traced: this cancellans was part of the book as it was published, and not an alteration after publishing. This will be discussed in the chapter on editions, states and issues (5).

Because the preliminaries were printed later than the text, the compositor often signed the first sheet or gathering with the letter "B", taking for granted that the preliminaries (often shortened to 'prelims' in bibliographical usage) would take up one gathering. The consequences for the collational formula of the bibliographer will be discussed later. The *preliminaries* nearly always contain the title-page, often the dedication, the preface, and occasionally a list of contents. When a sheet was not completely filled with these leaves, the compositor added a *half-title*, giving only a short title and the name of the author.

The *title-page* is the authoritative source for the title and the date of a book. There may be other titles used for the book, but that of the title-page is decisive. The date, however, is often not correct, or not completely correct. In botanical nomenclature the date printed on the work must be considered correct unless other evidence proves the contrary. It is an important task for the bibliographer of botany to check the correctness of these dates. Strictly speaking, most of the methods of ascertaining dates of publication are outside the field of descriptive bibliography, since they use the collateral evidence of reviews and announcements of reviews in contemporaneous literature as well as of autograph letters of authors and others, or data from archives of publishers, and lists of book-acquisitions of academies and societies. Internal evidence is the domain of the descriptive bibliographer, but for botanical work the other evidence is necessary.

Books published in fascicles are interesting for the descriptive bibliographer. Publishers found that a market for expensive books could be created by publishing piecemeal a small number of sheets and plates. These were issued in wrappers, often of colored, inferior paper, to be discarded when the final volume was bound. These wrappers were printed with a *wrapper-title* (exceptions are not known to me, but their absence is difficult to prove) This often bears the year or even month of publication, at least of planned publication, though not always the actual date. Also, they can indicate the mode of publication and price. The back may have publisher's announcements. These wrappers are, therefore, valuable for the botanical bibliographer, since these dates obviously have a preference over those of later published volume-titles, and in the absence of other evidence of actual publication dates, have to be accepted for purposes of botanical nomenclature.

Wrapper-titles are also important for dating instalments of periodicals, published before the title-page to the complete volume is issued, usually with the last instalment, or the first of the next volume, together with the index. Again, the date on the wrapper is important.

In addition, the more complicated case exists, both in books and periodicals, that the wrapper had another title than the completed volume on its title-page, as the *Mémoires de la Société Linnéenne de Paris*, published in fascicles with the title *Annales de la Société Linnéenne de Paris* on the wrappers.

4. BINDING

The subject of book-binding is an interesting topic, but it falls largely outside the scope of this thesis. For the period treated the books were often sold unbound and the buyer could have his copy bound as he wanted. Therefore, the binding belongs to the individual copy, and the purpose here is to describe issues and editions, not individual copies.

Nevertheless, some points can be discussed. Firstly, the techniques of binding have an interaction with the folding of the sheets. Certain formats are preferred, because they facilitate normal binding, and other formats necessitate a special kind of binding. This is clear in the case of a broadsheet, where the individual leaves have to be stitched together. At the other extreme there is a limit to the folding together of conjugate leaves. More than 10 pairs are rarely bound together in a gathering, since it makes binding more difficult. This is further discussed under formats, quiring, and the imposition of 32° format.

Secondly, though usually the copies were sold by the publisher in a wrapper without any printing, and of inferior paper, the cases where printed matter occur should be mentioned by the bibliographer whenever they come to his attention. This has been discussed extensively for fascicle-titles, where it is one of the important tasks of the botanical bibliographer to trace the exact text of the wrappers. In some cases books were published with labels pasted on the front or on the spine. In one case this spine-label had another title than the title-page (Hooker, *Husci exotici*, 1818-20); in another case, though outside the period concerned, the spine-label had important information on the date of publication: the last digit of the year was filled out by hand and indicated one year later than that printed on the title-page. The bibliographer should be aware of such details and give a description in an appropriate place.

5. EDITION, ISSUE and STATE

Bibliographers writing in the English language have restricted the meaning of the word *edition* from the broad usage outside of bibliography. The words *issue* and *state* were defined as being within an edition, and therefore different from the normal usage outside of bibliography. The long discussions devoted to the problem of how to differentiate these three terms, and the many examples of which not enough details of the history are known for a certain classification, show the difficulties of this problem. Bowers writes: "No problem offers more traps for the bibliographer than the classification of books by edition, issue and state." (Bowers, *Principles of bibliographical description*, reissue 1962, New York, p.38). He begins the next paragraph with the following statement: "The fact that nothing which has ever been or ever will be written about edition, issue and state will indicate the invariable line to take with a small number of abnormally complex books does not mean that an attempt at definition, and the working-out of general principles to implement the definition is a vain task."

Bowers offered the following broad definition for edition in hand-printed books: "An Edition is the whole number of copies of a book printed at any time or times from substantially the same setting of type-pages." (Bowers, p.39). A requirement for a new edition, therefore, is the resetting of a large number of the pages. A *reimpression*, the new printing of sheets from standing type (the type of the pages kept in storage), does not constitute a new edition in this terminology. However, in the time of hand-printing, type was rarely left standing and it is not necessary to use *reimpression* for books of this period.

His definition for *issue* is: "An Issue is the whole number of copies of a form of an edition put on sale at any time or times as a consciously planned unit and varying only in relation to the form of an 'ideal copy' of this unit." (Bowers, p.40). Further on (p.77) he explains 3 major criteria for issue: "(1) the form of the book must differ in some way from the copies of the edition first put on the market, but must still be largely composed of the original sheets or, in special cases, impressed from substantially the original type; (2) ordinarily the altered copies must be put on the market as a unit, consistent in their form except for variant states, at a later date than the issue of the earlier copies and as part of a purposeful re-issue; (3) if issue of some copies is not removed from others in point of time, it must comprise a different form of the book planned for sale as a separate publishing venture from the normal issue as a consequence of altered makeup. Ordinary large or fine-paper copies are excluded except under special circumstances." Except for the last restriction the word *issue* is used in connection with the promotion of sale "as a separate publishing venture".

The common form of issue is the re-issue, as a rule with a cancellans title-page. The reason for not including large paper copies and fine paper copies in the concept of issue is not clear to me; they were made especially to be sold at a higher price, in the same way as *reimpositions* in another format, which Bowers considers to represent other issues (Bowers, p.103-105). Simply for convenience I have used the term *issue* for both forms, though theoretically the term *issue* should be preferred. Under Hooker, *Musci exotici*, impositions in 4° and 8° format of the same type pages are described; they differ in some signatures, the width of the margins, especially between the inner fold and the type-page, probably also in the sheet size and the paper quality.

In cases of different impositions in which the same text is distributed over different pages, Bowers speaks of separate issues, but McKerrow somewhat reluctantly prefers the term edition. This term is definitely preferred by botanists, since it is the usual indication for the different forms of the book, which has to accompany unambiguous citations of page numbers. Moreover, edition is an international term, and state and issue are not. Finally, this use of the term editions for forms of a book with different type-pages is in agreement with Bowers' definition of edition, quoted before: "printed ... from substantially the same setting of type-pages."

State, in its broadest sense, is defined by Bowers as covering "all alterations in a book, even those made after sale has begun, where no change is made to the original title-page by cancellation. ... changes seem made chiefly to create, after some delay, an 'ideal copy' of an edition by various improvements. ..." (Bowers, p.42.) Moreover he writes: "in its narrowest sense *State* is synonymous with *Variant*, and can be applied to any part of a book exhibiting variation in type-setting, including the addition or deletion of material in some copies, caused by alterations executed in the course of the original printing before public sale." (Bowers, p.41-42.) Bowers defines an *ideal copy* as follows: "an ideal copy is a book which is complete in all its leaves as it ultimately left the printer's shop in perfect condition and in the complete state that he considered the final and the most perfect state of the book." (Bowers, p.113.) It is not necessarily identical with an existing copy; it contains "all the blank leaves intended to be issued as integral parts of its gatherings but also all excisions and cancellans leaves or insertions which represent the most perfect state of the book as the printer or publisher finally intended to issue it in the issue described"; it does not represent the author's ideal of the book. In my opinion the ideal copy should not be defined with the help of the words *state* and *issue*.

To summarize Bowers' terminology: a *state* is any variation in the same type-setting meant to achieve an ideal copy; an *issue* has primarily a changed title to promote the sale with the remainder in the same type-setting; *editions* differ in a substantial part of the set type-pages.

The application of these terms to botany and especially to problems of nomenclature is discussed by MacPhail (*Huntia* 2: 280-285, 1965). Maintaining the basic distinctions made by McKerrrow and Bowers, he stresses the importance of alterations after publication for nomenclature. He classifies forms which do not have changed title-pages as states, and introduces the term *post-publication state* for the alterations mentioned. An example of this is Hedwig's *Species muscorum*, 1801; early reviews noticed the absence of a certain species. Its description was supplied afterwards on an additional leaf (p.231). This clearly is a belated attempt to produce an ideal copy. In this case there are no consequences for nomenclature because this book is the starting-point for nomenclature of *Musci* (*Sphagnum* excepted), and an arbitrary date is assigned to it, self-evidently concerning the ideal copy. When an author corrected a new name, it is important to know whether it was before or after publication. A cancellans is not automatically a post-publication state. On the contrary, cancellantia are normally part of the book as published. This has to be taken for granted. Nevertheless, the bibliographer should state proofs for this unity, e.g. when it is certain that the cancellantia were printed as part of a sheet with final gatherings or preliminaries of the book. The post-publication state of a cancellans or inserted leaf, however, should never be taken for granted, and has to have explicit proofs, either internal (e.g. a later watermark) or collateral (as in the case of Hedwig's *Species muscorum*). Without this proof the corrected version is the valid one for nomenclature, since it is at the moment of effective publication the version accepted by the author. If post-publication is proved, the version not corrected is valid and legitimate and has priority over the corrected version in the same way as if the correction were published in a second edition.

Another complex of problems is indicated by the words often used in botanical bibliography: reprints and preprints. When a botanist offered an article to a periodical, he could often order off-prints of it, or have a certain number free. Usually these are referred to as reprints, but this name is bibliographically confusing and I will therefore use the term *separates*, borrowed from the French, which indicates their character. These separates can be produced in different ways. Firstly, they can be made from the sheets as printed for the serial, by cutting away the leaves not involved. Bibliographically, these detached leaves do not have any standing. It would be equivalent to a mutilated book. Secondly, the imposition could be changed to print the separates on complete sheets. Usually this was accompanied by press-alterations of the signatures and also of the page numbers. Sometimes the lines were redistributed over the pages too, to fit the leaves of complete sheets. These changes make the separate an issue, especially when a title-page is added. When the first article of a periodical volume was concerned and consisted of a full number of sheets, the separate did not need renumbering and resigning, and here a title-page remains the only distinguishing feature for classifying it as an issue.

For the taxonomical botanist interested in correct nomenclature, these bibliographical considerations, however, are subordinate to the question of the date of effective publication, as defined in the International Code of Botanical Nomenclature. This is not identical with the usual bibliographical interpretation of publication. The former includes the distribution of copies to other botanists which might not have been offered for sale. If a separate can be proved to have been published in this way before the actual date of publication of the fascicle of the periodical, the botanical names in it have priority, whatever the bibliographical classification may be. Popularly they are referred to as preprints.

The publication dates of these separates usually have to be settled by collateral evidence. Nevertheless the careful research of the bibliographer can be helpful. The painstaking work of reporting mistakes in pagination, of which the botanist sometimes doubts the efficiency, proved to be an indication in deciding the order of printing of separate and periodical for Cambessèdes, *Enumeratio plantarum quas in insulis Balearibus collegit* ..., Paris, 1826. In a copy of the periodical one complete gathering had all page-numbers wrong, as well as the signature. On checking the separate I found that the numbers and signatures were exactly those of the separate. This could be explained by supposing that the compositor happened to forget to change these features in the sheets destined for the periodical. This would be an indication that the separate had been printed earlier. However, another copy examined does not have the mistakes. It can be explained by either a stop-press correction or a stray sheet from the wrong pile. In the case of Arnott, *Disposition méthodique des espèces de mousses*, Paris, the year on the title-pages of the separate and of the fascicle of the periodical are different. This is an indication that the separate was a preprint.

The term *preprint*, which has some attraction because of the resemblance to reprint, does not exactly express what is meant. The criterion is solely the earlier publication of the separate as compared with the periodical, and not the actual printing. Therefore, as the correct term I propose *pre-publication separate*, or where desired *pre-publication state*, and *pre-publication issue*. It could be argued that these terms are also not completely correct, since actual publication of the separate (in the botanical sense) is what is meant, and not something before this. The meaning is, of course, that the separate is published before the bulk of the sheets, that is, those of the periodical. Similarly, MacPhail's term "post-publication state" indicates publication of inserts or cancellantia later than the bulk of the sheets of the book. If desired, the indication could be shortened to *pre-separate*.

6. TITLE-DESCRIPTION

The importance of the title-page has already been stressed. A bibliographical description begins with the title-page, either by giving a facsimile or a transcription. This transcription can account for everything printed on the title-page and is then called *quasi-facsimile*, or can omit a number of details, being a simplified transcription, which will not be discussed here. It has been argued that a facsimile reproduction is complete, exact, and eliminates the work and time of the highly skilled bibliographer in preparing the quasi-facsimile, and correcting it, from manuscript to final printing. On the other side, as pointed out by Bowers, facsimile reproductions have drawbacks too: (1) impurities cannot be recognized (the title-page of a Shakespeare work had long been misread because of a flyspeck in a reproduction); (2) retouching can falsify the facsimile; (3) parts which are either incompletely inked or overinked can become illegible in the facsimile, where the quasi-facsimile can be correct; (4) when only a number of incomplete title-pages is available, it is very difficult to combine these into one facsimile, but easy in a quasi-facsimile. Some of these difficulties can be overcome by notes added to the reproduction, especially when variant titles have been found. From this it is clear that a trained bibliographer should supervise the photographing.

These reasons are sufficient to add here remarks about the usual methods followed in a quasi-facsimile transcription.

When some border surrounds the title, the quasi-facsimile begins with its description. Such a border is termed a *compartment*, when originally it consists of one carved or engraved piece, or, more pieces but evidently forming part of a single design when assembled, and a *frame* in all other cases (Bowers, p.141-142). Where an opening is left for letterpress in the border, this is referred to as a slot, and its contents are described in the regular order, preceded by the indication: "within a slot".

In the description of the letterpress the individual lines are separated by a vertical bar: |. The differences in type sizes of different lines are neglected. The type-fonts roman, italics and gothic are indicated or printed as such, if possible, as are capitals and lower case. Small capitals are usually printed as such too. In this thesis they are only slightly smaller; if the first letter of a word in small capitals is a large capital, this letter has been enlarged for clarity. Small capitals are indicated only when they are present in the same line with large capitals. I have made one exception to this rule: when a block of lines is printed in the same size of small capitals, but some lines by chance do not have large capitals; such a line is also transcribed in small caps. Broken letters and spacing between letters or lines are ignored; they may indicate variant titles, but even so they are difficult to describe. Type ornaments are mentioned; woodcuts and engravings are concisely described; lines or words printed in color are noted. Rules are mentioned with a rough indication of their relative length, e.g. long swelled rule, short wavy rule. I propose the indication *full rule* for a rule of the same length as the type-page or the longest line with type on the title. Misprints are given exactly as in the title, followed by the indication "[sic]". All interpolated notes and indications other than letterpress are enclosed in square brackets [].

The *running titles* are the short titles at the top of most pages, usually on the same line as the page number. They vary in different books, sometimes repeating the book title in a short form, sometimes giving chapter title or stating subjects treated on the pages. It is a bibliographical practice to give a description of these running titles, abbreviated RT. If the parts on the left and the corresponding right page differ, they are separated in the description by the vertical line " | ". In older books this description has been useful for detecting variants, but I have not yet seen a botanically important use.

7. BIBLIOGRAPHICAL FORMAT

Bibliographically the term format is defined by the number of leaves derived from one original sheet. For the usual formats Latin names are international: *folio*, *quarto*, *octavo* (in the same order 2, 4, and 8 leaves from one sheet). For other types English indications are in use besides the Latin terms: *duodecimo*, 12 leaves from one sheet, is indicated as "in twelves", or with a hybrid word "twelvemo". In the bibliographical descriptions in this thesis the format is always indicated by the number of leaves per sheet followed by the degree-sign: 2°, 4°, 8°, etc.

The bibliographical format should be distinguished from the division in size classes, for which confusingly the same terms and symbols often are used. The limits of the classes are set arbitrarily; in Rehder's *Bradley bibliography* they are explicitly stated. The system of other catalogues is uncertain; e.g. in Pritzel's *Thesaurus* the format 18° is consistently neglected and usually rendered as 12°. In the book descriptions in this thesis the actual leaf height is stated in the paragraph "Paper". The relation leaf height : leaf width is discussed below.

The format is closely related to the number of leaves per *gathering*. This word, which has already been mentioned, is used for the set of leaves which are folded together as a unit in binding. In English the word "signature" often has been used, but this term is better reserved to indicate the symbols with which the first leaves of a gathering are signed. The word "quire" has also been in use, but this can be reserved for a paper quantity. Equivalents of the word "gathering" in other languages are: Bogen (German) and feuille (French), both literally indicating "sheet"; katern (Dutch), quaderno (Italian), cuadernillo (Spanish), derived from the Latin quaternion, meaning a gathering of four pairs of leaves. The leaves of such a pair, united by a fold in the spine, are called to be *conjugate*. Folds uniting leaves at other margins are referred to as *bolts*. The number of pages, of course, is twice the number of leaves.

The individual leaves of a gathering are always indicated by their numerical position in the gathering. Usually they are signed this way at the front side, or recto. The first leaf has the signature "A", meaning "A₁"; the second leaf "A₂". Other leaves are not always signed. In older books signatures were placed on the half of all leaves of a gathering plus one; later the signatures were restricted to two leaves and still later to only one leaf. In the formats 12° and 18°, and the smaller ones related to these, cut parts of the sheets were usually signed separately. In such gatherings of six leaves, leaves 3 and 4 consist of such an inlaid part. Its leaf 3 bears a special signature, even if leaf 2 is unsigned. It can be an asterisk, or it can be the indication "A₂", obviously meaning the second part of gathering A. In this case the bibliographic indication of the leaf remains A₃, notwithstanding the signature. Conjugate leaves are indicated by the individual leaf numbers united by a period: A_{1,12} A_{2,11} A_{3,10} etc. In a normal gathering the sum of these leaf numbers is the total number of leaves in the gathering plus one.

I will use the ampersand, "&", to indicate bolted leaves, usually those with the original fold at the top sides of the leaves. Copies with these bolts still intact are referred to as *unopened copies* in bibliography. In such copies the format is easily determined. Cancellantia are recognized at once, either by their place with the gathering as printed or by the removal of the cancellanda and the resulting torn edges. An opened copy is called an *unout copy* when the deckle-edges and torn edges have not been cut off; a neatly trimmed copy (cut with a paper cutting machine) is a *cut copy*. I use the term *slightly trimmed copy* when some trimming was done, especially at the bottom, where too far protruding margins were removed, but where in the main the deckle-edges or torn edges are still visible. In such cases the bolts can be reconstructed by matching the irregularities of their torn edges. In cut copies the chain-lines and the watermarks can be compared, and, if absent, irregularities in the paper could be used to determine the original bolts.

A gathering can consist of two or more sheets folded together, *quired*. This is usual in older books of folio format. It is not frequent in quarto and extremely rare in octavo (the only example I saw up to now in 8° was the general index of vol.64 of the periodical *Biblioteca Italiana*, with 2½ quired sheets). Quiring allows the binder to work faster; moreover it results in stronger binding. However, it becomes more difficult to stitch a high number of folds and for smaller formats quiring is impractical. Quiring can be recognized by the deckle-edges, matching chain-lines and watermarks, or irregularities.

On the other hand a gathering can consist of a partial sheet. Occasionally some gatherings do not represent full sheets, especially the first and last gatherings. If in an octavo book the text plus index only needed a gathering of six leaves at the end, the remaining pair often was used for the preliminaries, the title and the preface, or a half-title and the title. In this case the bound book begins with a gathering of two leaves and ends with a gathering of six leaves.

Special impositions result in books in which all gatherings consist of partial sheets. An example is half-sheet imposition. The sheets, as explained before, are printed completely, either from one forme on both sides and afterwards separated in two identical half-sheets, or from an outer and an inner forme, separated afterwards into two consecutive gatherings on half-sheets. Both cases result in half the number of leaves per gathering as indicated in the format. In 18" the sheet may be divided into 3 equal gatherings, each having 6 leaves. In smaller formats quarter-sheets can be used for one gathering, or even smaller parts. It is not enough to take the number of leaves in the first gathering as being representative for the format, since in special types of imposition two unequal gatherings are printed from each sheet. The result is alternating gatherings with different number of leaves. In 12", gatherings of 8 leaves can regularly alternate with those of 4, and in 18", gatherings of 12 with those of 6 leaves.

The regular number of leaves per gathering is indicated after the format: 2" in 6s (folio in sixes), 18" in 9s, 18" in 12s and 6s, etc. The first example indicates folio with 3 quired sheets folded together, the second one 18" in half-sheets of 9 leaves, and the third one 18" with unequal gatherings of alternately 12 and 6 leaves.

Normally the leaf height is larger than the leaf width. This is taken for granted in the descriptions. When the opposite is the case, the indication "*oblong*" is added to the format. Obviously another imposition scheme is needed for oblong books; Johnson (*Typographia*, 1824) gives the schemes for quarto and octavo: the chain-lines have another direction than in the usual size with the leaves higher than wide. A special case is the *square* size, in which height and width do not differ much. Special impositions in 12" and 24" give this and can be indicated by this term. Finally unusually narrow leaves can be produced, especially in the formats of the 12"-family (24", 48"). Normal 12" is already narrower than normal octavo, but by a special imposition the relation of width to height can be made still smaller, that is, the leaves narrower. These are named by Johnson "long twelves" and "long twenty-fours". I have retained these indications, although "narrow" could have been used too. Rehder's *Bradley bibliography* arbitrarily classifies books into the four groups. These are: (1) narrow, width less than $\frac{3}{5}$ of the height; (2) normal (without a special indication), width from $\frac{3}{5}$ to $\frac{3}{4}$ of the height; (3) square, width more than $\frac{3}{4}$ of the height but not exceeding it; (4) oblong, width greater than height.

The definition of format, so far, has not led to difficulties. However, there is one problem that has to be mentioned in connection with the key to the formats, though I have not met it in the works treated in this thesis.

It appears that some books, especially in the middle of the eighteenth century, were printed in 4" imposition, although the chain-lines are vertical and the watermark is at the inner top corners. This is attributed to the use of very large paper, doubling the normal size, and cut into two before printing. According to the definition of format given, this should be treated as 8" in 4s. Without doubt the original printer regarded this as a quarto imposition, since from his viewpoint it did not make any difference whether he used this paper or normal complete sheets. This could be disregarded by bibliographers, since they set it as their task to describe the books as they exist according to their definitions and not to the occasionally loose customary usage. Bowers recommends Greg's formula, indicating the apparent format before that according to strict bibliographical definition: "(4"-form)8\"", treating it as 8" but indicating the 4" imposition.

Depending only on the supply of these paper types, the printer might use both types indiscriminately in different gatherings of the same book. It is not very satisfying to say that some gatherings are 4" format, and others 8", or even that the same gathering was in a part of the edition as 4" and in another part as 8", just because some other type of paper was used. This, in my opinion, might warrant a redefining of the term bibliographical format, to avoid this ambiguity. It could be done by excluding half-sheets divided before printing. This will raise other problems, since, in many cases, it might be extremely difficult to prove how the printing was done.

Another problem is the format of tables of which the text extends over more than one sheet. I mentioned a *Carte botanique* by Deshayes, in the Adanson collection (Adanson 1: 289-290. 1963, AD 48; in the meantime I ascertained that the author was Pierre Marie Deshayes, indicated as "botaniste, secrétaire-adjoint. Archiviste" of the Société Linnéenne de Paris: *Mém.Soc.Linn.Paris* 1: 74. 1822). It consists of one unit of text printed over four sheets, giving a large wall table when mounted together. If we consider this mounted unit as one leaf, the format indication would be $\frac{1}{4}$ ", one sheet giving one fourth leaf. Of course, this is not a regular book and the indication is not necessary, since the term broadsheet with an explanation will suffice. However, the fraction indication has been used in bibliography for something quite different: $\frac{1}{2}$ " signified an unfolded half-sheet of printed paper. In my opinion, this indication is not logical here and should be avoided.

General formats are discussed below. Johnson, in his *Typographia*, London, 1824, published diagrams of a considerable number of imposition schemes destined for the compositor. Hence, these represent the mirror images of the sheet as printed in full, which should be kept in mind when his schemes are studied. It is very helpful to fold pieces of paper according to these schemes. The chain-lines, watermarks, deckle-edges and torn edges can be reconstructed and compared with the actual features of a book of which the format has to be determined. Actually, a bibliographer should have the usual folding types at his fingertips, and should be able to visualize the relative position of their leaves easily.

Broadsheet or broadside, 1". Each leaf is formed by a complete sheet without folding. Chain-lines are horizontal. The leaves have to be stitched together through the inner margin. This format was used for posters, and for some plate-books in which the plates had to be stitched anyway.

Folio, 2". The sheet is folded once parallel to the shorter sides; the chain-lines are vertical, the watermark if normal is in the center of the leaf.

Quarto, 4". The sheet is folded twice, the first fold parallel to the shorter sides, the second fold perpendicular to the first one. The chain-lines are vertical; the watermark is in the fold of each conjugate leaf pair.

Sexto. An imposition in 6 leaves seems unlikely. In the normal size, higher than wide, this will result in a set of 4 leaves folded as normal 4" with 2 leaves not conjugate with any other. I actually saw a journal folded in this way, but I think it more likely that it is the result of the imposition called "long twelves" by Johnson, in half-sheet imposition (see p.4). In an oblong format, however, 6" would be quite possible and produce a gathering with 6 leaves in conjugate pairs. I have not seen any mention of this format except in Labarre, *Dictionary and encyclopaedia of paper and paper-making*, ed.2, 1952, p.245, 109, as a format without much information, and p.239, where after the correct definition "a sheet of paper folded to form a gathering of six leaves" is added the confusing remark between parentheses: "(a half sheet of twelves)". For a half-sheet of 12", the term of course is not correct. If this remark would imply that it is always a half-sheet, the term should be dropped in bibliography. Although the format may not exist, I include it in the key because of the journal referred to, explicitly mentioned on p.13.

Octavo, 8". The usual format for books is achieved by folding the sheet three times, each time parallel to the resulting shorter sides and the part with the bolts at the outer sides of the pages always in the last half. The chain-lines are vertical. The watermark is situated at the upper inner corner of the leaves, often incomplete by trimming. Where leaves with wide margins are present, the position of the watermark may shift to the upper sides of the first 4 leaves of the gathering. The bolts over the top unite leaves 1 & 4, 2 & 3, 5 & 8, and 6 & 7. Half-sheet imposition offers no special problems. It is like 4" but with other chain-lines, watermark and deckle-edges.

Duodecimo, 12". In its normal form, 12" consists of the sheet folded firstly parallel to the longer sides. By the next two folds, perpendicular to the first one, the sheet is divided into three equal parts. The next fold is parallel to the first fold. One third is usually cut off; it forms a strip of four leaves. The remaining part resembles octavo in its folds, except for torn edges at the bottom sides of the leaves 3, 4, 5, and 6. The strip of 4 leaves is either placed in the middle of the larger part, or treated as an independent gathering following the other part (regular alternation of 8s and 4s). Johnson, *Typographia* 2, imposition *13, gives also a scheme for "twelves without cutting", in which the strip of 4 leaves which is cut off in the usual method, is folded inwards instead. Nevertheless, this type seems to have

come into general usage only much later. I guess that this was after the large-scale use of machine-made paper, since it involves an unfolded border of the paper at the top of the strip of 4 leaves. With deckle-edges this is very unsatisfactory; it was a general usage to have a folded or straight cut border at the top of the leaves to provide equal margins from top to text, even in uncut copies. The straight cuts between "sheets" of machine-made paper will have made this possible for the inward folding too. (This will apply to other types without cutting in the 12" family of formats also.) Normal half-sheet imposition produced gatherings of 6 leaves, 4 folded as quarto and the remaining 2 either folded and laid in the middle of these, or folded inwards without cutting (two different schemes in Johnson, *125). These impositions all result in leaves which are usually narrower than those of comparable octavo imposition, which gives the bibliographer already an external impression of 12". However, 8" with very broad margins and heavily trimmed, can give exactly the same size. A more reliable criterion is found in the chain-lines, which are horizontal in all 12" impositions mentioned up to now; the watermarks will be found in the upper half of the outer margins of the leaves 7 and 8, and 11 and 12. (This does not apply to imposition without cutting, which as explained is to be expected in wove paper only, or half-sheet imposition, for which see the key.)

An unusual type of 12" imposition is called by Johnson "long twelves" (Johnson, *18-19). Here again the first fold is parallel to the long sides, but now the five other folds are perpendicular to this first one. Two of these five folds again divide the sheet into three parts. The remaining three folds are parallel to the two just mentioned; they could be folded together, and divide these parts into two. This produces a much higher leaf, in fact, if from the same sheet size, comparable to quarto, but much narrower. The chain-lines are vertical; the watermark will appear over the top bolts of two sets of leaves. The actual scheme given by Johnson produces after opening two unequal gatherings, the first of 8, the second of 4 leaves, only identified as belonging together by one signature. Other methods of imposition for this type can be imagined. The 6 pairs of conjugate leaves could be folded in each other, by which the watermark would come in other pairs of leaves. A strange format is present in the Scandinavian short-lived journal *Linnéska Samfundets Handlingar för År 1832* which I interpret as long 12" in half-sheets. The unusual feature is that the gatherings of 6 leaves have the last two leaves not conjugate with any other. Chain-lines are absent in the wove paper, and I have only seen a cut copy by the kindness of my colleague of the Hunt Botanical Library, Mrs. N.E. Smith.

I saw another unusual type of 12", not mentioned by Johnson: *Dierbach. Flora Heidelbergensis*. I explain it as follows: the first fold is parallel to the short sides of the sheet; the next two folds are perpendicular to the first one, dividing the sheet into three equal parts; and the last folds, parallel to the first fold, result in nearly square leaves. The third part probably was cut off; I did not check the possibility of an imposition without cutting. I will refer to this type as "square 12". Its chain-lines are vertical (kindly rechecked for me by my colleague Mr. D. Kalk).

Sexto-decimo, 16", is octavo folded once more, which will give bolts over the bottom sides of the leaves. This will necessitate trimming at this side, to make opening possible. Easier is half-sheet imposition, giving half-sheets folded the same way as normal octavo. The chain-lines are horizontal in both cases.

Octo-decimo, 18", is a type neglected in handbooks of descriptive bibliography, though clearly described by Johnson. A usual form is imposition in 3 gatherings of 6 leaves, either separately signed, or the second and third identified by the addition of one or two asterisks. Some cases can be recognized by the direction line, having the book title only in the first leaf of each group of 3 gatherings. It is produced after printing by first cutting the sheet in three equal parts parallel to the short sides, and treating these as normal 12" half-sheets (see Margadant, *Huntia* 2: 164-169. 1965). Less frequent are imposition in two unequal gatherings, in 12s and 6s, and full-sheet imposition in 18s. Unusual, but not difficult to identify, is half-sheet imposition, giving 9 leaves per gathering. This shows that bibliographers cannot dogmatically follow the rule that gatherings consist of an even number of leaves. The other peculiar feature here is, that the forme has to be changed between printing the blank sheet and the other side: four type-pages have to be interchanged, "transposed", to achieve the correct half-sheets. Very difficult to differentiate from 8" is the other type of half-sheet imposition in which one leaf is discarded per half-sheet, giving 8 leaves, of which only 1.2 and 7.8 originally were bolted over the top.

All these 18° types have vertical chain-lines, as has octavo. The place of the watermark is a good criterion, being in the middle of a leaf. Uncut copies are helpful, though the complete mapping out of a sheet requires time. A printing "out of register", that is: the recto and verso printing not completely matching but slightly askew, helped in a particular case to indicate the format. The bibliographer should have an eye open for these sorts of things, where other indications are scarce.

Vicesimo-quarto, 24°. This is a duodecimo once more folded, or better, cut. It is usually done in half-sheets, giving 12 leaves per gathering. Johnson did not report any imposition for 24 leaves per gathering. Probably the practical limits of folding paper repeatedly, and sewing through too many leaves, had been reached. His first scheme is a regular half-sheet, resulting in the watermark extending from the middle of the outer margin of leaves 9 and 10, at random. His last scheme represents the same, but without cutting, which will, as explained under 12°, be found on wove paper only. His second scheme represents a full sheet with two signatures, which would give the watermark at the same places as in the first manner, but each pair of odd and even numbered gatherings displaying watermark and countermark (provided the half-sheets were not mixed after cutting). The chain-lines in these schemes are vertical. The third scheme is again a regular half-sheet imposition, similar in size to the one under 12° as "square". Johnson names it "A Half Sheet of Twenty-fours, the Sixteen-way", possibly because the leaf-height is the same as that of 16° of the same sheet size and the imposition resembles that of 16° in 8s, with a set of 4 extra leaves to be laid in the middle of the gathering, and which is folded as quarto. A part of the watermark and of the countermark would extend from the middle of the bottom of the leaves 9 and 10. The chain-lines are vertical also, as the square 12°, leaving the place of the watermark as the distinguishing criterion. A fourth type, also with vertical chain-lines, given by Johnson, has a regular half-sheet imposition with two unequal gatherings, one of 8 and one of 4 leaves, comparable to the same type in 12°, the 4 consisting of a row of leaves. Its watermark will extend from the middle of the outer margins of leaves 5 and 6, of course from the first gathering of each group of 2.

A half-sheet imposition not given by Johnson is 24° in 6s, with vertical chain-lines. Its possibility is a challenge for the bibliographer, because of its resemblance to 18° in 6s, which would have (from the same sheet size) the same leaf size and also vertical chain-lines. The narrower leaf in 24° is an indication, but could also be achieved by broad margins in 18° and strong trimming. Without watermarks and deckle-edges these impositions would be virtually indistinguishable.

The last type of 24° to be discussed is the "Half Sheet of Long Twenty-fours" of Johnson. Here the chain-lines are horizontal, the leaf height will be the same as that of 8° from the same sheet size, so that it could easily be taken for 12°. In the exact imposition as given by Johnson, the sheets will be divided in two unequal gatherings of conjugate leaves, though with only one signature, one with 8 and the other with 4 leaves, which would be an indication. Still, by a rather unimportant change in the imposition, the second set of 4 leaves can be laid in as the middle of a gathering of 12 conjugate leaves. The major difference with normal 12° will be that this set of 4 is folded as quarto, while the 4 laid in the middle or making the second gathering in normal 12° consist of 4 leaves in a row. A bibliographer aware of this problem will usually find some irregularity in the paper to match the leaves which had been together before trimming, if the normal criteria cannot be checked.

Trigesimo-duo, 32°. This format has 32 leaves per sheet. Johnson's scheme implies that this number actually has been used for gatherings. If so, I suppose it will have been cut the first time instead of folded, since too much repeated folding will give irregularities at the corners and will destroy the regularity of the type-pages when trimmed. Most likely the printers preferred half-sheet imposition, with 16 leaves per gathering, or quarter-sheets with 8. The chain-lines will always be vertical; the watermark will extend from the outer bottom corner of 4 leaves.

Johnson also gives schemes for the following formats, which need not be discussed in detail: 20° in 10s, 36° in 18s or 12s, 40° in 20s, 48° in 12s or in 8s and 4s, 64° in 32s (see remark under 32°), 16s or 8s, 72° in 12s, 96° in 8s, 128° in 8s. To quote Johnson (p.9): "schemes of various other irregular sizes might have been introduced, but they could answer no other purpose than that of pleasing the fancy, by exhibiting the possibility of folding a sheet of paper into so many different forms." This is just what we could express in interpreting the Dutch proverb: "paper is patient", as: it can be folded in many and odd ways.

8. KEY TO BIBLIOGRAPHICAL FORMATS

Determining the format from internal evidence is not difficult for the normal impositions. For unusual formats and impositions it is rather complicated. I prepared a key similar to keys for taxonomic groups in biology to have a guide. The key is primarily based on the imposition schemes published by Johnson: *Typographia* ..., vol. 2 145-190, 1824. I added a few variants which I saw and some other schemes which would be a problem for the bibliographer. Nevertheless the key is not sufficient for all books. I excluded oblong formats (oblong 4°, oblong 6°, etc.), since I do not expect difficulties in their identification. The direction of the chain-lines and the places of the watermarks differ from those in the normal impositions of the same formats. The variant impositions in the 12°-family indicated by Johnson as "without cutting" are excluded too, since I suppose them to occur mainly in machine-made paper.

The key is prepared for books with laid paper which has normal chain-lines and watermarks as well as countermarks, each in the center of a half-sheet. If a countermark is absent, the number of leaves mentioned in the key will have to be divided by 2. The user of the key should be aware of unusual places of the watermark, e.g. in the center of a full sheet. An abnormal place of the watermark in the book leaves can be caused by the use of small type-pages, where large outer margins of the sheet are left blank. This is mentioned explicitly under 8° in the key; it might also explain other cases. Small watermarks can easily be overlooked (single letters in the folds of 4° leaves), or may have disappeared in cut copies (line of words in top bolt of 8° leaves). On the other hand the watermark may have a considerable size, e.g. several lines with long words, or a large figure. In the smaller formats such marks will occupy more leaves than are mentioned in the key, in which the place of the center of the watermark is meant. Its position is stated in brief terms, e.g. "outer leaf top" means the outer top corner of the leaf, "middle of 2 leaf bottoms" means the middle of the lower border (bottom) of two leaves, and "in fold of leaf pair" means in the fold of a conjugate pair of leaves.

Deckle-edges should be checked in uncut copies. Slightly trimmed copies will show many torn edges and traces of deckle-edges, which may be enough to conclude the position of all deckle-edges. If deckle-edges are cut off, the chain-lines may help in locating some sheet borders. In some papers the two pairs of chain-lines near each outer border of the sheet have a smaller distance between each other than the majority of the chain-lines. For brevity deckle-edges at the several borders of a leaf will be called "top deckle-edges", "outer deckle-edges" and "bottom deckle-edges".

Leaves which occupied a corner position in the sheet show outer deckle-edges and either bottom deckle-edges or top deckle-edges. In these "corner-leaves", bottom deckle-edges are normally present, top deckle-edges only in unusual impositions, e.g. in those of the 12°-family "without cutting". Four corner-leaves indicate a full sheet.

It is a rule, agreeing with an explicit imposing instruction stated by Johnson, that the first leaf from a sheet is a corner-leaf; that is the first leaf of the first gathering of a set printed from a full sheet. The first leaves of other gatherings of the same set are not necessarily corner-leaves, and the sets should be grouped correctly, containing four corner-leaves. As an example, the imposition of 18° in 6s has sets of 3 gatherings from 1 sheet; the 2nd gathering of the set does not have any corner-leaves and in the 3rd gathering the corner-leaf is usually leaf 2, but in a variant it would be leaf 1; in that case this gathering should not be taken as the first one of a set. The text, as a rule, begins with the first gathering of a set; occasionally the title or other preliminaries mark this beginning.

In sets of unequal gatherings the first of each pair is called the "large gathering", having more leaves than the second or "small gathering".

Wove paper books can be determined with the help of the deckle-edges and torn edges in uncut copies. In the case of cut copies they are difficult to determine from internal evidence. A watermark, if present, is usually placed along the long border of the sheet, especially in the left half-sheet or the left quarter-sheet, coming in the fold of two conjugate leaves or in one leaf of the first half of a gathering of 8°. Other peculiarities may be of help; in a case of 18° in 6s the direction-line of every first leaf of sets of three gatherings had a volume indication which was not present in the other gatherings of the same set.

Johnson numbered the figures with the imposition schemes (which, as stated before, were given for the compositor and represent a mirror image of the printed sheet). This number, without its asterisk, is mentioned in the key, preceded by the abbreviation "JT"; the words "top" or "bottom" refer to the place of the scheme in the figure.

The abbreviation "wm" means either watermark or countermark, since they will show at random. The word gathering is abbreviated to "gath.", plural "gaths.", in the key.

A' Quired sheets present (check deckle-edges, chains and wm to determine full sheets); if so, the format is found by counting the number of leaves per sheet.

A" No quired sheets (at most one sheet per gathering) → B

- | | | | |
|---------|--|------|------|
| B 1 | Only single leaves present | → C | |
| B 2 | Two leaves per gathering | → D | |
| B 4 | Four leaves per gathering | → E | |
| B 4 1 1 | Gatherings of four leaves followed by two single leaves
(possibly two single leaves laid in the middle of the four) | | → F |
| B 6 | Six leaves per gathering | → G | |
| B 6 4 | Gatherings of six leaves and of four leaves regularly alternating | | → J |
| B 8 | Eight leaves per gathering | → K | |
| B 8 4 | Gatherings of eight leaves and of four leaves regularly alternating | | → R |
| B 9 | Nine leaves per gathering | → Y | |
| B 10 | Ten leaves per gathering | → Z | |
| B 12 | Twelve leaves per gathering | → AA | |
| B 12 6 | Gatherings of twelve leaves and of six leaves regularly alternating | | → II |
| B 16 | Sixteen leaves per gathering | → JJ | |
| B 18 | Eighteen leaves per gathering | → LL | |
| B 20 | Twenty leaves per gathering | → MM | |
| B 32 | Thirty-two leaves per gathering | → NN | |

Only single leaves present

- | | | |
|---|--|--------------------------------------|
| C' | Chains horizontal
full sheets with both wm and countermark present;
leaves with deckle-edges all round (unless inner border
cut for binding); | } Broadsheet, plano, 1°
not in JT |
| C" | Chains vertical;
half-sheets with either wm or countermark in leaf center;
torn edge at inner border of leaves (unless cut); | |
| Theoretically other formats might occur with single leaves;
they should be recognized by the place of chains, wm, and
deckle-edges. | | Folio, 2° in 1s
compare JT 1 top |

Two leaves per gathering

- | | | |
|---|---|-----------------------------------|
| D' | Chains horizontal;
wm in middle of fold of conjugate leaves;
top borders of leaves with torn edges; | } Quarto, 4° in 2s
JT 6 bottom |
| D" | Chains vertical;
wm in center of each leaf;
deckle-edges at 3 borders of each leaf; | |
| An unusual folding of 8° was observed with consecutive pairs
of conjugate leaves, which would key out here except for the
watermark and the deckle-edges; see <i>Huntia</i> 2: 163. 1965. | | Folio, 2°
JT 1 bottom |

Four leaves per gathering

- | | | | | |
|----|--|---|------------------|------------|
| E' | Chains horizontal;
wm in middle of fold of conjugate leaves;
all leaves corner-leaves; | } | Quarto, 4° | JT 4-5 top |
| E" | Chains vertical;
wm in inner top corners of all leaves (if wide sheet
margins are not used for letterpress, wm may shift
to top borders of leaves 1 and 2);
2 corner-leaves per gathering; | | Octavo, 8° in 4s | |

Gatherings of four leaves followed by two single leaves
(possibly two single leaves laid in the middle of the four)
 impractical impositions for book-binding; see discussion on p.12.

- | | | | | |
|----|---|---|----------------|-----------|
| F' | Chains horizontal;
wm in center of leaves 3 and 4;
4 corner-leaves: 1 and 2, and the two single leaves; | } | Long sexto, 6° | not in JT |
| F" | Chains vertical;
wm in middle of top border of leaves 3 and 4;
2 corner-leaves: 1 and 2 only; | | Long 12° in 6s | |
- Sexto could exist with vertical chains and wm in inner
 half of top border of leaves 1, 2 and the 2 loose leaves;
 corner-leaves as in "long sexto"; leaf form nearly square.

Six leaves per gathering

- | | | | | |
|----|---|---|----------------------|-----------------|
| G' | Chains horizontal | | | |
| H' | Wm in middle of upper half of 2 outer leaf borders;
2 corner-leaves per gath.; | } | Duodecimo, 12° in 6s | JT 17 top |
| H" | Wm in middle of 1 outer leaf border in each 2nd gath.;
2 corner-leaves in sets of 4 gaths. (half-sheets); | | 48° in 6s | |
| G" | Chains vertical | | | |
| I' | Sets of 3 gaths. per sheet;
wm in center of 1 leaf in 1st and of 1 in 3rd gath.;
each 2nd gath. without outer deckle-edges;
bottom deckle-edges in 4 leaves per gath.;
2 corner-leaves in 1st gath. and 2 in 3rd gath.; | } | 18° in 6s | JT 26-27 bottom |
| I" | Sets of 4 gaths. per sheet;
wm in middle of 4 leaf bottoms per set (in variants
in middle of 2 leaf tops);
4 corner-leaves in 4 gaths.; | | 24° in 6s | |

Gatherings of six leaves and of four leaves regularly alternating

- | | | | | |
|---|--|---|------------------|-------------------------------------|
| J | Chains horizontal;
1 corner-leaf per gath.;
leaf form nearly square; | } | 20° in 6s and 4s | very unusual format
JT 28 bottom |
| | | | | |

Eight leaves per gathering

K' Chains horizontal

- | | | | |
|----|---|---|---|
| L' | Wm in 4 outer leaf tops per gath.;
2 corner-leaves per gath.; | } | 16° in 8s
JT 21 bottom |
| L" | Wm in another position;
at most each gath. with 1 corner-leaf; | | |
| M' | Sets of 3 gaths. per half-sheet;
wm in both 1st and in 3rd gath. in middle of
1 outer leaf border;
2nd gath. without bottom deckle-edges at all
and with only 2 outer deckle-edges;
1 corner-leaf in 1st gath. and 1 in 3rd gath.; | } | 48° in 8s
unusual small format
JT 40 bottom |
| M" | Sets of 4 gaths. per half-sheet;
wm in outer bottom corner of 1 leaf per gath.; | | |
| | 2 corner-leaves per 4 gaths.; | } | 64° in 8s
unusual
very small format
JT 41 bottom |

K" Chains vertical

- | | | | |
|----|--|---|---|
| N' | Top bolts in 2 leaf pairs;
wm in center of 1 leaf;
2 corner-leaves per gath.; | } | 18° in 8s
unusual imposition
JT 23 top |
| N" | All 4 leaf pairs united by top bolts (1 & 4, 2 & 3, etc.);
wm not in leaf center | | |
| O' | Wm in inner top corner of all leaves (if
wide sheet margins are not used for
letterpress, wm may shift to top
borders of leaves 1-4);
bottom deckle-edge in each leaf;
4 corner-leaves per gath.; | } | Octavo, 8°
very common format
JT 8-9 top |
| O" | Wm in some leaf bottoms;
bottom deckle-edges in at most 4 leaves per gath. | | |
| P' | Sets of 4 gaths. per sheet;
wm in 2 outer leaf bottoms per gath.; | } | 32° in 8s
JT 34-35 bottom
JT 36 top |
| | bottom deckle-edges in 4 leaves per gath.; | | |
| | 1 corner-leaf per gath.; | | |
| P" | Sets of more than 4 gaths. per sheet;
wm center not in each gath.; | } | 96° in 8s
extremely small format
JT 45 |
| | corner-leaves not in each gath.; | | |
| Q' | Sets of 6 gaths. per half-sheet;
wm in 2 gaths. per set, low in fold
of 1 leaf pair;
2 corner-leaves per 6 gaths.; | } | 128° in 8s
extremely small
narrow format
JT 46 |
| Q" | Sets of 8 gaths. per half-sheet;
wm in 2 gaths. per 4, in 1 outer
leaf bottom;
2 corner-leaves per 8 gaths.; | | |

*Gatherings of eight leaves and of four leaves regularly alternating
(occasionally signed as one group of 12 leaves)*

R' Chains horizontal

- S' Small gaths. folded as 4° with 2 top bolts;
wm at inner top corner of 4 leaves in large gaths.;
1 corner-leaf per gath.; } 24° in 8s and 4s
JT 32 top
variant of JT 31 top

Johnson indicates JT 32 top as "Long 24°", but I find no size difference with JT 31 top, "Twenty-fours, the Sixteen-way"; the main difference is that large gaths. are folded in consecutive pairs and not in 8° as in the latter and its variant.

- S" Small gaths. folded from strip of 4 leaves with 1 outer bolt

- T' Wm in middle of folds of 2 leaf pairs in
large gaths.;
2 corner-leaves per gath.; } 12° in 8s and 4s
JT 16

- T" Wm along outer border of some leaves

- U' Wm in middle of upper half of 1 outer
leaf border per gath.;
bottom deckle-edges in 4 leaves per gath.;
1 corner-leaf per gath.;
leaf form very narrow in relation to height; } 24° in 8s and 4s
variant of JT 32
in other direction

- U" Wm in middle of 1 outer leaf border in
large gaths.;
bottom deckle-edges in 4 leaves of large
gaths. only;
1 corner-leaf in large gaths. only;
leaf form not very narrow; } 48° in 8s and 4s
JT 39 top
unusual small format

R" Chains vertical

- V' Leaf form square or nearly square

- W' Wm in middle of fold of 2 leaf pairs in
large gaths.;
small gaths. folded from strip of 4 leaves with
1 outer bolt;
2 corner-leaves in each gath.; } Square 12° in 8s and 4s
not in JT

- W" Wm in middle of 1 leaf bottom per gath.;
small gaths. folded as 4° with 2 top bolts;
1 corner-leaf per gath.; } Square 24° in 8s and 4s
variant of JT 31 top
in other direction

- V" Leaf form clearly rectangular

- X' Wm in middle of 2 leaf tops per gath.;
small gaths, folded as 4° with 2 top bolts;
2 corner-leaves per gath.; } Long 12° in 8s and 4s
JT 18-19 top

In the actual imposition as given by Johnson one set of large and small gaths. is signed with 1 signature; the 8 leaves of large gaths. are folded with tops united consecutively; folding as 8° instead is possible, though not likely.

- X" Wm in middle of 2 outer leaf borders in
large gaths.;
small gaths. folded from strip of 4 leaves with
1 outer bolt;
1 corner-leaf per gath.; } 24° in 8s and 4s
JT 32 bottom

Nine leaves per gathering, leaf 5 not conjugate

- Y Chains vertical;
2 corner-leaves per gath.; } 18° in 9s
JT 23 bottom

Ten leaves per gathering

- Z Chains horizontal;
2 corner-leaves per gath.;
leaf form nearly square; } 20° in 10s
variant of
JT 28 bottom

Twelve leaves per gathering

- AA' Chains horizontal
- BB' Leaves 5-8 folded as 4° with 2 top bolts;
wm at top of folds of 2 leaf pairs per gath.;
2 corner-leaves per gath.; } 24° in 12s
JT 31 top
- A variant of JT 32 top, "Long 24°", will give the same leaf size
with top bolts in consecutive leaf pairs; compare note to S'.
- BB" Leaves 5-8 folded from strip of 4 leaves with 1 outer bolt
- CC' Wm in middle of fold of 2 leaf pairs per gath.;
4 corner-leaves per gath.; } Duodecimo, 12°
JT 14
- CC" Wm along outer border
- DD' 1 gath. per half-sheet;
wm in middle of upper half of 2 outer
leaf borders;
2 corner-leaves per gath.;
leaf form very narrow in relation to height; } 24° in 12s
variant of
JT 30 bottom
in other direction
- DD" Sets of 2 gaths. per half-sheet;
wm in middle of 1 outer leaf border per gath.;
1 corner-leaf per gath.;
leaf form not very narrow; } 48° in 12s
JT 39 bottom
- AA" Chains vertical
- EE' Leaf form square or nearly square
- FF' Wm in middle of fold of 2 leaf pairs per gath.;
leaves 5-8 folded from strip of 4 leaves with
1 outer bolt;
4 corner-leaves per gath.; } Square 12°
not in JT
- FF" Wm in middle of 2 leaf bottoms per gath.;
leaves 5-8 folded as 4° with 2 top bolts;
2 corner-leaves per gath.; } Square 24° in 12s
variant JT 31 top
in other direction
- EE" Leaf form clearly rectangular
- GG' Wm in middle of 4 leaf tops per gath.;
leaves 5-8 folded as 4° with 2 top bolts;
4 corner-leaves per gath.; } Long duodecimo,
Long 12°
variant JT 18-19 top
in other direction
- GG" Wm in outer or bottom border of 2 leaves per gath. or less;
leaves 5-8 folded from strip of 4 leaves with 1 outer bolt
- HH' 1 gath. per half-sheet;
wm in middle of 2 outer leaf borders per gath.;
2 corner-leaves per gath.; } 24° in 12s
JT 30
JT 31 bottom
- HH" Sets of 3 gaths. per half-sheet;
wm in in 1st and 3rd gath. low in fold of
leaf pair (variant: high in fold);
1 corner-leaf in 1st and in 3rd gath. each; } 72° in 12s
very small format
JT 44

Gatherings of twelve leaves and of six leaves regularly alternating

- | | | | |
|-----|---|---|--------------------------------|
| II' | Chains horizontal;
wm in middle of fold of 1 leaf pair in large gaths.;
2 corner-leaves in large gaths. only; | } | 36° in 12s and 6s
JT 38 top |
| II" | Chains vertical;
wm in center of 1 leaf per gath.;
2 corner-leaves per gath.; | | |

Sixteen leaves per gathering

- | | | | |
|-----|---|---|--|
| JJ' | Chains horizontal | } | 16°
not uncommon format |
| KK' | 1 gath. per sheet;
wm in outer top corners of leaves 9-16;
4 corner-leaves per gath.; | | |
| KK" | 2 gaths. per half-sheet;
wm in 2 outer leaf bottoms;
1 corner-leaf per gath.; | } | 64° in 16s
very small format
JT 42 top |
| JJ" | Chains vertical;
1 gath. per half-sheet;
wm in 4 outer leaf bottoms per gath.; | | |
| | 2 corner-leaves per gath.; | } | 32° in 16s
small format
JT 33 bottom |

Eighteen leaves per gathering

- | | | | |
|-----|---|---|---|
| LL' | Chains horizontal;
2 gaths. per sheet;
wm in middle of fold of 1 leaf pair per gath.; | } | 36° in 18s
small format
JT 37 top |
| | 2 corner-leaves per gath.; | | |
| LL" | Chains vertical;
1 gath. per sheet;
wm in center of 2 leaves;
4 corner-leaves per gath.; | } | 18°
JT 24-25 bottom |
| | | | |

Twenty leaves per gathering

- | | | | |
|-----|---|---|--|
| MM' | Leaf form nearly square;
chains horizontal;
wm in upper or lower quarter of 4 outer leaf borders;
4 corner-leaves per gath.; | } | 20°
unusual format
JT 29 |
| MM" | Leaf form rectangular;
chains vertical;
wm in middle of 2 outer leaf borders per gath.; | | |
| | 2 corner-leaves per gath.; | } | 40° in 20s
unusual format
JT 38 bottom |
| | | | |
- This 40° imposition given by Johnson allows a variant with the sheet in the other direction: chains horizontal, leaf form narrower, wm in upper or lower outer leaf borders, 2 per gath.

Thirty-two leaves per gathering, very unusual impositions, probably not practical

- | | | | |
|-----|---|---|---------------------|
| NN' | Chains horizontal;
wm in 4 outer leaf bottoms per gath.; | } | 64° in 32s
JT 43 |
| | 2 corner-leaves per gath.; | | |
| NN" | Chains vertical;
wm in 8 outer leaf bottoms per gath.; | } | 32°
JT 34-35 top |
| | 4 corner-leaves per gath.; | | |

9. THE COLLATIONAL FORMULA

The collational formula is, as it were, the heart of the bibliographical description. It gives the physical structure of the book, that is the number of gatherings and their number of leaves, in a condensed form.

The collational formula is based on the signatures printed in the book (letters, numerals, or typographical signs such as asterisks etc.) An unambiguous signature is assigned to unsigned gatherings or to those which repeat a signature already used in the book.

The number of leaves covered by one signature is indicated by a superscript after the signature: A^4 means a gathering of 4 leaves signed A, and B^6 one of 6 leaves signed B. In the formula groups of gatherings with equal numbers of leaves are united in one block: $1-20^8$ means a book with 20 gatherings of 8 leaves each; its total number of leaves is 160 and of pages 320.

If letters are used, the roman alphabet used by the printers is taken for granted: either I or J, and either U or V, and no W. This alphabet, therefore, has 23 letters, and the formula $A-Z^8$ means a book with 23 gatherings of 8 leaves. Whenever more than 23 letters are present in the alphabet of the signatures, this should be stated explicitly: $A-U^8 V^8 W-Z^8$. Title-pages and half-titles are, as a rule, unsigned, so that this is taken for granted.

A gathering only signed on its third leaf or on its 3rd leaf is still considered a signed gathering. Unsigned gatherings are those which do not have a signature on any leaf. When unsigned gatherings occupy corresponding gaps in the normal sequence of signatures, the missing signatures are used as inferred signatures. These are always printed in italics (underlined in type-script) in the collational formula: $A^8 B-F^8 G-K^8 L-Y^8 Z^8$, where gatherings A, G, H, I, K and Z are unsigned.

When a book consists of more than 23 gatherings signed with letters, usually a second alphabet is used with double letters: $Aa-Zz$; is this not sufficient, a third alphabet follows: $Aaa-Zzz$, and so on. Instead of repeating the letters, the later alphabets can have a number before the letter: $2A-2Z$, $3A-3Z$, etc. In the collational formula these later alphabets are referred to in the last manner, since it is clear and short. The signing with two or more capitals, AA or AAA , is also treated as equivalent, but the signatures all consisting of lower-case letters, aa or aaa , are noted as the lower-case letter with the numeral: $2a$, $3a$, etc. So the formula $A-3Z^2$ implies a book of $3 \times 23 = 69$ gatherings of 2 leaves. If the first alphabet is not completed, it should be stated as far as it goes: $A-V^8 2A-2G^8$ describes a book with 20 gatherings signed $A-V$ and 7 gatherings signed $2A-2G$. (Bowers omits the 2 before the G of the second alphabet, but I prefer to maintain it to avoid confusion.)

A second alphabet or a second numbered series may be present, repeating exactly the first series in the same volume. This has to be identified in the bibliographical treatment, so that each individual gathering has an unambiguous signature in the collational formula. This is realized by adding a superscript before the signature quoted: $A-3Z^8$ and $1-23^8$ $21-23^8$ $31-32^8$ both represent books with 69 gatherings of 8 leaves. More alphabets or series are treated in the same way.

When gatherings are signed by conventional typographical signs, such as asterisks, daggers, these are given as such in the collational formula. Sometimes, in my opinion, it is convenient to place these signs between quotation-marks: $"(*)"$, since parentheses and especially square brackets are very confusing without a special indication that they are quoted. Italicizing to indicate inferred signatures of some of these marks is rather difficult; an italic asterisk, e.g., is not feasible. In such cases the sign should be placed between square brackets, indicating, as usual in bibliography, that it was not actually printed. When the signatures are in fact printed between parentheses or brackets, these are omitted in the description unless they identify another alphabet in the book.

Unsigned gatherings and leaves, which cannot be assigned inferred signatures, are referred to by Greek letters, π (pi) concerning preliminaries (the title-page, dedication, and preface) and χ (chi) when it concerns other matter. A usual collation is: $\pi^4 A-X^8 \chi^1$. If only one leaf is present, these symbols form an exception to the general rule that the gatherings are treated in terms of pairs of conjugate leaves, or, in other words, that the superscript is always an even number. Many bibliographers do not treat the 1 as a superscript in this case, but I prefer the same treatment throughout the collational formula. If several gatherings of this type are present, they are distinguished by additional numbers before the symbol; a superscript is not necessary here: $\pi-4\pi^4 A-G^8 \chi^4 H-K^8 2\chi^4 L-Z^8 3\chi^1$.

An exception for designating unsigned preliminaries as * is made when one signature was reserved and actually more were needed. In this case the one inferred signature is taken to apply to the first gathering and a χ is assigned to the remaining unsigned preliminary gatherings: $A^4 \chi-3\chi^4 B-Z^4$ indicates that the main gatherings begin with signature B, and that 4 unsigned gatherings precede it (usually all with preliminaries). If the preliminaries happen to have the same signatures as the body of the text, they are identified by a superscript * before the symbol: $A-D^4 A-Z^8$. Signatures used twice in any other place are usually preceded by the superscript X. Formerly a number superscript was used for individual repetitions, but these are now reserved for alphabets.

A special notation has been developed for gatherings with regularly alternating numbers of leaves (the several types of imposition with unequal gatherings): $A-F^{12} 16$ indicates a collation written in full: $A^{12} B^6 C^{12} D^6 E^{12} F^6$.

Since the collational formula is meant to express conjugacy, I propose a new notation for books with irregular conjugacy, that is several gatherings covered by one signature. In this notation the superscript is written in 2 or more terms, each indicating a group of conjugate leaves; the sum total of these terms indicates the total number of leaves covered by the signature. Some examples are:

- (1) Arrhenius, J.P.: *Monographia Ruborum Sueciae*, Upsala, 1840, 8°, which I discussed in *Huntia* 2: 162-164, 1965, can be expressed in the formula: $1-5^{2+2+2+2}(-3_1)$;
- (2) Demerson, L.: *Calendrier françois*, Paris, 1825, 18°, discussed in *Huntia* 2: 165-167, 1965, can have a simple notation: $\pi^2 1-8^{6+6+6} 9^{2+6}$ (\$7 signed \$*, \$13 signed \$**, \$9 signed 9*, unsigned 97);
- (3) Johnson's format "Long Twelves" can be written $A-Y^{8+4}$.

When a book has no signatures at all, the bibliographer assigns arabic numerals to all gatherings, which are treated as inferred signatures.

Leaves inserted in gatherings have to be exactly indicated as to place, number, and conjugacy. The usual method is to refer to these leaves with the signature of the foregoing leaf and a figure indicating their number: $A-B^4 C^4(C_3+2) D-Z^4$, or, when these two inserted leaves are conjugate, the leaf numbers separated by a period: $A-B^4 C^4(C_3+1.2) D-Z^4$. An alternative is indicating these inserts with the symbol χ too: $A-B^4 C^4(C_3+\chi^1, 2\chi^1) D-Z^4$, or, for conjugate leaves: $A-B^4 C^4(C_3+\chi^2) D-Z^4$. When references are needed, they are indicated as " C_3+1 " and " C_3+2 " in the first method, and as " χ " and " 2χ " (when not conjugate) or " χ_1 " and " χ_2 " (when conjugate) in the latter method. For the identification of the gathering in which the inserts occur, its signature can be added as a superscript: " $C\chi_1$ " and " $C\chi_2$ ". In inserts between gatherings, the signature of the foregoing gathering may be used as the identifier. Personally, I definitely prefer the less cumbersome indication χ over C_3+1 for an insert in a gathering.

Leaves removed from gatherings and disturbing the conjugacy are indicated by minus signs (-), preferably different from the hyphen (-) in the formula. Missing pairs of conjugate leaves are simply indicated in the superscript: Z^6 in an 8° book means that 3 conjugate pairs are left in this gathering. $Z^8(-Z_7, 8)$ means that Z_1 and Z_2 are not conjugate with another leaf. Such incomplete gatherings have to be checked carefully for conjugacy: the fold lies between Z_2 and Z_3 in the former case and between Z_4 and Z_5 in the latter. If one leaf of a gathering has been removed, its place has to be checked too; usually it is the last leaf: $Z^8(-Z_8)$, but occasionally another leaf was chosen. If the first leaf is missing, the correct notation is: $Z^8(-Z_1)$. I use the formula $Z^6 \chi^1$ when I do not have definite proof that the last leaf really belonged to the same sheet; the advantage is simplicity with regard to the notation of the individual leaves. In the former notation the leaves actually signed Z_1 etc. have to be corrected in Z_2 etc.; in the latter one the actual signatures are taken as correct.

Cancels have already been mentioned. The presence of a cancellans is indicated by a plus-minus sign: $A^4(+A_3)$. In the case of a conjugate pair replaced by another conjugate pair the notation is: $A^4(+A_{2,3})$. More complicated cases should be written in full, e.g.: $A^8(-A_{5,6} +A_{5,6})$, where the two cancellanda are not conjugate but the cancellantia are. A special case is present in Bridel: *Bryologia universa*, vol. 2: $2F^6 2G^8(-2F_8 -2G_1 +2G_1)$. Here the cancellans $2G_1$ replaced two leaves of different gatherings; the pages of the cancellans each received double page-numbers.

The purpose of the collational formula is to give as much information as possible in a condensed form. Nevertheless, bibliographers usually write in full all gatherings which have a missing leaf or a cancel: $\pi^1 A-C^4 D^4(+D_2) E^4(-E_4) F-I^4 K^4(-K_4)$. Stevenson simplified this without loss of information to: $\pi^1 A-D^4(+D_2) E^4(-E_4) F-K^4(-K_4)$. I shorten this by stating in one block all missing leaves and cancels occurring in each set of gatherings of the same type: $\pi^1 A-K^4(+D_2 -E_4 -K_4)$.

This condensed formula gives exactly the same information as the two others. It has been argued that this requires more carefulness on the part of the bibliographer who compares another copy with the collation. A bibliographer has to be careful anyway, and in my opinion this collational formula can be read more easily, since the attention is at once drawn to the deviations and sets of equal gatherings are clearly shown.

Leaves exclusively devoted to engravings, etchings or lithographs are not included in the collational formula, but treated in a special paragraph, since they cannot be printed together with the text. Title-pages in such techniques, however, are included because of their importance, but their nature is indicated between brackets. Engraved tables are also enumerated and described in the paragraph *Plates*. I include typographical tables in the collational formula when they form an integral part of text sheets or a small minority compared with the plates, e.g. Hedwig: *Species muscorum*. In most other cases typographical tables are treated in the paragraph *Plates*. For woodcuts and engravings on leaves with letterpress see text-figures (p.26).

For those plate-books in which the leaves of the printed text are identified by the plate numbers only, the *lambda treatment* was introduced by Alan Stevenson in vol.2 of the *Hunt Catalogue*. The letter λ (lambda) followed by the plate number indicates the text leaves. A superscript after the plate number (or group of plate numbers) indicates the number of leaves in a gathering with the text to this plate (or group of gatherings each with text to individual plates). So $\lambda 1-40^2$ means: text consists of 40 gatherings of 2 leaves, each identified by a consecutive plate number and bearing the text to the plate concerned. This, however, is rarely the case (e.g. in parts of Hooker: *British Jungermanniae*). Usually the leaves with text to individual plates do not coincide with gatherings. If each plate is accompanied by one leaf of text, no extra indication is needed: $\lambda 1-40$ simply means 40 single leaves, each with text to an individual plate. This does not indicate the conjugacy of the leaves, the structure of the gatherings, or the way in which the sheets with text were printed. If the text to individual plates is consistently printed on two leaves which are not conjugate, a subscript after the plate number could be used: $\lambda 1-40_2$. Books with regularly single text leaves to individual plates occasionally have such a long text to one or a few plates that two or more text leaves were needed. If these are not conjugate, extra leaves are treated as inserts: $\lambda 40+2$ means that three leaves, not conjugate, bear the text to plate 40.

A complication arises when two or more plates are devoted to the same subject (plant), so that the accompanying text leaf (or set of leaves) has to be identified by two or more plate numbers. In the collational formula it is not possible to combine these numbers with a hyphen, since this is used for a set of plates with different subjects. It could be stated as $\lambda 149$ but this is cumbersome in printing. The slanting line is not occupied in the collational formula and I therefore propose its use in this case: $\lambda 149/150$ will mean one leaf of text to the two plates 149 and 150 picturing the same subject. Gatherings or extra leaves for this text are indicated in the same way: $\lambda 149/150^4$ indicates a gathering of 4 leaves with text to these plates; $\lambda 149/150^2+2$ a gathering of 2 conjugate leaves with 2 extra leaves (not conjugate with those of the text to these plates); $\lambda 149/150+3$ means the text to plates 149 and 150 on 4 leaves which are not conjugate (at least with each other).

Similar to signature notations, italic plate numbers mean inferred numbers, not actually present in the book, used for purposes of reference.

In Stevenson's method the Greek letter λ precedes the part of the formula which treats the leaves in this way; other bibliographers omit this indication and simply enumerate the leaves by plate numbers. I have repeated the symbol before each group of equal leaves for clarity.

The advantage of this method is the simplicity of the formula and of references. A decided disadvantage is that this method does not show the gatherings as printed, since one gathering is not necessarily devoted to one plate or subject. Apart from the academic question of pure bibliography, this can be a serious problem for the botanical bibliographer who has to work out the exact contents of books published in fascicles, e.g. Hooker: *Exotia flora*, and Greville: *Scottish cryptogamic flora*. Truly, many copies of these works have the leaves cut loose at the inner side, to accommodate the binding of plates and text together, or the whole is bound so tightly

that no traces of conjugacy can be found. If no loosely bound copy turns up, other evidence must be used, in which watermarks especially prove helpful. The octavo half-sheets of the two works cited had for a large part paper with the watermark in the lower half of the fold of leaves 1 + 4, or 2 + 3. Deckle-edges or torn edges are helpful too, and the usual make-up of a fascicle in these works is one gathering of 4 leaves (8° half-sheet imposition) and 1 loose leaf accompanied by 5 plates. This information is lost in the λ -treatment. I have not found a satisfying method to combine the clarity and simplicity for reference of the λ -treatment with the indication of the individual gatherings and I have stated these under the unusual heading *Dates* as proofs of the fascicle contents.

The way of signing the individual leaves is briefly indicated after the collational formula between parentheses. Individual leaves are referred to by their positional number in the gathering concerned, with regard to the normal folding: A_1 , A_2 , A_3 and A_4 in a gathering of four leaves whether they are all signed or only one. When the gatherings are signed with numerals, their individual leaves are indicated by an inferior numeral (or in some type-fonts a smaller numeral) after the number of the signature: 3_1 , 3_2 , 3_3 and 3_4 . For unsigned gatherings, of course, the inferred signature or the arbitrary indication is used.

Alan Stevenson introduced the sign \$ for a special bibliographical usage: the indication of all or of particular leaves in all gatherings; \$3 meaning the third leaves in all gatherings of the book. The indication "\$1-3 signed" therefore means: all gatherings have the first 3 leaves signed, self-evidently title-pages, half-titles and dedications excepted. Other exceptions are stated within the same parentheses. Actually Stevenson used in his case "\$3 signed" but I have reserved this for those cases where the second leaves are unsigned. If nothing is stated, the first leaf of every gathering is signed only. If a certain leaf in all gatherings is signed with an asterisk without a gathering indication I state: "\$3 signed '*'"; if the asterisk follows the gathering indication I report: "\$3 signed \$*". If the third leaf of every gathering is signed with the gathering indication followed by a 2, I use the notation: "\$3 signed \$2".

As said before, it was a general usage to sign a certain proportion of the leaves per gathering, e.g. half the number of all leaves in each gathering, or this number plus one. To simplify the enumeration of signatures of unequal gatherings, I propose an indication of the general method by using the Greek letter γ (gamma) for the total number of leaves per gathering. "\$ $\frac{1}{2}\gamma$ signed" means that half the number of leaves per gathering are signed, e.g. in the format 12° in 8s and 4s this means that leaves 1-4 in all gatherings with 8 leaves and leaves 1-2 in those with 4 leaves are signed; "\$ $\frac{1}{2}\gamma+1$ signed" means that one more leaf is signed than half the number per gathering, that is in the same example leaves 1-5 in odd numbered gatherings and leaves 1-3 in even numbered gatherings.

Missignings are recorded in the same set of parentheses. Reporting these seems trivial, but it is one of the methods to trace variants, since these mistakes were often corrected during printing. The whole method of signing may be an indication of a printer, or even compositor, and especially when a sudden change is present this may be an indication of a change of compositor or printer.

10. PAGINATION

The collational formula is immediately followed by an account of the pagination, separated by a semicolon. Every page is accounted for with a symbol, preferably the printed page number. Inferred page numbers are assigned to unnumbered pages whenever they fit gaps in the printed pagination, and are reported in italics. For conciseness I report interpolated inferred page numbers between parentheses at the end of the pagination, together with mistakes in page numbers: "422 as '22' ". This treatment of the inferred page numbers is different from the usual methods, but it gives the same information in a more condensed form.

Arbitrary numbers are assigned to unnumbered pages which can not have inferred page numbers, in such a way that each page in a certain volume or part has an unambiguous reference. If only arabic numerals are present, the case is simple: lower-case roman numerals are assigned to all other pages. When roman numerals are already used, the other type is used for the unnumbered pages, e.g. when upper-case roman numerals are used for the preface, beginning with I (or inferred I), the numbers i-iv will be assigned to the half-title and the title, and vice-versa.

Inferred page numbers, extrapolating the printed pagination, are assigned to unnumbered pages at the end, even of blank leaves, unless another circumstance makes this impossible, e.g. the continuation of the pagination in a following part of the book. The inferred page numbers are stated before the parentheses, for an easy calculation of the total number of pages per part or volume. For the same reason the correct number can be stated with the last page, if some page numbers are completely ignored in the book, that is, not present and not destined for unnumbered pages (text as well as conjuncture should be checked in such cases), e.g. 1-20 23-34 [=32]; the pages 21 and 22 are absent and the total number of pages is 32, not 34.

A new pagination in a volume which is not easily indicated as a second part is identified with a superscript before the page number in the same way as was already done for signatures. This method can be used to indicate duplications of sets of page numbers in a normal pagination. The existing method of adding letters to the page numbers can be advocated too.

An example of the pagination formula is: I-IV i-v vi-xv xvi 1 2-268 271-296 [=294] 21 22-312 2313-320 (xiii 24 32 112 210 244 269, 120-144 as '108'-132'). This means that four sets of pagination are counted: 4 unnumbered pages (half-title and title), the preliminaries with 16 pages, partly numbered but consistent if the inferred pages are taken into account, a first set of 294 pages in which 269 and 270 are omitted and a set 120-144 is misnumbered, and a second set of 320 pages; moreover the unnumbered pages are stated.

If instead of pages columns or leaves are numbered, a relevant indication should precede the enumeration of the numbers. The unnumbered pages of the plate-books treated under the lambda-method are not enumerated; instead at least the total number of leaves is reported, separated by a comma from the part with a normal pagination; in some cases the λ-numbers are reported, especially when there are differences with the enumeration in the collation.

11. CONTENTS.

The bibliographical description contains an enumeration of the contents of the book, in this thesis as a separate paragraph. The details of the description may differ according to the purpose of the bibliography. For a botanical bibliography it is unsatisfactory to treat the major part of the contents with the one word "text", while going into minute details for the preliminaries. To achieve a better balance I tried to indicate for floras the information given per species, in order to enable the botanist to judge at a glance the importance of the book directly, although the importance of the book is evaluated briefly in the notes. Since I selected the titles for the bryological contents, I enumerate the cryptogamic groups which are present in the book. It is self-evident that phanerogamic plants are included in a flora, but frequently the cryptogams are only partly treated and it is not always clear from the title which groups are included and which are not.

The enumeration of the contents closely follows the pagination. Each page has to be accounted for, including blank pages. These are indicated by a special symbol, an empty rectangle, □, proposed by Alan Stevenson. Cancellantia are referred to by their page number followed by the plus sign: 860+; the corresponding cancellanda by page number and the minus sign: 860-.

The references in the paragraph *Contents* are usually made, in descriptive bibliography, to the bibliographical notation of the leaf or signature (as developed in the paragraph *Collation*), with the addition of an "r" or a "v" for the recto or verso (front or back) side of the leaf. However, this method is used primarily for incunabula and 17th century literature, and I certainly prefer the simpler page reference for 19th century books, in which pagination was quite regular and not so erratic as in the early periods of printing. I can cite Bowers (p.315-316): "Since in the eighteenth century books are ordinarily paged, there is a marked tendency for bibliographers to use pagination than signing for reference in the contents paragraph and other parts of the description. Signature reference is used in books of the two previous centuries, even when pagination or foliation is present, for two main reasons: a bibliography ought to be consistent in its method, and in the earlier period, when many books are unnumbered, signature reference is the only consistent system possible; secondly, pagination in earlier books is too erratic in accuracy to be a trustworthy guide. Both situations are changed in the eighteenth century where it is possible to be reasonably consistent with page references and where accuracy of pagination, while not invariable, is at least a general rule."

"The only argument for page reference is its ease both for the reader and the bibliographer. Through the whole era of hand-printing it has [p.316] these advantages. Its accuracy is not complete, for mispagination does occasionally exist to create some problems of reference. Mispagination was often corrected in press so that a reference to a specific page may be accurate for one copy and inaccurate for another, giving rise to various misunderstandings. However, the main objection is that it is not a structural system. With the collation of the book by signatures before his eyes, a reader working his way through the contents note with signature references can understand at a glance the system of printing of the various sections, as well as any abnormalities. When the sole reference is to pages, the relation of the contents to the make-up of the book is completely obscured and can be painfully reconstructed after some calculation. These difficulties are serious ones, but the advantages of quickness of reference in eighteenth-century books and later are usually felt to outweigh the objections to pagination reference, and the common practice is to make all references by page number whenever possible. Signatures may be added in parentheses when special accuracy is necessary." So far this statement of Bowers.

Though it is clear, I think, that he still prefers references to signatures in eighteenth century books, the other custom is so wide-spread that he has to indicate it. For nineteenth and twentieth century books he has only a short sentence (p.438): "Reference is made by page-number." His main point is that this applies to machine-printed books.

Originally I prepared nearly all the paragraphs *Contents* of the books for this thesis with signature references. I never admired the system, since it is useless for the many botanists who do not have the time to study descriptive bibliography intensively. Further, it is very time-consuming to check these references in those books in which only a few leaves are signed. For the same reason mistakes can easily creep in. Even for the main service of descriptive bibliography, the determination of fascicle contents, the page references are indispensable. After ample discussion it was decided to use page references in the large project *Bibliographia Huntiana* of the Hunt Botanical Library. Consequently I adopted this system. Moreover I had to refine the pagination statements to make unambiguous page references possible, comparable to the unambiguous signature references.

Text figures are described in a separate paragraph. Typographical or other ornaments (woodcuts) without relation to the text are usually described in the contents in connection with the identification or possible identification of printers. This subject is not treated in this thesis, so I do not report those ornaments.

Printer's imprints are shortly mentioned with their pages, but the information is mentioned in a special paragraph, in which succinct biographical data are stated when known to me. Publishers have another paragraph. I did not make exhaustive efforts to trace biographies of printers and publishers.

12. PLATES

A special paragraph in the bibliographical description is devoted to plates. This may include real plates as well as typographical tables, although I include many tables in the contents (see the discussion there). The total number of plates is recorded which are bound in the book as individual units. These units were not necessarily printed as separate units. As I explain elsewhere (*Huntia* 3, 1968, in press), several individual units could be printed together from one copper plate, to be separated after printing. In the main example which I discussed there, the original combinations could be reconstructed with the help of torn edges from an uncut copy of Gérard: *Flora Galloprovincialis*, Paris, 1761. I was not successful in mapping out the places of the plates of Sturm: *Deutschlands Flora Abth. II, Kryptogamen*, nor did the watermarks of the plates of one fascicle match. Apparently in this case the "page plates" were separated for coloring before the fascicles were prepared, and a statistical analysis of the places of the watermarks might shed more light on their distribution. Nevertheless I am convinced that at least 8 units were printed from one copperplate. The presence of engraved dividing lines between the units is a sure sign for this method, the economic advances of which are obvious. A result is that the plate-mark is not visible all around the plate, or not at all. The *plate-mark* is the rectangular line where the sharp edge of the copper plate left an embossment in the paper.

The second element stated for the plates is the technique or techniques used. Most books treated in this thesis have copper engravings or etchings, some have lithographs. Lithographs do not have plate-marks and are usually indicated as such somewhere in the book. The difference between engraving and etching is often very difficult to distinguish in the printed plates; moreover etchings were often finished by engraving, e.g. in the lettering. Engraved lines are straight and taper into fine points; etched lines are not so straight and end bluntly. I gratefully acknowledge the help in these identifications of Mr. J.V. Brindle, curator of prints of the Hunt Botanical Library.

The methods of coloring the plates are stated: hand-coloring or color-printing. In several cases the color-printing was done with two or more colors by inking the copper plate with different colors in special places, e.g. a stem with leaves in green, the root part in brown, and the name in black. After the French name of the ink ball, *poupée*, this method is called *à la poupée*. Usually surface colors were added by hand.

The first color-prints of complete moss plants which came to my knowledge, were published in the period treated in this thesis (see Chevallier and Sommerfelt), and before that T.F.L. Nees von Esenbeck published plates printed in one color of protonema stages of mosses.

The subjects of the drawings are succinctly described. In works in which the plates were published before the corresponding parts of the text (see Gaudichaud) it is important to indicate whether the plates contain "analyses" and Latin names, since it is a criterion for valid publication in the International Code of Botanical Nomenclature for plates published without text (before a certain date only).

The dimensions of the plate-mark are given in millimeters for one or a few plates, height first. Artists and engravers are listed in separate paragraphs with the numbers of the plates prepared by them, and succinct biographical details, when known to me.

13. PAPER DESCRIPTION

Under the heading *Paper* the leaf height is given of the largest copy seen, and the width when unusual. Occasionally the sheet size is stated, when it has been possible to measure this from uncut copies. The color of the paper is given only if it is other than white (browning is not mentioned unless it indicates some paper difference). The structure of the paper, laid or wove, is stated, and if laid, the direction of the chain-lines. An effort has been made to list the watermarks of at least one copy of each work; it has already been mentioned that this is not necessarily identical in all copies of the edition or issue, but normally the differences will only occur in those gatherings where a shift to another supply of paper took place.

14. DATES OF PUBLICATION

The research on dates of publication is one of the main objects of the bibliography of natural history. In a special paragraph in each treatment I combine the results of the research on the internal structure (especially the fascicle contents) and collateral evidence concerning the dates of publication of the book and its parts.

According to Dr. W.T. Stearn, undoubtedly one of the experts on precise dating of botanical publications, three independent data must be available to settle a date of publication beyond doubt. This is a sound principle. In practice, in many cases the data are so few that we have to evaluate their trustworthiness. Pre-publication announcements, as a rule, cannot be trusted too much. The sentence "will shortly be published" may precede actual publication by a year or so, but it definitely indicates a date on which the book was not yet available. Announcements for the German book fairs at Leipzig often include books not actually ready at the fair. Reviews are proofs that the book was published, except for the possibility of pre-publication review copies. Bowers cites a modern example (p.376) in which from advance copies and early orders it became apparent that sale had been underestimated, hence the 4000 ready copies were all shipped from New York to California; and a second impression was ordered for Eastern distribution; the copies for the West got sidetracked and did not arrive until after the official publication date, and the planned pre-publication second impression for the East was not finished in time; as a result, on publication day no copy was placed on sale anywhere.

Trustworthy are the notices of receipt by societies, academies and libraries, published in their periodicals, or present in their archives. Even here exceptions can occur, as I explain under the reprint of Arnott's article *Disposition des mousses* ... Personal letters from the author accompanying a copy are very useful and as a rule trustworthy. They may precede publication in the bibliographical sense, but certainly can be admitted as proof of publication in the sense of the code of botanical nomenclature; strictly speaking the existence of another copy should be substantiated, but this is often difficult.

Usually, I only state one citation which indicates the earliest day of possible publication, when I consider this reliable enough, in the paragraph of *Dates*. Under *Reviews and announcements* other indications may be found, which are later.

15. REVIEWS, ANNOUNCEMENTS, BIBLIOGRAPHICAL STUDIES, REFERENCES

Under a separate heading I list the reviews known to me, or announcements which have some information, not easily found elsewhere, e.g. on the date of publication. The abbreviations of the periodicals are extensive enough to recognize the full title. I refrain from giving a full list of these abbreviations, since a large list of such abbreviations of importance to botany, *Botanico-Periodicum-Huntianum*, was recently published by the Hunt Botanical Library.

Under the heading *Bibliographical studies* references are given to other publications treating the dates of publication of the title concerned.

Under *References* a number of catalogues and other lists are cited, which mention the book in question. Obviously, it was not possible to refer to every published catalogue and the selection given is rather arbitrary; even some important catalogues have not been included and some are only mentioned occasionally. These references are given in very short abbreviations, which are explained in the list of abbreviations. The number after the abbreviation self-evidently is the page number, unless preceded by the letter n., indicating the item number. Locations of copies can be traced from some of these references. The location of the copies studied is not consistently stated; one copy is usually mentioned under leaf height or -size; but as a rule at least one other copy was compared. Library abbreviations are the same as the standard abbreviations for herbaria in *Index Herbariorum*, with some exceptions.

16. SIGNS

- | separates lines in quotations and title transcriptions; indicates regular alternation of unequal signature in collational formulas; and of the parts of continuous running titles at the top of opposite pages
- / in a collational formula: sign uniting plate-numbers for the same subject
- in a collational formula: sign for a removed leaf
- + in a collational formula: sign for an inserted leaf
- * in a collational formula: sign for a cancellans replacing a removed leaf
- = separates watermark and countermark descriptions
- ≡ identity sign, indicates a homotypic nomenclatural synonym
- [] in a quotation or transcription: enclosing a remark or description not present in the original text
- blank page
- \$x leaf x in all gathering of a book
- γ number of leaves per gathering
- λ leaf in plate-book identified by plate-number
- μ micron, 0.001 millimeter
- x unsigned gathering in text
- w unsigned gathering in preliminaries

17. ABBREVIATIONS

aft.	after
Am.	America, American
Am.Bibliogr.	Shaw, R.R. & Shoemaker, R.H.: <i>American bibliography. A preliminary checklist for 1801</i> [-1820]. 20 vols. New York, 1958-64.
anncd.	announced
announc.	announcement
Apr.	April
Arch.Départ.	Archives Départementales [in France, of the département concerned]
Arn.Arb.	Tucker, E.M.: <i>Catalogue of the library of the Arnold Arboretum</i> . 3 vols. Cambridge, Mass., 1914-33.
Aug.	August
b.	born
bef.	before
Beil.	Beilage (supplement)
betw.	between
BIBIB	Britten, J. & Boulger, G.S.: <i>Biographical index of deceased British and Irish botanists</i> . Ed.2 by A.B. Rendle. London, 1931.
Bibl.note	Bibliographic note
Bibliogr.France	<i>Bibliographie de la France</i> (yearly volumes, from 1811; usually weekly fascicles; some years, e.g. 1827, twice a week)
Bibliogr.stud.	Bibliographic study (studies)
Biogr.	Biography
BMNH	in library abbreviations: library of the British Museum (Natural History), South Kensington, London;
BMNH	in references: <i>Catalogue of the books, manuscripts, maps and drawings in the British Museum (Natural History)</i> . (Compiler: Woodward, B.B.). 5 vols. London, 1903-05.
BMNH-S	<i>Supplement</i> (to BMNH), vol.6-8. (Compilers: Woodward, B.B.: vol.6, Townsend, A.C.: vol.7-8.) London, 1922-40.
Bradl.	Rehder, A.: <i>The Bradley bibliography. A guide to the literature of the woody plants of the world</i> ... 5 vols. Cambridge, Mass., 1911-18.
Brun.	Brunet, J.C.: <i>Manuel du libraire et de l'amateur de livres</i> . Ed.5. 6 vols. Paris, 1860-65.
Brun.-S	Deschamps, P. & Brunet, G.: <i>Manuel du libraire et de l'amateur de livres. Supplément</i> . 2 vols. Paris, 1878-80.
ca	circa
cat.	catalogue
Cat.Juss.	Decaisne, J.: <i>Catalogue de la bibliothèque scientifique de MM. de Jussieu</i> . Paris, 1857.
CM	Carnegie Museum, Pittsburgh, Pennsylvania, U.S.A. (herb. and library)
cm.	centimeter
Co.	County
col.	column
coll.	collected, collection
d.	died
Dec.	December
dép.	département, French administrative unit, similar to county
det.	determined
DNB	<i>Dictionary of National Biography</i> . 63 vols. Oxford, 1885-1900.
Dunth.	Dunthorne, G.: <i>Flower and fruit prints of the 18th and early 19th century</i> . Washington, D.C., 1938.
E.As.Bot.	Merrill, E.D. & Walker, E.H.: <i>A bibliography of Eastern Asiatic botany</i> . Jamaica Plain, Mass., 1938.
E.As.Bot.-S	Walker, E.H.: <i>Supplement 1</i> (to E.As.Bot.). Washington, D.C., 1960.
ed.	edition
e.g.	exempli gratia
esp.	especially
exh.	exhibition
expos.	exposition

FH	Farlow Herbarium, Harvard University, Cambridge, Mass., U.S.A.
fasc.	fascicle, fascicles
Feb.	February
fid.	fide (according to, on the authority of)
fl.	flourished (in biographies: years in which the person was living)
G	Conservatoire de Botanique, Geneva, Switzerland
gath., gaths.	gathering, gatherings
gen.	general
GH	Gray Herbarium, Harvard University, Cambridge, Mass., U.S.A.
Graesse	Graesse, J.G.T.: <i>Trésor de livres rares et précieux</i> . 8 vols. Dresde, 1859-69 (consulted: Milan reprint).
GRO	Botanisch Laboratorium, Rijksuniversiteit, Groningen, Netherlands
HBL	Hunt Botanical Library, Carnegie-Mellon University, Pittsburgh, Pa.
Heawood	Heawood, E.: <i>Watermarks of the 17th and 18th centuries</i> . Hilversum, 1950
Heins.	Heinsius, W.: <i>Allgemeines Bücher-Lexicon</i> ... 19 vols. Leipzig, 1812-94 (consulted: Graz facsimile 1962-63).
herb.	herbarium
hon.	honorary, honoris
ICBN	<i>International Code of Botanical Nomenclature</i> adopted by the Tenth International Botanical Congress, Edinburgh, Aug. 1964. Utrecht, 1966. (Regnum vegetabile vol.46).
incompl.	incomplete
Jacks.	Jackson, B.D.: <i>Guide to the botanical literature of botany</i> . London, 1881.
Jan.	January
JT	Johnson, J.: <i>Typographia</i> . London, 1824.
Jul.	July
Jun.	June
Kew	<i>Catalogue of the library of the Royal Botanic Gardens, Kew</i> . London, 1899.
Kew-S	<i>Supplement (to Kew)</i> . [London], 1919.
Krieg	Krieg, M.O.: <i>Mehr nicht erschienen. Ein Verzeichniss unvollendet gebliebener Druckwerke</i> . 2 vols. Bad Bocklet etc., 1954-58.
Krok	Krok, Th.O.B.N.: <i>Bibliotheca botanica Suecana</i> . Uppsala-Stockholm, 1925.
Krüg.	Krüger, M.S.: <i>Bibliographia botanica. Handbuch der botanischen Literatur</i> ... Berlin, 1841.
L	Rijksherbarium, Leiden, Netherlands (herbarium and library)
l.c.	loco citato; at the cited place (only used with reference to a citation in the same entry or paragraph)
LCC	<i>Library of Congress catalogue of printed books</i> ...
Lindl.Cat.	<i>The Lindley Library catalogue of books, pamphlets, manuscripts and drawings</i> . (Compiler: Hutchinson, H.R.). London, 1927.
Linn.Soc.	<i>Catalogue of the printed books and pamphlets in the Library of the Linnean Society of London</i> . (Compiler: Savage, S.). New ed. London, 1925.
LL.D.	Litteris Doctor
Lownd.	Lowndes, W.T.: <i>The bibliographer's manual of English literature</i> . Ed.2 (by Bohn, H.G.). 4 vols. London, 1864.
M	Botanische Staatssammlung, München, Bavaria
Mar.	March
Mass.HS-H	<i>Catalogue of the library of the Massachusetts Horticultural Society</i> . (Compiler: Hewett, M.C.). Cambridge, Mass., 1918.
Mass.HS-M	<i>Dictionary catalog of the library of the Massachusetts Horticultural Society</i> . (Compiler: Manks, D.S.). 3 vols. Boston, 1962.
M.D.	Medicinae Doctor
Meis.	Meisel, M.: <i>A bibliography of American natural history</i> ... 1769-1865. 3 vols. New York, 1924-29.
Mich.Fair	Michaelmas Fair (Michaelismesse), book fair at Leipzig
Milt.	Miltitz, F. von: <i>Bibliotheca botanica</i> . Berlin, 1829.
mm.	millimeter
ms., mss.	manuscript, manuscripts

n.	number
Niss.	Nissen, C.: <i>Die botanische Buchillustration</i> ... Stuttgart, 1951.
nom.cons.	nomen conservandum (conserved name)
nom.illeg.	nomen illegitimum (illegitimate name)
nom.rej.	nomen rejiciendum (rejected name)
Nov.	November
NYBG	New York Botanical Garden, Bronx, New York
Oct.	October
p.	page
pagin.	pagination
PBN	Bibliothèque Nationale, Paris
PC	Laboratoire de Cryptogamie, Muséum d'Histoire Naturelle, Paris
period.	in chronological lists: article in periodical
pl., pls.	plate, plates
Plesch	<i>Bibliothèque Arpad Plesch "La Léonina". I Botanique.</i> (Compiler: Pley, J.) Monte-Carlo, 1954.
PMusBC	Bibliothèque Centrale, Muséum d'Histoire Naturelle, Paris.
Pr.ed.1	Pritzels, G.A.: <i>Thesaurus literaturae botanicae</i> . Leipzig, 1851.
Pr.ed.2	[same]. Ed.2. Leipzig, 1872-77.
pref.	preface
prob.	probable, probably
public.	publication
r	in collational references: recto (front side)
recd.	received
ref., refs.	reference, references
reg.	register
rev.	review (reviews)
Roorb.	Roorbach, G.A.: <i>Bibliotheca Americana. Catalogue of American publications ... 1820 to 1850</i> . New York, 1939.
RSC	<i>Catalogue of scientific papers (1800-1883). Compiled and published by the Royal Society of London</i> . 6 vols. London, 1867-72.
RT	running title
Sayre	Sayre, G.: <i>Dates of publications describing Musci, 1801-1821</i> . Troy, N.Y., 1959.
sem.	semester
Sep.	September
sep.	separate
Sitw.Blunt	Sitwell, S. & Blunt, W.: <i>Great flower books 1700-1900</i> . London, 1956.
Soulsby	<i>A catalogue of the works of Linnaeus (and ... relating thereto ...)</i> . (Compiler: Soulsby, B.H.). London, 1933.
Soulsby Add.	additional numbers in Soulsby
Stafl. TL	Staflau, F.A.: <i>Taxonomic literature. A selective guide to botanical publications with dates, commentaries and types</i> . vol.52). Utrecht-Zug, 1967.
Teyl.	in library abbreviations: Library of Teyler Foundation, Haarlem, Netherlands
Teyl.	in references: Ekama, C.: <i>Fondation Teyler, Catalogue de la bibliothèque. I. Sciences exactes et naturelles</i> . Haarlem, 1885-88.
t.-p.	title-page
t.-p. vol.	title-page of the volume, in contradiction to t.-p. of fascicle
trim.	trimester
U	Botanisch Museum en Herbarium, Rijksuniversiteit, Utrecht, Netherlands
UB Utr.	Universiteits-bibliotheek, Rijksuniversiteit, Utrecht, Netherlands
Utr.	<i>Catalogue van botanische boekwerken in de Universiteitsbibliotheek ... te Utrecht</i> . (Compiler: Danner, W.H.). Utrecht, 1936.
v	in collational references: verso (back side)
vol., vols.	volume, volumes
W	Naturhistorisches Museum, Wien, Austria
Wikstr.	Wikström, J.E.: <i>Conspectus litteraturae botanicae in Suecia</i> ... Stockholm, 1833.
wm.	watermark
x	in plate-mark dimensions: the unknown short distance missing when the plate-mark is cut off at one border

18. SOURCES

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SPECIAL BIBLIOGRAPHY

ARNAUD, Jean André Michel

Biogr. Born 1760 Sep. 28, Le Puy en Velay, France.

Died 1831 Nov. 24, Le Puy, dép. Haute-Loire, France.

Arnaud was educated at the "Collège du Puy" and later at the "Faculté de Médecine de Montpellier", where he received the degree of Dr. Med. on 16 Jul. 1782. He became physician at Le Puy and finally "Médecin en chef des hôpitaux et des prisons du Puy" (Chief physician of hospitals and prisons at Le Puy). He married Marie-Antoinette Nogier de Solignac on 11 Jan. 1809; they had four children. (Information: courtesy Arch.Départ., Le Puy.)

Ref.: Paul, G.: *Recueil des événements qui ont eu lieu au Puy et aux environs depuis l'an 1775 jusqu'en 1815* ... p.15-41. Le Puy, 1931.

1 Flore du département de la Haute-Loire ...
Le Puy, 1825.

Title: "FLORE | DU DÉPARTEMENT | DE LA HAUTE-LOIRE, | OU | TABLEAU DES PLANTES
QUI Y CROISSENT, | DISPOSÉES SUIVANT LA MÉTHODE NATURELLE; | PAR J.-A.-M.
ARNAUD, D. M. M., | Médecin en chef des hôpitaux et des prisons du Puy,
Membre | de la Société d'Agriculture, Sciences, Arts et Commerce de |
cette ville, du Jury médical du département de la Haute-Loire, | de
l'Académie de Dijon, des Sociétés médicales de Bordeaux | et de Lyon, des
anciennes Société royale et Société de la | Faculté de Médecine de Paris.
| IMPRIMÉE PAR ORDRE DE LA SOCIÉTÉ D'AGRICULTURE, SCIENCES, | ARTS ET
COMMERCE DU PUY. | [medium long swelled rule] | AU PUY, | DE L'IMPRIMERIE
DE PASQUET PÈRE ET FILS, | IMPRIMEURS DE LA PRÉFECTURE. | [short rule] |
1825."

Collation: 8° in 4s: a⁴ b⁴ c² 1-13⁴ 14²; i-iii iv-xix [italics] xx
1 2-108 (xi 106).

Contents: i title; ii 0; iii-x preface and introduction, headed: "AVERTISSEMENT.", ending with a list of abbreviations, including sources (ix-x); xi-xix list of genera in the (modified) Linnaean classification with page references; xx table of de Jussieu's natural classification: "TABLEAU SYNOPTIQUE DE CLASSIFICATION."; 1 head-title as book title; 7-105 text, list of plant species of all groups, arranged in natural families, with French and local names, flower colors and habitat and localities, 106-108 alphabetical index of local plant names: "TABLE | DES NOMS EN PATOIS DONNÉS A QUELQUES PLANTES." RT: French names of plant families, or chapter heading. Language: French.

Paper: leaf height 197 mm. (HBL copy, cut).

Printers: firm "Pasquet père et fils", Le Puy. Pierre Pasquet died 26 Jan. 1838, aged 62. In fact the firm was headed by L. Lajugie from 1821-1830; see: Le Blanc, Paul: *Les débuts de l'imprimerie au Puy* ... p.48-50. Le Puy, Marchessou, 1894. (Information: courtesy Arch.Départ., Le Puy.)

Publisher: Société d'Agriculture, Sciences, Arts et Commerce du Puy.

Date: 1825 (t.-p.), bef. 2 Jul. (*Bibliogr.France* 14 (27): 441. 1825).

Refs.: Bradl.1:407 Krüg.147 Milt.121 Pr.ed.1 n.298, ed.2 n.246.

Bibl.note. Probably gathering c has been printed on the same sheet as 14, but I have no positive proof.

Bot.note. Regional flora, which may be of importance for specialists of the region and of vernacular names, on which probably original information is present.

ARNOTT, George Arnott Walker

Biogr. Born 1799 Feb. 6, Edinburgh, Scotland.

Died 1868 Jun. 17, Glasgow, Scotland.

Arnott received elementary education at Arlary (Kinrosshire, Scotland); in 1807 he went to the High School of Edinburgh, retaining a friendship for life with his school-fellows, as Dr. William Jameson and Dr. Robert Wight. He entered Arts Classes of the Edinburgh University in Nov. 1813, published papers on mathematical subjects (1817, 1818), and became interested in natural sciences by the lectures of Prof. Robert Jameson (1774-1854), mineralogist. With R.K. Greville (which see), he attended extra-academical lectures of John Stewart (died 1820) on cryptogamic botany in 1817 and 1818. Mineralogy was dropped in favor of botany, and, as Dr. Wight later wrote, there was a *friendly rivalry in the formation of our herbaria* (Cleghorn p.4; for full reference see the end of this biography).

In 1818 Arnott received the degree M.A., and after further study he was admitted a member of the Faculty of Advocates in 1821; he appeared as an advocate only three times, as he disliked public speaking. His attention was more strongly directed to botany by the contact with Dr. W.J. Hooker whom he first met at a summer course of lectures (by Hooker) in 1821, with an introduction from R.K. Greville (Cleghorn p.5), and not in 1825, as supposed by J.D. Hooker (Ann.Bot.16: xxxvii. 1902). After this Arnott frequently visited Hooker and attended his excursions to the Highlands.

It is understandable that Arnott's interest was for a large part focused on bryophytes, since Hooker had finished his beautiful *British Jungermanniae* (1816), the first edition of *Muscologia Britannica* (1818), had prepared the second volume of *Musci Exotici* (1819-20) and was still contemplating a third volume, while the mosses cannot escape being noticed in the Scottish Highlands. Arnott received many herbarium duplicates from Hooker, and doubtless many mosses were included. Arnott's activity in collecting can be judged from the many times his name was mentioned in Hooker's *Flora Scotica*.

In the same year, 1821, Arnott visited Paris and studied plants in the herbaria of Delessert, Mérat, and of the Muséum d'Histoire Naturelle. Also, he attended the last botanical excursion in which Antoine Laurent de Jussieu took part and which was directed by Adrien de Jussieu. This stay in France will certainly have strengthened his interest in the natural classification, and have encouraged him to work out a new one for the mosses.

Back in Edinburgh he wrote to Ad. Brongniart on 14 Nov. 1821: *It is now time to write about the Synopsis Muscorum, & with the greatest regret, I find that for the present I must give up the task: of the mosses already described & figured by the authors, I find, notwithstanding the many I have, that I possess few more than the half: and of unpublished species, I understand there may be nearly 3 hundred arrived in Britain, which it is impossible for me even to get a sight of: I hope however that in time I may be able to do something, & in the interval, I shall at my leisure examine and describe those that I possess.*"

Nevertheless, in collaboration with Greville, he began to produce the *Tentamen methodi muscorum* to attempt a new classification of the mosses. Its first part, as a separate, came out on or before 22 Apr. 1822, the date of a letter to Brongniart in which Arnott announced the shipment of a number of copies. This same letter is interesting in showing Arnott's decided preference for "lumping" over "splitting": *Hornschuch is publishing at present a Bryologia Germanica. He makes every variety a species: he has nearly 100 species of Bryum that will never do - I do not think there are 30 in all Germany -*, to which must be taken into account that the circumscription of this genus was much larger than in the 20th century. In another letter to Brongniart, dated 7 Jun. 1822, Arnott confirmed the sending of the books and added: *by a friend*; from this may be inferred that copies were already available to Arnott for some time, but not before 14 March, on which date he had sent an earlier packet to Brongniart; apparently he utilized opportunities whenever these turned up, to avoid postage.

The second Memoir by Greville and Arnott was referred to in a letter from Arnott to Ad. Brongniart, dated Edinburgh, 7 Apr. 1823, telling him that it was *written, but not yet printed*. He was especially eager to get more information on

the structure of the sporophyte and calyptra of the genus *Drepanophyllum* of C. Richard. In the next letter, dated 25 Apr. 1823, Arnott offered Brongniart a set of the *Memoirs of the Wernerian Natural History Society* at a reasonable price. The second part of the 4th volume was to be published immediately.

Another letter to Brongniart is quoted in full, since it has a bearing on a similar situation concerning the *Nouvelle disposition méthodique* in 1825-26, one of the important publications of which I wanted to trace the history:

My dear friend,

In my last letter, which I sent you | by Mr. Hardie, I mentioned that I had re-|ceived some mosses from Rio de Janeiro; | I am sorry that the specimens are too small | to allow me to send you any of them. I | have drawn up descriptions of them, which | may not be printed in this country. I therefore send | you a manuscript copy, which I should | feel obliged if you would present to your | Society of Natural History. - if they think proper | to insert it in their Memoirs, they are welcome[sic] | to print it, but in that case, you had better trans-|late into French what I have written in | English.

I am just now in a great hurry, as I | set off tomorrow for our highlands in search | [verso] of plants, of which if I find any thing good I | shall send some to you. I know I shall | get the *Zygodon conoides*! & *Eypnum flagellare*!

If I can get part of my property sold | I intend to be in Paris next year, but I wish | you would visit me first - when I go to France | I shall be nearly two years from home, so that | may not be next year exactly.

Believe me ever yours sincerely

[signed:] GAWalker Arnott

2 July 1823 | Edinburgh

What is the price of D.C.'s Synopsis? of | Kunth's Synopsis? & of Richards Medical | properties of Plants?

In the next letter to Brongniart, dated 11 Sep. 1823, Arnott says he has not heard from him since the letter sent by Mr. Hardie. This new letter was to be brought by Mr. Scoolar - one who is a good practical botanist for Scottish plants - he studied under Dr. Hooker at Glasgow -, apparently John Scouler (1804-1871), M.D. Glasgow 1827. Arnott mentioned his excursions to the mountains, where he found a moss two or three weeks after Hooker discovered it as new for Scotland: *Bryum demissum*, and enclosed a new *Grimmia* for Brongniart. Arnott appeared not to approve of German authors too much: Schwae griehen's 2nd Supplement to Hedwigs Species muscorum - It is nonsense from beginning to end - Oedipodium is a bad genus - Thesanomitrion Richardi is only Dioranum flexuosum, as is also Dioranum filiforme!!! Have you seen also Hornschuchs Bryologia Germanica - he has made numbers of new species, without one good character. More important, we learn that My 2nd Memoir on the genera of mosses is now printing ... Further, he still contemplated a large work on mosses: I have not altogether given up hope of finishing a Muscologia, but some time must elapse - and I must restrict myself to such species as have been described by others & such new species as I myself possess - I propose to give specific differences in Latin, & any short observations in English. How would it do to print in Paris ... & what bookseller would undertake it. I should think these might be 4 or 500 pages - like DeCandolles Systema vegetabilium - & no plates.

It must have come as an embarrassment to Arnott, when Brongniart wrote him that the paper on the Rio de Janeiro mosses was being printed, for he reacted at once by the following letter:

Edinburgh 21st Nov. 1823

My dear Sir

I only received your letter this morning, but would not have | answered you for some little time, were it not for a circumstance | in which I think you must certainly have misunderstood me. | I allude to the paper I sent you "on the Mosses of Rio de Janeiro"^[1]. | If I recollect well I stated that it had been previously read | to the Wernerian Society, and

that it was in their power to | print it; and of course, it was not my intention that it should | be published at Paris as an original Memoir - indeed | it has been just printed in the Transactions of the Wernerian | Society, & will appear soon: and you would oblige me much if | you will not permit it to be published in the Memoirs of your Society. | If it has been already printed (but I hope that it has not) | I would wish that you will place a notice at the | end of the volume to this effect: "Le memoire sur des mousses de Rio de Janeiro | etoit imprimé ici sans connaissance de l'auteur: le manu-|scrit original etoit donné et lu à la Société Wernerienne d'histoire naturelle | d'Edimbourg, dans les actes de quelle Société il a été publié." | Excuse my bad French - I hope that you will be able | to do one of these, but write me, on this point, the moment | that you can determine what you can do.

The rest of the letter is for a large part devoted to bryology, and for the other part about publications to be sent or acquired, or even copied. Written on the last leaf is a *Notice on Schwaegrichen's 2d Suppt. volume*. Arnott wrote of this: ... which I have no objections you should use in the "*Bulletin des annonces Scientifiques*" ... There is no indication that this was published; it is very critical. Arnott did not accept a large number of species distinguished by Schwaegrichen.

In the next letter, dated 18 Dec. 1823, Arnott apologized: *I received your letter of the 28 Novemb. only the other day - you must be quite right about the paper I sent you, but I had quite forgot any thing about it, - more than I stated to you in my letter and I am very sorry for the trouble I have given you.* The article actually was published in Paris in 1823 (see n.1 of the following descriptions) and also in Edinburgh in 1824 as a part of a larger paper (see n.2). Brongniart cannot be blamed for the duplication. In his hasty letter of 2 July, Arnott clearly asked him to publish it, probably supposing that he would receive word of Brongniart before printing began, and then forgot all about it during his trip in the mountains. The preparations for printing in Scotland went their regular course, however slowly it may have appeared to Arnott. Astonishingly the same must have happened to him in Paris in 1825 or early 1826.

The same letter gives us welcome information on the second memoir by Greville and Arnott: *I send also the second memoir on the Genera of mosses, though the volume in which it is to appear has not yet been published.* Other information concerns the prospectus of a work by Brongniart, of which 12 copies were on their way to Scotland, but not yet received, and the high expense of the post in Scotland for it (not by weight, as in France, but by each piece of paper), and about the planned work by Hooker, a species plantarum in the natural arrangement, 8 volumes, one every 8 months, announced on the cover of Curtis' botanical magazine (a plan that was never realized).

On 15 Jan. 1824 Arnott was able to send (by an intermediary) a few copies of the *memoir we have had some correspondence about*, apparently the prepublished separate of the paper referred to, concerning Rio de Janeiro. The date on this letter is not too clear, since it can be read as July as corrected from June, but the next letter leaves no doubt, being dated 16 January 1824 in full, and confirming the letter of the day before. The main reason for this letter was to tell Brongniart that the packet with the large number of the prospectus referred to earlier, had such an immense postage that he refused it, since he already had received a single prospectus and had made it known in English, and to different booksellers.

In the last letter of this series to Brongniart, dated 20 May 1824, Arnott announced the sending of the new volume of the Wernerian transactions 5(1) which was ready for some time: ... *this is the first opportunity I have had ...* From the same letter it is clear that Arnott did not yet possess the *Bryologia Germanica*, though he had seen a copy before.

The voyage to France was indeed realized, and again I have to treat some details because of its consequences for dating the forms of Arnott's article. He arrived in Paris 12 Feb. 1825, attended his private affairs and studied in the herbaria of Paris botanists, e.g. the mosses of Gaudichaud and Delessert. His treatise *Nouvelle disposition ...* was read at the Société d'Histoire Naturelle on

18 March 1825, and on 22 March Arnott left Paris for his large "Tour" to southern France. Most likely he attended the meeting himself, and printing obviously could not have begun in the few days he still was in Paris. The journey lasted a very large part of the year, and was in part described by Arnott in the *Edinburgh New Philosophical Journal*. The story was told of the visit to Andorra, where the only bed in the principal inn was occupied by the sick owner. In the other inn the master offered his own bed, which was accepted. In the copy of the reprint, present in the Edinburgh Botanical Garden, a humorous annotation is inscribed at this point: *Here the author fell asleep and seems never again to have awaked - for no more was published.*

It has been stated that this break of the narrative really was caused by the account published by his companion George Bentham (1800-1884) in his *Catalogue des plantes indigènes des Pyrénées et du Bas Languedoc*, Paris, 1826. This is hardly the main reason, since Arnott cited Bentham already in the fourth instalment out of the nine which were published. A more important cause will have been the journey to Russia, which Arnott undertook in 1828, and possibly later his marriage.

From Bentham's account it is clear that the tour to the Pyrenees ended 19 Aug. 1825, the date of the return to Montpellier (l.c. p.45). The return and the arrangement of the numerous collections made during the journey must have taken up time; anyway Arnott was on his return northwards 19 Sep. 1825, when he passed Tain and Tournon (*Tour to the South of France and the Pyrenees*, [1]: 10, footnote. [1826]). On his return journey Arnott visited A.P. De Candolle in Geneva, at an unfortunate period, since the second son of De Candolle had just died very unexpectedly (*Mémoires et souvenirs de Augustin-Pyramus De Candolle ... écrits par lui-même et publiés par son fils*, p.411, Genève-Paris, 1862). Arnott studied the herbarium of De Candolle for three months (Cleghorn, p.7), staying with and having the guidance of Seringe. This means that Arnott was still in Geneva during the first half of Dec. 1825. Soon after he will have reached Paris, probably late in December.

Back in Paris Arnott found apparently that the Société d'Histoire Naturelle de Paris had not yet published his article read 18 March 1825. At least, this is my explanation for the fact that he offered the article to another society, the Société Linnéenne de Paris, possibly in the same impulsive way in which he wrote the letter quoted before concerning the article on Jameson's mosses. The result was that the article, the *Nouvelle disposition méthodique des espèces de mousses exactement connues*, appeared in four forms, both societies printing also separate forms of the article. I will indicate these four forms by the format of the journal with the indication periodical or separate. Moreover I found a fifth form (n.11).

Definitely the first form which appeared is the 4^o separate, a preprint from the *Mémoires de la Société d'Histoire Naturelle de Paris* with separate pagination, provided with a title-leaf and a conjugate leaf with errata. Its title is shortened to *Disposition méthodique des espèces de mousses*, though the head-title on p.1 gives the full title, and the head-title on p.6 also has the word "Nouvelle". This is stressed here, since the short title would suggest an article completely different from the later forms with the added word "Nouvelle", which is not the case.

The second form is the article, with the full title as head-title, in the 4^o periodical *Mémoires de la Société d'Histoire Naturelle de Paris* 2(2): 249-323. 1826 (April); a list of errata in the same fascicle on p.412-414 states 48 corrections to the article of Arnott.

As the third form I treat the article in the 8^o periodical *Mémoires de la Société Linnéenne de Paris* 5(3): 214-324. 1826 (Jul). The article is accompanied by a report, numerous observations and a conclusion, all by B.M. Kittel (p.205-324), who was requested by the Société Linnéenne de Paris to study the article. The report was read 23 Feb. 1826 and the recommendation of Kittel that Arnott be nominated "Correspondant" of the society was accepted unanimously in this meeting. From the 48 corrections of the 4^o form only 41 were incorporated in the 8^o form. This implies, in my opinion, that Arnott sent the article to the Société Linnéenne before preparing the final corrections for the Société d'Histoire Naturelle.

The fourth form finally is the 8^o separate from the *Mémoires de la Société Linnéenne de Paris*, published under the title: M.B. Kittel - *Mémoires d'histoire*

naturelle, Paris, 1826, with a new pagination. Here the article of Arnott with the report and other remarks of Kittel is preceded by an article on Aphids by Kittel, from the same fascicle of the periodical. I have not been able to ascertain a precise date for this separate, and in absence of any indication to the contrary I take it for granted that it was issued later than the 8° periodical article. I found that this indeed was the case for another article in the same periodical: the separate of the article by Desvaux: *Prodrome de la famille des fougères*, Paris, 1827, which is treated in this thesis.

Amazingly, a fifth form was published much later: a reissue of sheets of the 8° periodical article as part of a publication by A. Saumaises: *Cours d'agriculture, de botanique et d'histoire naturelle*, 2 vols., Paris, 1837.

Summarizing, the five forms of Arnott's article *Nouvelle disposition méthodique des espèces de mousses exactement connues*, are:

n.	format	issue	indication	date
5	4°	preprint	<i>Disp.méth.esp.mousses</i>	Paris, 1825 [Jan.1826?]
6	4°	period.	<i>Mém.Soc.Hist.Nat.Paris</i> 2(2):249-320, 412-414	Paris, 1826 Apr.
7	8°	period.	<i>Mém.Soc.Linn.Paris</i> 5(3):214-323	Paris, 1826 Jul.[Aug.]
8	8°	separate	Kittel, B.M.: <i>Mém.Hist.Nat.</i>	Paris, 1826 Aug.
11	8°	re-issue	Saumaises, A.: <i>Cours Agric.Bot.</i>	Paris, 1837

The date of publication of the first form is important for nomenclature, since the new valid names in it count from this date. As stated at length in the relevant place I have been able to narrow the limits of possible publication to late December 1825 and late January 1826. This result is in agreement with the policy I adopted while preparing the *Index Muscorum*: later than the publications of 1825 and earlier than those of 1826; the exact citations however, have to be corrected to those of the 4° separate.

The dates of the other forms seem to be irrelevant to nomenclature, were it not that Arnott referred to descriptions which he thought were published in 1824, but in fact date from 1826 or 1828.

This digression from Arnott's biography was necessary with regard to the importance of the article of Arnott for this study, since it is one of its key problems, and its unraveling is closely connected with his biography. Some unsolved or even puzzling problems remain, e.g. the exact date of his return to Paris and the moment he submitted the article to the second society for publication, and at which time he probably should have known that the 4° journal and its separate already were printed (without corrections).

From the narrative of the tour to the Pyrenees it is clear that the Mediterranean flora as well as the mountain flora, made a great impression on Arnott, and that his interest in mosses diminished. Bentham sent all his Pyrenean mosses (Bentham: *Cat.Fl.Indig.Pyrén.* p.13. 1826), but I am not aware of a published account except for occasional remarks on mosses in his narrative of the tour, and these were primarily his own observations.

Arnott returned home early in 1826, probably arriving in London before 6 February and in Edinburgh on or shortly before 20 February. After this voyage he only occasionally published on mosses.

In 1828 Arnott visited Russia, at the instigation of and together with Mr. Barclay, a Scottish merchant with important commerce in St. Petersburg. There he met several Russian botanists, e.g. Fischer and Ledebour. He was elected member of the Imperial Society of Natural History at Moscow in 1829.

In 1831 Arnott married Mary Hay Barclay, born at Paris, Perthshire, Scotland, the daughter of Mr. Barclay just mentioned.

Residing at Arlary, Arnott continued his botanical work, mainly on flowering plants, and enlarged the house for his herbarium and library. He studied, with Hooker, the botanical collections of Captain Beechey's voyage to the Pacific and Behring's Straits. With Wight he prepared the *Prodromus of Florae Peninsulae Indiae Orientalis* ... London, 1834, of which only one volume appeared. Its introduction was largely written by Arnott from Wight's original notes (Bot.Inst. Glasgow Univ., ms.). Arnott saw it through the press after Wight's return to India.

In 1837 Arnott received the degree of LL.D. from King's College, Aberdeen. Arnott wanted to have a more regular income from botany for his growing family,

and he hoped to obtain the professorship at Glasgow, when W.J. Hooker became director of the Royal Botanic Gardens, Kew, in 1841. In 1837 he had already lectured in Glasgow, when Hooker was absent. In order to strengthen his application for professorship, Arnott published a *Selection from testimonials in favour of George A. Walker Arnott ... as candidate for the regius professorship of botany in the University of Glasgow*, Edinburgh, 1841, which is a collection of testimonials from 22 persons as to the qualities of Arnott for a chair in botany, closing with one from Sir William Jackson Hooker, dated 26 March 1841, who had just had his resignation confirmed. The preface was: HOWEVER disagreeable it be for a candidate to collect and publish Testimonials in his own favour, the practice has of late years become so very general that I have been induced to make the following selection, arranged according to their dates, from those which I have been honoured from different parts of the world. G. A. W. A. *Glasgow College*, 27th March 1841. The chair, however, was given to John Hutton Balfour (1808-1884).

When Balfour was appointed Professor of Botany at the University of Edinburgh in 1845, Arnott became professor at Glasgow. In this new position he was able to devote himself completely to botany. In the last part of his life he became deeply interested in the study of diatoms. Going to France again in 1866, he even spent about 10 days with A. de Brébisson for the study of diatoms.

In the letters of Arnott to Balfour, kept in the Edinburgh Botanical Garden, I found notes on an unexpected meeting of student excursions of both professors in the field, which did not please Arnott, and we can imagine that some rivalry between the two cities was apparent in the reactions of the students. Anyway, Arnott asked Balfour to announce plans for excursions to each other ahead of time to prevent such meetings. However, I saw only one later letter of Arnott announcing a planned excursion himself.

In 1867 Arnott's health began to decline. He still tried to lecture at the beginning of the summer sessions, but after a few days he had to give up, and the tedious and painful illness (jaundice, appearing in April 1868) proved fatal.

Cleghorn, who during this period lived at Arnott's house and carried on the duties of the class, states that Arnott died 17 June 1868. This date is clearly confirmed in *Gard.Chron.* 1868: 662, 20 Jun. 1868, and 683, 27 Jun. 1868, the latter stating "17 inst." This I consider more reliable than the later stated months of April (DNB) or May (Britt. & Boulg., BIBIB ed.2:10, 1931, ed.A.B.Rendle).

Rendle made an overcorrection by stating Arnott's second name as "Arnold". I found G. Arnott Walker Arnott in most other sources checked. To settle this point decisively, I inquired at the Register-House, Edinburgh, for his entry of baptism, but it could not be found in the books of the four parishes of Edinburgh of the time. Continued research, however, made a copy of his will available, which definitely states in a clear clerk's hand: *George Arnott Walker Arnott*, thus removing any doubt about his legal name.

The same will stated about his herbarium, that it should be offered to Glasgow University for purchasing if within one year after his decease none of his sons turned to botany. This was the case and the University acquired his herbarium and his botanical library. Recently the phanerogams were transferred to the Edinburgh Botanical Garden with those of the Glasgow herbarium (*Taxon* 15(1):46, 1966).

He was survived by his wife, three sons and five daughters.

His name is commemorated in the generic name *Arnottia* A.Richard 1824 (*Orobanchaceae*).

Refs.: Cleghorn, Hugh: *Biographical notice of the late Dr. Walker-Arnott, Regius Professor of botany in the University of Glasgow*. Edinburgh, Neill and Company, 1868. Separate from: *Trans.Bot.Soc.Edinburgh* 9: 414-426. 1868; a similar account was also published in the *Glasgow Herald* (not seen). *Gard.Chron.* 1868: 662. Jun.20, 1868; 683. Jun.27, 1868 (extract from Cleghorn).

J.Bot.Brit.For. 6: 223-224. 1868.

Proc.Linn.Soc. [London] 1869: 101-102. 1869 (erroneously Edinburgh as place of death).

Britten, James: *Dist.Natl.Biogr.* 2: 120^b-121^a. 1885.

1 Tentamen methodi muscorum, a new arrangement of the genera of mosses.

Memoir 1; 2; 3. Edinburgh, 1822; 1824; 1826.

(See Greville & Arnott n.1-4.)

2 Sur quelques mousses de Rio de Janeiro.

Mém. Soc. Hist. Nat. Paris 1: 346-352. 1823.

Title: "NOTICE | SUR | QUELQUES MOUSSES DE RIO-JANEIRO. | PAR M. WALKER ARNOTT. | (LUE DANS LA SÉANCE DU 29 AOUT 1823.)"

Collation: 4°: 44_v-44_v; 346 347-352.

Contents: 346 head-title and introduction; 346-352 descriptions of *Lycopodia*, *Musci* and *Hepaticae*, collected in Brasil by W. Jameson.

Paper: leaf height 266 mm.; wove; no wm.

Date: late Nov., or Dec. 1823 (correspond. Arnott-Brongniart).

Ref.: RSC 1: 98.

Notes. Arnott sent the manuscript to Brongniart on 2 Jul. 1823 (see p.37), who will have translated the English part. He announced that it was in print shortly before 21 Nov. (see Arnott's answer, p.37). In the next letter (recd. by Arnott 17 Dec.) the printing was announced as a fact and possibly the publication too. I have no indication of different parts of vol.1 of this periodical, nor of separates. New species and varieties collected by W. Jameson are described in Latin.

3 Notice of a journal of a voyage from Rio de Janeiro to the coast of Peru.

Edinburgh, 1824 [separate].

Title: "NOTICE | OF A | JOURNAL OF A VOYAGE | FROM RIO DE JANEIRO TO THE COAST OF PERU."

Head-title: "[thick-thin rule] | Notice of a "Journal of a Voyage from Rio | de Janeiro to the Coast of Peru, by Mr. WIL-|LIAM JAMESON, Surgeon, Corresponding Mem-|ber of the *Wernerian Natural History Society*." | [short rule] | by G. A. WALKER ARNOTT, Esq. A.M. F.R.S.E. | M.W.S., &c. | [very short thick-thin rule]"

Collation: 8°: gatherings not studied; 1-3 4-21 22.

Contents: 1 title; 2 □; 3 head-title; 3-7 text, report of the voyage in the form of many quotations and a few condensed remarks; 8-9 meteorological tables, headed: "METEOROLOGICAL JOURNAL from the Mouth of the Rio de la Plata | to the Coast of Peru."; 10-14 tables: "Table shewing the Daily Differences and Rates of three | Chronometers kept on board the *Fifeshire Packet*, in | the passage from Rio de Janeiro to the Coast of Peru."; 15-21 descriptions of two *Lycopodium* taxa (one a variety without clearly distinguished epithet) and 26 bryophyte species, collected by W. Jameson near Rio de Janeiro (including 5 hepatics); 22 □.

Paper: wove.

Printer: Neill, Patrick, Edinburgh (biogr. see Greville n.5).

Date: shortly before 15 Jan. 1824 (letter from Arnott to Brongniart).

Wrapper: traces of grey wrapper seen on the copy Edinburgh Bot. Gard. Library.

Note. Pre-publication issue of the following article; the descriptions of new plants already in the preceding French publication (n.2).

4 Notice of a journal of a voyage from Rio de Janeiro to the coast of Peru.

Mem. Wernerian Nat. Hist. Soc. Edinburgh 5(1): 187-205. 1824.

Head-title: "[thick-thin rule] | X.-*Notice of a "Journal of a Voyage from Rio de Janeiro to the Coast of Peru, by Mr WIL-|LIAM JAMESON, Surgeon, Corresponding Mem-|ber of the Wernerian Natural History Society[sic]."* | By G A. WALKER ARNOTT, Esq. A.M. F.R.S.E. | M.W.S., &c. | (Read 26th April 1823.) | [very short thick-thin rule]"

Collation: 8°: M₆-N₇r; 187-205.

Contents: not different from pre-publication issue, as far as checked, except page-numbers and head-title.

Paper: wove; no wm. (HBL copy).

Printer: Neill, Patrick, Edinburgh (biogr. see Greville n.5).

Publisher: Wernerian Natural History Society, Edinburgh.

Date: 1824 (title fasc.), after 21 Mar. (last date in fasc.), before or on 20 May (letter from Arnott to Brongniart, p.38).

Ref.: RSC 1: 98.

Notes. Final publication of the article, containing a number of meteorological observations made by W. Jameson during his voyage from Brasil to Peru, with some natural history observations, a list of plants collected by Jameson and studied by Arnott, with descriptions of new species or varieties; the list of plants is on p.199-205.

5 Disposition méthodique des espèces de mousses.

Paris, 1825[1826?] 4°[separate].

Title: "DISPOSITION MÉTHODIQUE | DES | ESPÈCES DE MOUSSES | PAR | G. A. WALKER-ARNOTT, A. M. | MEMBRE DES SOCIÉTÉS ROYALE ET WERNÉRIENNE D'ÉDIMBOURG, | CORRESPONDANT DE LA SOCIÉTÉ D'HISTOIRE NATURELLE DE PARIS ET DE LA SOCIÉTÉ ROYALE | DE BOTANIQUE DE RATISBONNE | [short swelled rule with diamond in the middle, partly open] | PARIS, | IMPRIMERIE DE J. TASTU, RUE DE VAUGIRARD, N° 36. | [rosette] | 1825."

Collation: 4°: *2 1-9^h; i-iv 1 2-72 (6).

Contents: i title; ii 0; iii-iv corrections; 1-5 introduction with head-title: "[full double rule] | NOUVELLE | DISPOSITION MÉTHODIQUE | DES | ESPÈCES DE MOUSSES | EXACTEMENT CONNUES*; | PAR M. G.-A. WALKER-ARNOTT, | MEMBRE DES SOCIÉTÉS ROYALE ET WERNÉRIENNE D'ÉDIMBOURG, ET CORRESPONDANT DE CELLE | D'HISTOIRE NATURELLE DE PARIS. | (LUE A LA SOCIÉTÉ D'HISTOIRE NATURELLE LE 18 MARS 1825.) | [short swelled rule with diamond in the middle, partly open]", and with footnote on the same page below a full rule: "*Extrait du tome II des *Mémoires de la Société d'Histoire Naturelle de Paris*.", above the direction line; 5 sources; 6-72 text, headed: "NOUVELLE DISPOSITION MÉTHODIQUE | DES | ESPÈCES DE MOUSSES.", systematic arrangement, in two columns per page, of the moss genera, species and varieties accepted by Arnott, with occasional discussions of the status of taxa and some descriptions. RT: "NOUVELLE DISPOSITION MÉTHODIQUE | DES ESPÈCES DE MOUSSES." Language: French, with some descriptions (of genera and some other groups) in Latin.

Paper: sheet size 546 x 418 mm. (sheet 1 to extreme borders, PC copy); laid, chains horizontal; wm.: letters in the fold, not determined.

Printer: Tastu, J., Paris.

Publisher: the author had a financial arrangement with the Société d'Histoire Naturelle de Paris for reprinting.

(a) Very likely Arnott was not back in Paris before 20 Dec. 1825, and the corrections were prepared after his return. This is clear from a footnote to the corrections in the 4^o periodical, stating that the translation and the printing were done during his absence; by implication the corrections were added during his stay in Paris. Moreover this note stresses that many additions and rectifications were not present in the original manuscript, to which Arnott requested the attention of the reader. Included in the corrections is *Grimmia nigricans* D.C. with a reference to the herbarium of De Candolle, which is additional evidence for the late date of the corrections.

(c) I infer that Arnott himself brought copies to London and Edinburgh; since his voyage will have taken a couple of days, it is probable that the work was available in Paris already late in January. I know of only one indication which seems to confirm the title-date 1825. In my opinion, however, this is not completely independent. The list of printed works offered during 1825 to the Société Linnéenne de Paris includes the title of this separate. The list is titled: "LISTE | *Des ouvrages imprimés offerts à la Société | Linnéenne de Paris pendant l'année 1825, | et déposés dans ses archives* |", the citation for the page with the "brochure" of Arnott is: *Mém.Soc.Linn.Paris* 4(6): CXXXV. 1825[1826]. Arnott is mentioned there as "correspondant", which proves that the final version of this list was prepared after 23 Feb. 1826, the date of his nomination. The possibility that the list includes titles not actually received (or even offered) in the year concerned, but only on account of the year of the title, is positively indicated by the list of the following year. (A remark after the entry of *Nova Acta Phys.Med.* 13(1), Bonn, 1826, states that this part was received at the actual moment of printing of the list, which was certainly in 1827 and not in 1826: *Mém.Soc.Linn.Paris* 5(6): CXLIV. 1826[1827, first announcement 3 Mar. 1827]). Some other arguments of a more or less subjective character point to publication in Jan. 1826. Why should the Société Linnéenne de Paris have asked Kittel to report on Arnott's manuscript if the 4^o preprint was already in its library? Thiébaud de Berneaud, the secretary, was active in botany (see the notes to Desvaux n.2), and should have been able to realize the situation. The time Arnott needed for the several activities involved, all probably after his return to Paris, scarcely allowed the printing and other preparations for publication (binding) to be completed in the remaining days of Dec. 1825. He apparently received a French translation, prepared 41 corrections, presented this form to the Société Linnéenne de Paris, afterwards added 7 more corrections and presented the 48 corrections to the editor of the Société d'Histoire Naturelle de Paris, after which printing of the title and the corrections could begin. Admittedly, it is quite possible that all this was done in Dec. 1825, but, in my opinion, it is rather unlikely.

Hornschuch, C.F.: *Jahrb. Wiss. Kritik* 1828¹ (69/70): 557-560, (71/72): 561-569. 1828 } (see Hornschuch n.10);
 Fürnrohr, A.E.: *Flora* 10² (*Beil.* 1): 22-86. 1827 } (see Fürnrohr n.1).

<i>Refs.:</i> BMNH 63	Kew 16	Pr.ed.1 n.10920
Cat.Juss. n.2289	Kew-S 12 (annotation copy)	Pr.ed.2 n. 249
Jacks. 153	Linn.Soc. 23	Un.Edinb.1: 167.

Bibl. notes. Separate, pre-publication issue (preprint) of the following article (Arnett n.6). A new title-leaf with a conjugate leaf with corrections was added. Pagination and signatures were changed, and at the bottom of p.1 the source was added; no other changes noted. The title was shortened, giving the erroneous impression that another article was involved than the periodical article with the full title.

Bot.notes. Arnott arranged those species of mosses which he accepted rather conservatively in genera, and the genera (*Andreaea* and *Sphagnum* excepted) in groups of higher rank. He did not indicate the exact rank of the latter groups, except for the occasional remark "Cet ordre" in the discussion of *Orthotrichoideae* (p.13), the only one in this rank with a description. His delimitation of genera and species was very wide and in several cases he closely followed the concepts of W.J. Hooker. The new genus *Macrodont* (p.51) was proposed with a valid description, before *Leucoloma* Brid. 1827 (which later became a *nomen conservandum*). One new species was proposed with a valid description: *Didymodon megalocarpus* (p.36, based on an earlier variety). Of *Fontinalis disticha* Sprengel-Bosc (p.70) Arnott did not know an earlier description and he described one character, just enough for a valid description. Many new combinations in the specific and varietal level were proposed, with valid references to earlier descriptions. A large number of species was reduced to synonymy, especially those of German authors. It gives the impression of an early example that lumping can be done as superficial as splitting: Arnott judged some species from plates only. There is a special problem with regard to the references to "*Schw. et Gaud.*", explained in the sources as: "Descriptions des Mousses trouvées par M. Gaudichaud, par Schwaegrichen", with the note: "Ces descriptions sont insérées dans un ouvrage de M. Schwaegrichen, publié à Leipzig en 1824, mais que je n'ai pas en ma possession." Probably a misunderstanding is involved; I do not have any indication of a special publication of Schwaegrichen in 1824 concerning Gaudichaud's mosses. Indeed, a few mosses of Gaudichaud were published by Schwaegrichen in 1824 in his *Suppl.Spec. Musc.* 2, vol.1(2), e.g. *Leptotheca gaudichaudi* Schwaegr. However, this was correctly cited by Arnott under his *Bryum gaudichaudi* (p.47), so this was not the work Arnott referred to in the former case. In 1826 another species from the Gaudichaud collections was published: *Macromitrium piliferum* Schwaegr., *Suppl.Spec.Musc.* 2 vol.2(1): 66. pl.172. 1826 (before 15 May), and the rest in 1828, with descriptions by Schwaegrichen in the part *Botanique*, by Gaudichaud, of Freycinet, *Voyage autour du monde ... L'Uranie et la Physicienne*, the fascicle with the *Bryophyta*. For this reason it is important to ascertain the dates of the later forms of Arnott's article too. A minor point is the validity of the name *Orthotrichum lanceolatum* (p.16), based by Arnott on the *Macromitrium piliferum* Schwaegr. "et Gaud." mentioned above. This reference is invalid in the 4° preprint. However, a remark is added: "L'entrée de l'urne est petite et pliée comme celle de l'*O. microstomum*." Though technically this may be taken as a valid description (the rules do not require a differential description), I advocate the view that this particular sentence does not represent a valid description since the author supposed it had been described, and simply supplied these remarks to justify the arrangement close to *Orthotrichum microstomum*. A complication is that Schwaegrichen's name served as the type-bringing synonym for another name proposed by Arnott: *Orthotrichum piliferum* (p.17). There is no indication that Arnott proposed two species for different parts of the material of Gaudichaud. Two specific names, *Hypnum scabrisetum* (p.62) and *H. oyparioides* Hook. (p.69) were printed, but canceled in the corrections; these names, therefore, are invalid, not being accepted by the author.

6 Nouvelle disposition méthodique des espèces de mousses ...

Mém. Soc. Hist. Nat. Paris 2(2): 249-320, 412-414. 1826 4° [periodical].

Head-title: "[full double rule] | NOUVELLE | DISPOSITION MÉTHODIQUE | DES | ESPÈCES DE MOUSSES | EXACTEMENT CONNUES; | PAR M. G.-A. WALKER-ARNOTT. | MEMBRE DES SOCIÉTÉS ROYALE ET WERNÉRIENNE D'EDIMBOURG, ET CORRESPONDANT DE CELLE | D'HISTOIRE NATURELLE DE PARIS. | (LUE A LA SOCIÉTÉ D'HISTOIRE NATURELLE, LE 18 MARS 1825.)"

Collation: 4°: 32-40⁴; 249 250-320 (254); [corr.]: 52₂v-53₃v; 412 413-414.

Contents: 249 head-title; 249-253 introduction; 253 sources; 254-320 text, in two columns (heading and contents as in Arnott n.5); 472-414 errata, 48 corrections, placed between errata to other articles.

Paper: leaf height 252 mm. (HBL copy, cut); laid, chains horizontal; wm.: letters in the fold, not determined.

Printer: Tastu, J., Paris.

Publisher: Société d'Histoire Naturelle de Paris, and for sale with: Baudouin Frères, Paris, and Rey et Gravier, Paris.

Date: 1826 Apr. (fasc. title, seen in BMNH).

Ref.: RSC 1: 98.

Bibl.notes. The article in the periodical was printed at the same time as the pre-publication issue (the preprint, Arnott n.5), in the treatment of which the differences are noted. The corrections were placed after the index of the volume and are included between corrections to preceding and those to succeeding articles.

Bot.notes. Identical with the preceding pre-publication issue (except for the form of the corrections) and probably not published late enough to have valid indirect references to Schwaegrichen: *Suppl.Spec.Musc.* 2 vol.2(1).

7 Nouvelle disposition méthodique des espèces de mousses ...

Mém. Soc. Linn. Paris 5(3): 214-323. 1826 8° [periodical].

Head-title (of the full paper, including Kittel's report, p.205):

"[full wavy rule] | NOUVELLE DISPOSITION | MÉTHODIQUE | *Des espèces de Mousses exactement connues*, | par M. G.-A. WALKER ARNOTT, Correspondant | à Edimbourg; précédée d'un rapport fait à son | sujet à la Société Linnéenne, par M. B. KITTEL, | d. m.; suivie de notes critiques et d'additions | qui complètent ce travail et le mettent à la | hauteur des connaissances actuelles. | [short rule]"

Part-title (of Arnott's part proper, p.214):

"NOUVELLE DISPOSITION MÉTHODIQUE | DES ESPÈCES DE MOUSSES."

Collation: 8° in 8s: (full paper, with Kittel's report): 14₁r-21₄v; 205 206-324; (Arnott's part proper): 14₅v-21₄r; 214-323.

Contents: 214-323 text of Arnott's part proper, with part title; text interspersed with observations by B.[M.] Kittel, marked with asterisks and printed in larger type than Arnott's text. Note: in the index to the volume, *Mém.Soc.Linn. Paris* 5 (*Bull.Linn.* 6): 60-61. 1826 [1827] alphabetical lists of the names of "tribu" and of the genera of Arnott's article are present. No RT. Language: French, with a number of Latin descriptions.

Paper: leaf height 215 mm. (HBL copy of re-issue Saumaises, uncut); laid, chains vertical; wm.: "L [partly outline] = Chapelle [erect script, in the middle of the lower left quarter of the sheet]"

Printer: Decourchant, Paris.

Publisher: Société Linnéenne de Paris, possibly in collaboration with Decourchant and Gallay, Paris (fascicle wrappers should be checked; these names occur on the wrapper of Kittel's separate).

Editor: Kittel, B.M. (which see), was asked by the Société Linnéenne de Paris to study the article of Arnott; his report (p.205-214) precedes the article, his "conclusions" are printed at the end (p.323-324) and his observations are interspersed in the article itself. Apart from this, the "secrétaire perpétuel" of this society, Thiébaud de Berneaud, probably did some editing; maybe he was responsible for the spelling of the word *oospitosum* (in the 4^o forms printed *oœspitosum*).

Date: 1826 Jul. (t.-p. fasc.); bef. 9 Aug.? (bef. Arnott n.8?);
 bef. 27 Sep.? (see *Mém. Soc. Linn. Paris*);
 bef. 30 Sep. (*Bibliogr. France* 15 (78): 834. 1826).

Review: Bridel, S.E.: *Bryol. Univ.* 1: IV. 1826[1827], dated 16 Dec. 1826.

Bibl. notes. I did not see wrappers of this volume of the periodical; therefore I took the incomplete gatherings as the indications of the fascicles (see the treatment of the journal under its own title). In typography this 8° form differs from the 4° forms in several important respects.

Bot. notes. As noted before, the text of this form is identical with the 4° edition, except for the incorporation of 41 of the 48 corrections of the 4° form, the most conspicuous of these being the cancellation of the two *Hypnum* names mentioned under the 4° preprint, involving a renumbering of the remaining *Hypnum* species. The combination *Orthotrichum piliferum* (p.235) may be considered as validly published in this form, since presumably it was issued later than the relevant part of Schwaegrichen's *Supplement*. Two names of "Tribus" were proposed and described by B.M. Kittel: *Andreaeoideae* (p.214, spelled *ANDRÆOIDEÆ*) and *Sphagnoideae* (p.215, spelled by error *SPAGNOIDEÆ*, the French word on p.214 being *Sphagnoidées*); the other groups of the same rank were considered by Kittel to represent "tribus" too.

8 Nouvelle disposition méthodique des espèces de mousses.

In: Kittel, B.M.: *Mémoires d'histoire naturelle*, p.35-143. Paris, 1826. 8° [separate].

Title, collation, contents etc.: see: Kittel n.2.

Date: 1826, bef. 9 Aug. (see Kittel n.2).

Refs.: BMNH 63 Cat.Juss. n.2289 Pr.ed.1 n.5246, ed.2 n.4705.

Bibl. notes. Separate prepared by Kittel, as is clear from the change of the title of his report (see Kittel n.2). Apparently Arnott did not know about this re-print, he probably did not have one (I found no reference in the Glasgow University Library where his botanical books are) and he was certainly not able to distribute copies.

9 Tour to the South of France and the Pyrenees, in 1825.

Edinburgh, 1826-1829 [separate].

Title: "TOUR | TO THE | SOUTH OF FRANCE AND THE PYRENEES, | IN 1825."

Head-titles: [1]: "TOUR | TO THE SOUTH OF FRANCE AND THE PYRENEES, | in 1825. | By G. A. WALKER ARNOTT, Esq. A.M. F.L.S. & R.S.E. &c. | In a Letter to Professor JAMESON. | [long rule] | From the Edinburgh New Philosophical Journal. | [long rule]";

[2]: "TOUR | TO THE | SOUTH OF FRANCE AND THE PYRENEES. | IN 1825,—Continued. | BY | G. A. WALKER ARNOTT, Esq. A.M. F.L.S. & R.S.E. &c. | [short rule] | From the Edinburgh New Philosophical Journal. | [short rule]";

[3]: "Tour to the South of France and the Pyrenees, in 1825. By | G. A. WALKER ARNOTT, Esq. A.M. F.L.S. & R.S.E. &c. | [long rule] | From Edin. New Philosophical Journal. | [long rule]";

[4]: "A Tour to the South of France and the Pyrenees, in the year | 1825. By G. A. WALKER ARNOTT, Esq. M.W.S. | [long rule] | From the Edinburgh New Philosophical Journal. | [long rule]";

[5]: "A Tour to the South of France and the Pyrenees in the year | 1825. By G. A. WALKER ARNOTT, Esq. F.R.S.E. F.L.S. | M.W.S. &c. (Continued.) | [long rule] | From the Edinburgh New Philosophical Journal. | [long rule]";

[6]: "A Tour to the South of France and the Pyrenees in the year | 1825.
By G. A. WALKER ARNOTT, Esq. F.R.S.E. F.L.S. | M.W.S. &c.—Continued. |
[long rule] | From the Edin. New Philosophical Journal. | [long rule]";

[7]: "A Tour to the South of France and the Pyrenees in the year | 1825.
By G. A. WALKER ARNOTT, Esq. F.R.S.E. F.L.S. | M.W.S. &c.—Continued. |
[long rule] | From the Edin. New Philosophical Journal. | [long rule]";

[8]: "A Tour to the South of France and the Pyrenees, in the year | 1825.
By G. A. WALKER ARNOTT, Esq. M.W.S. | [long rule] | From the Edin. New
Philosophical Journal. | [long rule]";

[9]: "A Tour to the South of France and the Pyrenees, in the year | 1825.
By G. A. WALKER ARNOTT, Esq. F.L.S. &c. | [long rule] | From the Edinburgh
New Philosophical Journal, January—March 1829. | [long rule]".

Collation: 8°:

[1]: A ⁸ ; 1-3 4-15 16;	[4]: A ⁴ ; 1 2-8;	[7]: 1 ⁴ ; 1 2-8;
[2]: 1 ⁴ ; 1 2-7 8;	[5]: 1 ⁴ ; 1 2-6 7-8;	[8]: 1 ⁴ ; 1 2-7 8;
[3]: A ⁸ ; 1 2-14 15-16;	[6]: 1 ⁶ (-1 ⁶); 1 2-10;	[9]: A ⁴ B ² ; 1 2-12.

Contents: [1]: 1 title; 2 □; 3-15 text; 16 □;
[2]: 1- 7 text; 8 □;
[3]: 1-14 text; 15-16 □;
[4]: 1- 8 text;

[5]: 1- 6 text; 7-8 □;
[6]: 1-10 text;
[7]: 1- 8 text;
[8]: 1- 7 text; 8 □;
[9]: 1-12 text.

Paper: wove.

Printer: Neill, Patrick, Edinburgh (see Greville n.5).

Dates: (assumed to be the month after the period covered by the periodical fascicle):

[1]: Aug. 1826;	[4]: Aug. 1827;	[7]: Apr. 1828;
[2]: Oct. 1826;	[5]: Oct. 1827;	[8]: Oct. 1828;
[3]: Apr. 1827;	[6]: Jan. 1828;	[9]: Apr. 1829.

Bibl. notes. The general form of the printing is the same as that of the *Memoirs of the Wernerian Natural History Society*, and since the same printer is involved, pre-publication of the separates may have been usual here too. However, I did not investigate this point. The lines for the separates have been rearranged occasionally to fit a definite number of leaves; page-numbers, therefore, cannot be automatically compared by subtraction or addition of a fixed amount per part. For the pages in the periodical, see Arnott n.10.

Bot. notes. The narrative is an interesting account of a botanical travel in France and parts of Spain in the period. In the beginning an account is included of Arnott's study on the mosses in the herbarium of Palisot de Beauvois, kept by Delessert, from which the extreme lumping of Arnott can be seen; he again did not hesitate to give an opinion on moss species which he had not seen. Bryological remarks are interspersed throughout the narrative though they are in a minority compared to the discussions of other plants. Occasionally a complete description is given of a species already described earlier, but redefined: *Hypnum curvisetum*, 3: 2 (footnote). 1827, or an incomplete description of a new species: *Didymodon benthamii* Arnott, 3: 6. 1827. The flowering plants claimed Arnott's full attention, and he included occasionally descriptions and even keys (*Bisoutella*, 6: 13-14. 1827), and many times critical remarks in the specific characters of different plants. Information is also given on herbaria of local botanists, many of whom had material which served as a source for the flora of Lapeyrouse, which was heavily criticized by A.P. de Candolle and of which Bentham also did not accept many new species.

10 [A] *Tour to the South of France and the Pyrenees, in 1825.*[serial in] *Edinburgh New Philosophical Journal* vol.1-6, Edinburgh, 1826-1829.*Head-titles:* not studied; similar to those of Arnott n.9, except for sources.*Pagination**& dates:*

fasc.	vol.	pages	wrapper dates	probable date
1	1(1)	66- 78	Apr.-Jul. 1826	Aug. 1826
2	1(2)	268-275	Jul.-Oct. 1826	Oct. 1826
3	2(2)	241-255	Jan.-Mar. 1827	Apr. 1827
4	3(1)	157-164	Apr.-Jul. 1827	Aug. 1827
5	3(2)	350-356	Jul.-Sep. 1827	Oct. 1827
6	4(1)	130-139	Oct.-Dec. 1827	Jan. 1828
7	4(2)	355-362	Jan.-Mar. 1828	Apr. 1828
8	5(2)	319-325	Jul.-Sep. 1828	Oct. 1828
9	6(2)	250-262	Jan.-Mar. 1829	Apr. 1829

Contents: all pages text, every first page of a part with head-title.*Paper:* wove.*Printer:* Neill, Patrick, Edinburgh (see Greville n.5).*Publisher:* not studied.*Editor:* Jameson, Robert (1774-1854), professor of mineralogy, Edinburgh.*Refs.:* Bradl.1: 408^a RSC 1: 98.

Notes. The article in the periodical is enumerated here after the reprint because I studied the reprint before the periodical and not because of differences in actual dates of publication, for which I do not have any indication. I assume that each reprint and the corresponding fascicle of the periodical both were printed in the month after the period covered by the part of the periodical as stated in its heading, since the fascicles contain meteorological data of the entire periods. I did not make a close comparison to check possible variations. For botanical comment see Arnott n.9.

11 *Nouvelle disposition méthodique des espèces de mousses ...*In: Saumaises, A.: *Cours d'agriculture, de botanique et d'histoire naturelle* ... Paris, 1837, vol.1: 214-323.[8° re-issue of sheets of some volumes of *Mém. Soc. Linn. Paris.*]*Head-title* (of Arnott's article and Kittel's report and observations): see Arnott n.7.*Collation and contents:* see Arnott n.7 (compare Saumaises n.1).*Date:* 1837 (t.-p.).

Bibl.note. Saumaises put a considerable number of unsold sheets on the market in the disguise of a new book in 2 volumes with cancellans titles and at the beginning and at the end new short articles. The article of Arnott present in these sheets constitutes a valid new publication, a re-issue of the 8° periodical article (8° re-issue).

Bot.note. This re-issue is only of importance for the validation of the names published by Arnott with a reference to "*Schw. et Gaud.*", since the descriptions of Schwaegrichen were published by Gaudichaud in 1828 (see Gaudichaud n.1).

BALBIS, Giovanni Battista

Biogr. Born 1765 Nov. 17, Moretta (Saluzzio), Italy.

Died 1831 Feb. 13, Turin, Italy.

Balbis was a pupil of Allioni. He studied at the University of Turin and traveled in Italy when the University was closed in 1792. Returning to Turin in 1793, he joined a revolutionary club gathered around the physician Ferdinando Barolo. A conspiracy with Tilly, French minister, in Genoa, against the house Savoie, was discovered and Balbis had to flee from Piedmont.

He was nominated in 1794 as a physician to the French army and was promoted in 1797 to chief-physician. He returned to his country in 1798 and participated in the provisional government of Piedmont until late 1799, when he had to avoid the Austrian-Russian troops. In 1801, with another change in government, he became successor to P.M. Dana as director of the botanical garden in Turin and devoted himself to botany. He was dismissed in 1814 after the "Restauration", with a pension. In this period he could work on the *Flora tiioinese*, in collaboration with Nocca. In 1819 he was nominated director of the botanical garden of Lyon, France, from which he had to retire in 1830 as a result of a change in government. He then returned to Turin.

His herbarium finally came to the botanical garden of Turin. His name is commemorated in the generic names *Balbisia* Cavanilles 1804 (*Geraniaceae*), *nom. cons.* and *Balbisia* Willdenow 1803 (*Compositae*), *nom. rej.*

Refs.: de Candolle, A.P.: *Biblioth.Univ.* 1831: 214. Feb. 1831.

Colla, L.: *Memorie R.Accad.Scienze Torino* 36. Torino, 1833.

Bollea, L.C.: *Il risorgimento italiana* 19. Torino, 1926.

Bollea, Luigi Cesare & Mattiolo, Oreste: *Enotolop.Ital.* 5: 906. 1930

1 Enumeratio plantarum officinalium...

Taurini [Turin], an XIII, 1805.

Not studied. Pr.ed.2 n.364.

Date: in a letter written to Dégerand, Secr. gén. du ministère de l'intérieur, dated: *Turin, oe 7^{er} Avril 1806*, Balbis announced sending a copy; this letter is preserved at the Archives Nationales, Paris, sub F1⁷ 1031, dossier 7.

2 Flora taurinensis...

Taurini [Turin], 1806.

Not studied. Pr.ed.2 n.365.

Date: in the letter of 1 Apr. 1806, mentioned under n.1, it is announced that a copy of this title was sent too. Dr. Sayre had no information on the date.

3 Flore Lyonnaise...

2 vols. in 3 parts, Lyon, 1827-28. [See for *Supplément*, 1835: Roffavier n.1]

Title: "FLORE | LYONNAISE, [line in shadow outline letters] | OU | DESCRIPTION | DES PLANTES QUI CROISSENT DANS LES ENVIRONS DE LYON | ET SUR LE MONT-PILAT; | PAR LE DOCTEUR J. B. BALBIS. | PROFESSEUR DE BOTANIQUE, | DIRECTEUR DU JARDIN DES PLANTES, | PRÉSIDENT DE LA SOCIÉTÉ LINNÉENNE, | MEMBRE DE L'ACADÉMIE ROYALE DES SCIENCES, | DE LA SOCIÉTÉ D'AGRICULTURE ET DE LA SOCIÉTÉ DE MÉDECINE DE LYON; | PROFESSEUR ÉMÉRITE A L'UNIVERSITÉ DE TURIN, | MEMBRE DE L'ACADÉMIE ROYALE DES SCIENCES, | DE LA SOCIÉTÉ ROYALE D'AGRICULTURE | DE LA MÊME VILLE, etc. | [long swelled rule with pearl in the middle, shadowed] | TOME PREMIER. [2: TOME SECOND.] | [short rule] [2: absent] | PREMIÈRE PARTIE. [1(2): DEUXIÈME PARTIE.] [2: absent] | [long swelled rule with pearl in the middle, shadowed] | LYON, | IMPRIMERIE DE C. COQUE, RUE DE L'ARCHEVÊCHÉ, [2: IMPRIMERIE DE | D. L. AYNÉ, RUE DE L'ARCHEVÊCHÉ,] | N° 3. | [short rule of pairs of light and dark pearls] | 1827. [2: 1828.]"

Collation: 8° in 4s: vol.1(1): π^2 a-b⁴[italics] 1-59⁴; I-IV i-iii iv-xvi
 1 2-471 472 (385-424 as '383'-'422', 443);
 vol.1(2): π^2 60-111⁴ 112² A-D⁴(-D₄); i-iv 473 474-890 891-892
 21 22-230 (887 888);
 vol.2: π^4 1-46⁴ 472; i-v vi-viii 1 2-371 372 (332-334 341).

Contents: vol.1(1): I half-title; II \square ; III title; IV \square ; i dedication to
 Matthieu Bonafous (1794-1852), director of the botanical garden at Turin;
 ii \square ; iii-xvi preface, dated Oct. 1827; 1-471 text, descriptions of plant
 groups in the natural classification, headed: "FLORE | LYONNAISE. | [long
 swelled rule] | PREMIÈRE DIVISION. | [short wavy rule] | PLANTES VASCULAIRES
 | OU COTYLÉDONÉES", *Clematis* through *Monotropa*; 472 \square ;

vol.1(2): i half-title; ii \square ; iii title; iv \square ; 473-872 text, vascular
 plants concluded, *Lilae* (=Syringa) through *Adiantum*; 873-880 additions;
 881-887 index of French names of families and Latin names of genera; 888-890
 corrections of essential errors; 891-892 \square ; 21-230 synoptical table of
 genera according to the Linnaean classification: "TABLEAU SYNOPTIQUE | DES
 GENRES | DE LA FLORE LYONNAISE, | Disposées d'après le système de LINNÉ,
 avec le renvoi aux | pages où il en est traité dans la Flore.";

vol.2: i half-title; ii \square ; iii title; iv \square ; v-viii preface to vol.2,
 "troisième partie", headed: "AVERTISSEMENT.", dated: "1^{er} mai 1828."; 1-331
 text, descriptions of non-vascular cryptogams, headed: "FLORE | LYONNAISE. |
 [long swelled rule] | DEUXIÈME DIVISION. | [short wavy rule] | VÉGÉTAUX
 CELLULAIRES | OU ACOTYLÉDONÉES.", including: 1-81 *Musci*, 82-101 *Hepaticae*,
 102-174 *Lichenes*, 174-207 *Hypoxyla*, 208-319 *Fungi* and 320-331 *Algae*;
 331 explanations of signs and abbreviation; 332-333 table over two pages of
 the main divisions: "TABLEAU des Divisions principales de la Flore ...";
 334-340 systematical enumeration of families with differential descriptions,
 in the divisions indicated in the foregoing table: "TABLEAU SYNOPTIQUE | DES
 FAMILLES DE LA FLORE LYONNAISE, | ..."; 341-371 index of French names of
 families and Latin names of genera and species to vols. 1 and 2 (volume
 numbers only indicated after families and genera); 372 corrections to vol.2
 (including one change of name: p.280 line 17 *Boletus sulfureus* DC. read
Boletus hispidus DC.) [page blank in G copy]. RT: French names of plant
 families. Language: French, with "phrases" in Latin.

Paper: G copy: leaf size 200 x 126 mm. (cut); wove; wm.: "[shell]";
 normal copies: laid, chain-lines vertical; wm.: "[grapes] = [monogram in
 wreath[?]]" (HBL copy).

Printers: vol.1: Coque, C., Lyon, France;
 vol.2: Ayné, D.L., Lyon, France, successor of Coque (same address).

Publishers: probably the printers.

Dates: vol.1(1): between Oct. 1827 (preface), and 21 Nov. (*Bibliogr.Francoe*
 16 (93): 956. 1827);
 vol.1(2): late in 1827 (see part 1), bef. 21 Nov. (*Bibliogr.Francoe* l.c.);
 vol.2: after 1 May 1828 (preface), bef. 5 Jul. (*Bibliogr.Francoe*
 17 (27): 499. 1828).

Reviews: vol.1: *Linnaea* 5: 59. 1830;
 vol.1-2: *Annali Stor.Nat.Bologna* 1(1): 142. 1829;
 Mérat, *Bull.Sci.Nat.* 17(5): 239-240. 1829.

Refs.: Arn.Arb.1: 54	Brun.6 n.5074	Jacks. 286	Pr.ed.2 n.368
BMNH 1: 91	Cat.Juss. n.1646	Kew 27	Un.Edinb.1: 221
Bradl.1: 408 ^a	Graesse 1: 279 ^a	Pr.ed.1 n.431	(index only).

Variants: the Geneva copy, apparently an early present to De Candolle, has wove
 paper and lacks the corrections to vol.2 on p.372. The existence of copies
 without and with corrections indicates a post-publication state.

Bibl.notes. The three title-pages appear to have the same type-setting except for the necessary change in volume-indications, and in vol.2 of the publishers. The title of vol.2 was printed from standing type.

Bot.notes. Regional flora of an experienced botanist, critically working over the herbaria of the region available to him, and here adopting the natural classification, leaning heavily on De Candolle's *Flore française*. Some points are conspicuous: no varieties were admitted, and no attempts were made to create many new species. The *Musci* were treated according to Bridel's recent *Bryologia Universa*, and I have not noted new species or combinations. For *Lichenes* the citations from Acharius: *Synopsis*, were added. For the *Fungi* the divisions of Persoon were preferred to those of Fries. For a supplement see Roffavier n.1.

BARON, P. Alexis

Biogr. Born 1754, Castelnau-Montratier (now dép. Lot), France.
Died

Baron was a surveyor and naturalist, who for a considerable time lived in the then French island St.Domingue. He published a *Carte générale et cadastrale* of this island, which was after the restauration the only source with which land-owners from before the revolution could prove their claims. He also worked on an *Ouvrage statistique sur Saint Domingue*, for which only a prospectus appeared at Cap-Français in 1799, at the eve of the revolution there. After his return to France he apparently became a teacher of natural history at the "École centrale du département du Lot" and a member of the "Classe des Sciences" of the "Académie de Montauban". Enquiries at the "Archives Départementales" of the départements Lot and Tarn-et-Garonne (Montauban) did not result in more data.

Refs.: Quérard, J.M.: *La France littéraire* 1: 186. 1827.
Pr.ed.2: 14 (probably derived from Quérard).

1 Flore des départements méridionaux de la France ...
Montauban, 1823.

Title: "FLORE | DES DÉPARTEMENTS MÉRIDIONAUX | DE LA FRANCE, | ET PRINCIPALEMENT DE CELUI DE TARN-ET-GARONNE, | OU | DESCRIPTION DES PLANTES | Qui croissent naturellement dans ces départements, et de celles | qu'on cultive communément dans les jardins, disposées | suivant le système sexuel de LINNÉ; | AVEC UNE NOTICE PRÉCISE DE CHAQUE ESPÈCE, | Et quelques observations modernes ajoutées aux caractères botani-|ques qui les distinguent; | A laquelle on a joint l'époque de leur floraison, la nature du terrain | où elles naissent, leurs vertus les moins équivoques en Médecine, | et leur utilité dans les Arts. | PAR M. BARON, | Ancien Ingénieur des Colonies, ex-Ingénieur-Vérificateur du Cadastre, ancien | Professeur d'Histoire naturelle à l'École centrale du département du Lot, | Membre de la classe des Sciences de l'Académie de Montauban. | [short swelled rule] | A MONTAUBAN, | CHEZ J. P. F. CROSILHES, LIBRAIRE, PLACE ROYALE. | 1823."

Collation: 8^o: 7⁸ 2-31⁸ 32⁴; i-v vi vii viii-xxxvi 1-3 4-468 (447 459 464, 468 as '468+36=514.[sic]).

Contents: i half-title; ii imprint: "DE L'IMPRIMERIE DE PH. CROSILHES, PLACE D'ARMES."; iii title; iv □; v-vi preface, headed: "AVERTISSEMENT"; vii-xxv introduction to botany: "PRINCIPES | ÉLÉMENTAIRES | DE BOTANIQUE.", explanation of morphological terms and (xxiv-xxv) a discussion of the principles of the classifications of Tournefort and Linnaeus: "DES MÉTHODES EN GÉNÉRAL."; xxvi-xxxvi Linnaean classification: "EXPOSITION | DU SYSTÈME DE LINNÉ."; 1 part-title: "DESCRIPTION | DES | PLANTES."; 2 □; 3-446 text, descriptions of genera and species of all groups in the region, in

Linnaean classification, Latin binomials, without author's citations, after the French names medical properties and habitat stated, but no localities, rarely a regional indication; 447-458 dictionary of botanical terms; 459-463 index of French plant names with the addition of many vernacular names, the latter not alphabetized; 464-468 index of Latin generic names; 468 corrections. RT: French names of classes and orders, or shortened chapter headings. Language: French.

Paper: leaf height 204 mm. (HBL copy, cut); laid, chains vertical; wm.: "[grapes] = [monogram]".

Printer: Crosilhes, Jean Pierre Philippe, 1778 Sep. 22 - 1856 Feb. 11, printer at Montauban 1811-1832; biogr.: Forestié, E.: *Histoire de l'imprimerie à Montauban*, p.333-336. 1898. (Information: courtesy Arch.Départ., Montauban.)

Publisher: Crosilhes, Jean Pierre François, Montauban, 1780 May 20 - 1846 Sep. 14; biogr.: Forestié, E.: *Histoire de l'imprimerie à Montauban*, p.337-338. 1898. (Information: courtesy Arch.Départ., Montauban, France.)

Date: 1823 (t.-p.), bef. 20 Sep. (*Bibliogr.France* 12 (38): 544. 1823).

Review: *Bull.Sci.Nat.Géol.Paris* 1(4): 355-357. 1824.

Refs.: BMNH 100	Brun.6 n.5076	Krüg. 146	Pr.ed.1 n.488
Bradl.1: 407b	Jacks. 278	Milt. 131	Pr.ed.2 n.421.

Notes. A regional flora, completely in French, with a popular approach; no new combinations seen nor expected. The vernacular names in the index might be interesting for a specialist, though they are mainly derived from Gaterreau: *Description des plantes qui croissent aux environs de Montauban ...*, Montauban, 1789.

BAXTER, William

Biogr. Born 1787 Jan. 15, Rugby, England.

Died 1871 Nov. 1, Oxford, England.

Baxter was appointed curator to the Botanic Garden of Oxford in 1813, and retired in 1851 in favor of his son W.H. Baxter (1816?- 1890). He had to work with limited means in a garden which was lying partly so low that it often was flooded in winter as well as in summer. Only when C.G.B. Daubeny became professor in 1834, large improvements were made, in which Baxter helped planning and executing from the very arrival of Daubeny.

He was a botanist of the old type, knowing phanerogamous as well as cryptogamous plants, and having learned these without the use of the compound microscope. His knowledge of mosses and leaf-fungi was especially mentioned. He had a very amiable character.

He was commemorated in the generic names *Baxteria* R. Brown ex W.J. Hooker 1843, *nom.cons.* (*Liliaceae*) and *Baxtera* H.G.L. Reichenbach 1828 (*Asclepiadaceae*).

Refs.: *Gard.Mag.* 10: 110-113. 1834.

Gard.Chron. 1871: 1426^c-1427^a. 1871; repeated in:

J.Bot.Brit.For. 9: 380-381. 1871.

Britten, J.: *Diet.Natl.Biogr.* 3: 438^b-439^a. 1885.

Britten & Boulger, BIBB ed.2 (Rendle): 25. 1931.

1 *Stirpes cryptogamae Oxonienses ...*

2 fasc., Oxford, 1825-1828 [exsiccata].

Title: "Stirpes Cryptogamae Oxonienses; [line in gothic] | OR | DRIED SPECIMENS | OF | CRYPTOGRAMOUS PLANTS, | COLLECTED | IN THE VICINITY OF OXFORD. | [short rule] | BY WILLIAM BAXTER, A.L.S. AND F.H.S. | BOTANICAL GARDENER TO THE UNIVERSITY. | [short rule] | The more we study the works of the Creator, the more wisdom, beauty, and harmony become manifest, even to our limited | apprehensions; and while we admire, it is impossible not to adore. — Sir J.E. Smith. | [short rule] | FASCICULUS I. [2: FASCICULUS II.] | [short rule] | OXFORD. | 1825 [2: 1828.] | [medium long rule] | TALBOYS AND WHEELER, PRINTERS. [2: D. A. TALBOYS, PRINTER]".

Collation: 4°: fasc.1: π^2 (?, now disjunct in BMNH copy); *i-iv*;
fasc.2: $\pi^2(-\pi_2)$; *i-ii*.

Contents: fasc.1: *i* title; *ii* \square ; *iii* sources: "BOOKS QUOTED"; *iv* contents of fasc.1, list of 50 species of cryptogams, numbered 1-50, arranged according to the system of Greville, *Fl. Edin.*, 1822, and notes;
fasc.2: *i* title; *ii* list of specimens, numbered 51-100, and a line: "Fasciculus III will be published as soon as sufficient number of specimens can be got ready." No RT. Language: English.

Specimens: 50 specimens per fascicle, pasted to the rectos of full quarto leaves, and with printed labels pasted at the bottom of the rectos, left or right; the labels contain 2, sometimes 3 paragraphs, e.g.: "No. 12. NECKERA pumila, E. B. 1443. *Musco. Brit.* p. 77. t. | 22. *Hook. F. Soot.* 2. p. 138. *Purt. Middle. Fl. in Lit.* | HAB. On the branches of trees and shrubs. Bagley-Wood, | Berks. Rare.", and occasionally longer notes, e.g. n.25, *Cucurbitaria cinabarina* Grev. *Crypt. Fl.*: "HAB. On dead branches of trees, especially on those of the currant. Common | The receptacle of this species so nearly resembles the *Tuberularia* that some botanists have considered it as parasitic on *Tuberularia vulgaris* (see *Purt. - Midl. Fl.* v. 3. p. 476 et 477, et *Grev. Crypt. Fl.* p. 135.)".

Paper: leaf size 233 x 175 mm. (BMNH copy); wove; no wm. observed; paper of the specimen part slightly more bluish than the paper of the labels.

Printers: fasc.1: Talboys and Wheeler, Oxford, England.
fasc.2: Talboys, D.A., Oxford.

Publisher: apparently the author.

Dates: fasc.1: 1825
fasc.2: 1828 } (title-pages).

Announcement: *Trans. Linn. Soc.* 16(3): 771. 1833 Mar. 15 (in cat. of library Linn. Soc.)

Refs.: BMNH 115 Kew 36 (fasc.1).

Notes. Exsiccata of local cryptogams, consisting of 9 species of ferns, 24 of bryophytes, 9 of lichens, 3 of algae, and 55 of fungi; no new species or varieties noted. The 3rd fasc. hinted at on the verso of the title of fasc.2 never was realized. Fasc.1 was already in an advanced stage at the end of Aug. or the beginning of Sep. 1824 (Schultes: *Bot. Misc.* 1: 58. 1830).

BECKER, Johannes

Biogr. Born 1769 Feb. 20, Speyer, Germany.

Died 1850 Apr. 21, Bieber, Germany.

Becker was, as far as I could find, a teacher, with a strong interest in botany. In 1814 he founded a botanical club in Mergentheim. In 1816 he became a member of the Wetterauische Gesellschaft für die gesamte Naturkunde, and in 1817 its corresponding botanist. In the same year he became "Stifts-botanikus" of the Senckenberg Institute, Frankfurt am Main, and therefore had the direction of the botanical garden. He worked intensively for it, making many connections and raising its scientific standard. He cultivated critical genera and studied their "Formenkreis" for several years indefatigably. In 1820 he became a full member ("wirklicher Mitglied") of the Senckenbergische Naturforschende Gesellschaft, to which he later sold his herbarium and library at a reasonable price. In 1824 he became a corresponding member of the Naturforschende Gesellschaft des Osterlandes and in 1827 of the Regensburger Botanische Gesellschaft.

He was commemorated in the generic names *Beckera* Fresenius 1837 and *Beckeropsis* Figari & De Notaris 1854 (both *Gramineae*).

Ref.: Fresenius [J.B.Georg W.]: *Flora* 17¹(2): 24-29. 1834 Jan. 14.

1 Flora der Gegend um Frankfurt am Main.

2 sections in 3 parts. Frankfurt a. M., [1827-]1828.

Title: "Flora | der | Gegend um Frankfurt am Main | von | Johannes Becker. | Der Senckenbergischen naturforschenden Gesellschaft, des physikalischen | Vereins zu Frankfurt a. M. und der Wetterau. Gesellschaft f. d. gesammte | Naturkunde wirkli. Mitglied, der Königl. Bair. botanischen Gesellschaft | zu Regensburg u. der naturforschend. Gesellschaft des Osterlandes | correspondirendes Mitglied. | *Erste Abtheilung.* [2: *Zweite Abtheilung.*] | Phanerogamie [2: Cryptogamie] | [thick-thin rule] [2: long swelled rule] | Frankfurt a. M., 1828. | in der Verlagsbuchhandlung von | Ludwig Reinherz."

Collation: 8°: sect.1: π^2 2 π^1 (folded table) 7 8 2-30 8 (+47) 31 6 32 8 (32 $_5$ +32 **4) 33-34 8 35 6 36 4 (-36 $_4$ =47 cancellans); *i-vi* 1-3 4-502 [inserts:] 503 504-509 570, 2503 2504-2510 511-557 558 (50 53 492-493 545);
sect.2(1): π^1 1-45 8 46 4 47-51 8 (-517) 52 4 ; *i-ii* 1-3 4-813 874 (7 724 729 809);
sect.2(2): 1-7 8 ; 1-3 4-111 172 (98 100).

Contents: sect.1: *i* title; *ii* imprint: "Gedruckt bei C.L. Bredl | in Offenbach."; *iii* dedication to: "Herrn Med. Doctor Neuburg | Erstem Direktor der Senckenbergischen naturforschenden | Gesellschaft zu Frankfurt am Main"; *iv* □; *v* folded table, recto: "Tabellarische Darstellung des Linnéischen Sexualsystems."; *vi* □; 7 half-title; 2 □; 3-491 text, descriptions of phanerogams (localities of rare species only); 492 □; 493-502 additions and corrections; 503-509 supplement to sect.1, additional genera; 570 □; 2503-2510, 511-544 index of Latin binomials; 545-557 index of German names; 558 corrections;
sect.2: *i* title to section 2 (complete); *ii* imprint;
part 1: 1 part-title; 2 □; 3-6 introduction to cryptogams, unheaded; 7-723 text, descriptions of cryptogams except *Pyrenomyces*; 724-728 additions and corrections; 729-808 index of Latin generic and specific names; 809-813 index of German names; 874 corrections;
part 2: 1 part-title; 2 □; 3-97 text, descriptions of "*Myelomyces*" [= *Pyrenomyces*]; 98-99 additions to sect.2(1); 100-111 index of Latin generic and specific names of sect.2(2); 172 index of German names.
RT: family names. Language: German.

Paper: leaf height 198 mm. (F copy, cut); laid, chains vertical; no wm. seen.

Printer: Bredl, C.L., Offenbach, Germany.

Publisher: Reinherz, Ludwig, Frankfurt am Main, Germany.

Dates: sect.1: 1827, bef. 14 Nov. (*Flora* 10(42): 672. 1827);
sect.2: 1828, aft. 28 Sep. (*Flora* 11 2 (*Ergänz.Bl.*): 55. 1828: donated to library).

Reviews: sect.1 : *Flora* 11(18): 273-279. 1828 May 14;
sect.1-2(1): *Linnaea* 5: 29. 1830;
sect.2(1,2): *Flora* 13 2 (*Ergänz.Bl.*): 46-48. 1830.

Refs.: BMNH 120 | Kew 38 | Pr.ed.1 n.634
Bradl.1: 377b | | Pr.ed.2 n.543.

Notes. Regional flora, with due stress on cryptogams, including many varieties, some without author citation and therefore difficult to check whether new or not; descriptions present.

BÉHERÉ, Jean Baptiste Joseph

Biogr. Born 1763 May 21, Hallotière, near Gaillefontaine, canton Neufchâtel [now dép. Seine-Maritime], France.
 Died 1840, Rouen, dép. Seine inf. [now dép. Seine-Maritime], France.
 Béheré was a teacher of mathematics at Rouen since about 1790; he was strongly interested in natural history, especially in botany. He became a member of the Société libre d'émulation de Rouen at the foundation, 1792, and later a corresponding member of the Société Linnéenne de Normandie. He published, besides a small number of botanical works: *Discours sur l'utilité des sciences en générale, et particulièrement de celles que l'on nomme sciences exactes et mathématiques*.

Refs.: Girardin, J.: *Annuaire des cinq départements de l'ancienne Normandie. Sixième année.* Caen, Association Normande, 1840, p.477.

1 *Muscologia Rothomagensis.*

Bull. Soc. Émul. Rouen 1826: 77-120. 1826 [1827?].

Title (of periodical fascicle): Séance publique de la Société libre d'Émulation de Rouen, tenue le 9 Juin 1826. Rouen, F. Baudry, Imprimeur du Roi, rue des Carmes, no. 20. Année 1826. [Not a quasi-facsimile. The usual abbreviation is taken from a later title of the periodical.]

Collation (of periodical): 8°: r²(w₁=paste-down) A-V⁸ X²(X₂=paste-down); i-ii 1 2-321 322 (317, unnumbered pages not rechecked; paste-downs not included in pagination).

Contents (of periodical): i title; ii □; 1-73 report of the session, including (19-20) a short report on Béheré: "M. Béheré, qui s'occupe avec une infatigable persévérance des plantes cryptogames de ce pays, a présenté à la société un tableau analytique des mousses des environs de Rouen, classées d'après les urnes et le péristome. La plus scrupuleuse exactitude dans la détermination des nombreuses espèces de cette famille qu'il a recueillies, distingue ce travail, qui peut être considéré comme faisant suite à celui que M. Béheré a donné en l'année 1824 sur les lichens et que la société a publié."; 74-315 articles printed on order of the society: "Pièces dont la Société a arrêté l'impression à la suite du procès-verbal de sa séance publique.", including (77-120) *Muscologia Rothomagensis*; 316 errata: 317-321 index; 322 □.

Table: 1 folded typographical table, inserted after p.80, recto □; verso systematic table of the genera of mosses: "TABLEAU SYNOPTIQUE | DES GENRES DE MOUSSES QUI CROISSENT AUX ENVIRONS DE ROUEN, | Dressée par J^N-B^{TE}-JOSEPH BÉHERÉ."

Printer: Baudry, F., Rouen, France.

Date: 1826 (t.-p.); after 9 Jun. (date of session in which printing of the periodical was ordered); probably sem.2 (printing will have taken some time); bef. 27 Jan. 1827 (*Bibliogr.France* 16 (8): 80. 1827 Jan.27).

Bibl.notes. As an exception the collation and contents of the complete fascicle are given, which includes the report on the article of Béheré.

Bot.notes. See Béheré n.2.

2 *Muscologia Rothomagensis.*

Rouen, 1826 [1827?].

Title: "MUSCOLOGIA ROTHOMAGENSIS | OU | TABLEAU ANALYTIQUE | DES MOUSSES | DÉCOUVERTES JUSQU'A CE JOUR AUX ENVIRONS DE ROUEN, | *Classées d'après les* | URNES ET L'ORGANISATION DE LEUR PÉRISTOME; | Avec les caractères des genres et | l'étymologie de leurs noms, ainsi que la synonymie des | espèces et l'indication des lieux où elles ont été trouvées; | PAR J^N.-B^{TE}-JOSEPH BÉHERÉ. | Minerva head, white in black round field | ROUEN, | F. BAUDRY, IMPRIMEUR DU ROI, RUE DES CARMES, N^o 20 | [very short swelled rule] | 1826."

Collation: 8^o: 1⁶ 2-3⁸ 4⁴; i-iv 1-5 6-48.

Contents: i-iv □; 1 half-title; 2 □; 3 title; 4 □; 5-8 introduction with head-title: "MUSCOLOGIA ROTHOMAGENSIS | OU | TABLEAU ANALYTIQUE | DES MOUSSES | DÉCOUVERTES JUSQU'A CE JOUR AUX ENVIRONS DE ROUEN."; 9-48 text with a similar head-title, systematical enumeration of moss species of the Rouen region with synonyms and localities, and a French translation of the generic names: "étymologie". No RT. Language: French.

Table: 1 folded typographical table, inserted after p.8, recto □; verso systematic table of the genera of mosses: "TABLEAU SYNOPTIQUE | DES GENRES DE MOUSSES QUI CROISSENT AUX ENVIRONS DE ROUEN, | Dressée par J^N.-B^{TE}-JOSEPH BÉHERÉ."

Paper: leaf height 214 mm. (PC copy, cut); laid, chains vertical; wm. "P M | F A [partly outline]".

Printer: Baudry, F., Rouen, France.

Date: see discussion under n.1.

Refs.: BMNH 123 Jacks. 290 Pr.ed.1 n.655, ed.2 n.570.

Bibl.note. The separate and the article in the periodical differ in the pagination and the added titles. There is no indication that the separate was published before the periodical.

Bot.note. This moss flora of the Rouen region introduced a number of new names, e.g. for linguistic reasons the generic name *Dioranum* was changed into *Dioranodon*, which is illegitimate in botanical nomenclature.

BRÉBISSEON, [Louis] Alphonse de

Biogr. Born 1798 Sep. 25, Falaise, dép. Calvados, France.

Died 1872 Apr. 26, Falaise.

Alphonse de Brébisson was the son of Jean Baptiste Gilles de Brébisson (1760-1832) who was an entomologist and a founder of the Société Linnéenne de Normandie. He attended the "collège de Falaise", where he could develop the taste for natural history, imbued at home. He was at an early age introduced to Latreille, A.L. de Jussieu and Brongniart. His interest in botany was especially strengthened by a stay in Vire, with Dubourg d'Isigny. In 1825 he made a trip to Paris with Boissieu, and was even able to go to the French Alps. His first publication was on orchids of Normandy, 1824. Later a flora of Normandy followed, which went through several editions. His exsiccata of mosses (1826-39) were brought out to facilitate their study. He finally specialized on algae. He was also interested in photography, especially in microphotography. Moreover he published *Statistique de l'arrondissement de Falaise*, 1826-29, 3 vols. + atlas, and studied celtic and gallic monuments. He had administrative positions, including a membership of the council of the town and of the "département".

In 1827 he married Méliete Gaudin de Villaine, who helped him in his botanical work; she died in 1842. From their three children, the only son became a malacologist.

His name is commemorated in the generic names *Brebissonia* Spach 1835, now generally considered a synonym of *Fuchsia* L. (*Onagraceae*), and *Brebissonia* Grunow 1860 (*Bacillariophyta*, *Liato.*), *nom. cons.*

- Refs.:** Malbranche, A.: *Notices sur M. de Brébisson*. 10 p. Rouen, 1872. (Extrait du *Bull.Soc.Amies Sci.Nat.Rouen*, année 1872, 2^e semestre.)
 Morière, M.J.: *Notices biographiques sur Alphonse de Brébisson naturaliste*. 28 p. Caen, 1874. (Extrait du *Bull.Linn.de Normandie*.)
 Prévost, M.: *Diet.Biogr.Frang.* 7: 189. 1956.

1 Mousses de la Normandie.

8 fasc., Falaise, 1826-1839 [exsiccata].

Titles (not transcribed in details; main text of fasc.1-3 follows, without distinguishing letter types): "MOUSSES | DE | LA NORMANDIE, | RECUEILLIES ET PUBLIÉES | PAR L. ALPHONSE DE BRÉBISSEON, | [quotation, from:] Decandolle, Théor. Elém. de Bot. | PREMIER FASCICULE. [2: DEUXIÈME FASCICULE.] [3: TROISIÈME FASCICULE.] | [short swelled rule] | FALAISE. [2-3: FALAISE, | Imprimerie de BRÉE l'aîné. | A CAEN, chez MANCEL, Libraire, rue St.-Jean, | A PARIS, chez MEILHAC, Lib., cloître St.-Benoit, n° 10.] | [short rule] | 1826. [2: 1828.] [3: 1829.]" [7-8 with addition to the title, after NORMANDIE: "ET D'UNE GRANDE PARTIE DE L'OUEST DE LA FRANCE."; 8 without the name and address of Meilhac].

Collation (pagination not present and no inferred pagination given): 8°:
 fasc.1: 7⁸(+13-75); | f.3: 7⁸; | f.5: 7⁸(-75-78); | f.7: 7⁸(-78);
 fasc.2: 7⁸(-17); | f.4: 7⁸(-78); | f.6: 7⁸(-78); | f.8: 7⁸(-77).

Contents (by gathering references): fasc.1: 7₁ paste-down; 7₂ □; 7₃ title, v □; 7_{4r} preface, unheaded; 7_{4v} □; 7_{6r} list of names of the 25 mosses in the specimen part, numbered 1-25, arranged systematically, *Hypnum* to *Andreaea*; 7_{6v} □; remaining leaves: rectos with specimens, versos □; fasc.2-7: 7₁ paste-down; 7₂ □; 7₃ title, v □; 7_{4r} lists of species: fasc.2: n.26-50, fasc.3: n.51-75, fasc.4: n.76-100, fasc.5: n.101-125, fasc.6: n.126-150, fasc.7: n.151-175, fasc.8: n.176-200; versos □; remaining leaves: rectos with specimens, versos □. No RT. Language: French.

Specimen part: per fascicle 25 specimens as well as labels pasted to the rectos of the remaining leaves of the first gathering and those of three more gatherings without any printing until 25 leaves were filled; the last leaf in each fascicle was a paste-down and one or two leaves before the last were blank too; the labels contain a) the consecutive number, b) the Latin binomial with c) its abbreviated author citation, in italics; d) as a new paragraph one or more references to descriptions of older authors, and often to one or more synonyms; e) a new paragraph "HAB." giving ecological information (habitat) and exceptionally the locality, ending with the season, obviously of sporophytes.

Paper: leaf size 194 × 124 mm. (PC copy, cut); wove; no wm.

Printer: de Brée l'aîné, Falaise, France.

Publishers: de Brée l'aîné (see Printer);

Mancel, Caen, France;

Meilhac, Paris: fasc.1-7, fasc.8: variant title? (see *Bibliogr.France*).

Dates:

fasc.	date t.-p.	publ.date	Bibliogr. France
1*	1826	Dec. 9	15(98):1030
2	1828	Sep. 27	17(39): 712
3	1829	Apr. 18	18(16): 264
4	1830	Apr. 10	19(15): 232

fasc.	date t.-p.	publ.date	Bibliogr. France
5	1831		
6	1833	Mar. 2	22(9): 134
7	1835		
8	1839	Apr. 20	28(16): 186

*fasc.1 bef. 5 Jul.? (copy sent to A.P. de Candolle with letter).

Review: fasc.1-2: *Litteratur-Ber. Linnaea* 4: 24. 1829.

Refs.: fasc.1-2: Krüger. 113

Stafl. TL n.134.

Bibl.notes. Exsiccata issued in book form, in boards with a blue paper cover at the outside. The specimens were pasted to the rectos of 25 leaves of 4 gatherings. Narrow strips of paper were bound after every second pair of leaves to provide space for the thickness of the specimens; they simulate stubs of removed leaves. A copy of fasc.1 was described in *Bibliogr.Franco* 15 (98): 1030. 1826 Dec.9, stating that the 25 labels were printed on a half-sheet and that the specimens and labels had to be pasted on 25 leaves.

Bot.notes. Exsiccata of *Musci*, following a general trend of the period in its make-up. The first series were devoted to common mosses of the local area; later (fasc.7-8) the region covered was enlarged. A number of new names or combinations were proposed; only 2 had a description: *Gymnostomum serratum* Bréb. 8: n.196. 1839, and *Polytrichum commune* var. *scopularium* Bréb. 3: n.61. 1829; a few others had references to previously published descriptions, though indirect, e.g. *Syntrichia ruralis* var. *laevipila* (Brid.) Bréb. 6: n.142. 1833.

BREUTEL, Johann Christian

Biogr. Born 1788 Jan. 21, Weissenburg am Sand, Germany.

Died 1875 Feb. 18, Herrnhut, Saxony, Germany.

Breutel was a member of the Moravian Church, first at Nisky, later at Herrnhut. In the church he had some important functions, as in the Department of Finance, and later in the Department of Missions. In connection with his missionary activity he was in the Antilles, 1840-41, and also in South Africa. Finally he was consecrated bishop on 26 June 1856, at Herrnhut.

He was interested in bryology, publishing the exsiccata and articles. On his travels he made large collections, but he was not able to study these completely.

He was commemorated in the generic name *Breutelia* (B.S.G.) Schimper 1856 (*Musci*, *Bryaceae*).

Refs.: *Trans.Noravian Hist.Soc.* 6: 347, 380, 476, 589. 1875.

Urban, I.: *Symb.Antill.* 3: 28. 1902.

1 *Musci frondosi exsiccati*.

5 centuriae. Leipzig, 1822-1863 [exsiccata].

Dates: Cent.I: 1822; Cent.II: 1843; Cent.III-IV:; Cent.V: 1863.

Refs.: Cent.I-V: Lynge, B.: *Nyt Mag.Naturvid.* 51: 112. 1913;

Cent. V : *Verh.Zool.Bot.Ges.* 13(*Sitzungsber.*): 9. 1863 (announced by Juratzka, published by Dr. J. Holzinger);

Flora 47: 112. 1864.

Notes. Not seen, but mentioned to draw attention to this set, which contained at least one new name: *Polytrichum gracile* var. *longisetum* 5: n.474. Part was destroyed by fire, according to Lynge, and was replaced by new material, which was not identical.

2 *Beitrag zu der Moosgattung Sphagnum*.

Flora 7(28): 433-443. 1824 Jul. 28.

Date: fasc. dated; see *Flora*.

Ref.: RSC 1: 612.

Note. Descriptions of 4 new species of *Sphagnum*, all with "immersed" sporophytes, with a "Nachschrift" by C.G. Nees; later commented by Bruch (n.3).

3 *Einige vergleichende Bemerkungen aus den Gattungen Phascum, Gymnostomum und Grimmia*.

Flora 9(6): 61-63. 1826 Feb. 14.

Date: fasc. dated; see *Flora*.

Note. Rather unimportant; comparison of 2 series of species of different genera.

BRIDEL, Samuel Elisée (von Bridel, von Bridel-Brideri)

Biogr. Born 1761 Nov. 28, Crassier, Vaud, Switzerland.

Died 1828 Jan. 7, near Gotha, Germany.

Bridel studied at the University of Lausanne and was called to Gotha immediately after his studies to educate the princes August and Friedrich von Sachsen-Gotha. Later he became private secretary and librarian to the prince-hereditary. He visited Paris in 1807 as the secretary of a mission to Napoléon, took part in the scientific life there, participated in botanical excursions, and studied in herbaria. On another visit, to Rome, he also found time to botanize. Finally he became Geheimer Legationsrath. From the Duke of Sachsen-Gotha he received letters of nobility, hence the name von Bridel (in French: de Bridel, in Latin: a Bridel). After he married, he added, according to Swiss custom, his wife's maiden name (Brideri) to his own.

He was an outstanding bryologist, very careful in giving complete citations of all places where moss species were mentioned, and following first Hedwig's classification, later developing his own, with quite a number of new genera and other groups. He also published translations and poems. His herbarium came to the Bot. Mus. Berlin-Dahlem and is still in existence (Stafleu, TL p.50).

He was commemorated in the generic names *Briedelia* Willdenow 1805 (originally spelled *Briedelia*), *Euphorbiaceae*, based on *Cluytia* Roxb. (a later homonym of *Clutia* L.), and *Lepidiera* Baillon 1858 (an anagram of *Briedelia*), considered a synonym of *Cleisanthus* J.D. Hooker (*Euphorbiaceae*).

Refs.: Nouv.Biogr.Anc.Mod. nouv.ed. 3: 144. 1843-47.

Rose, H.J.: *A new general biographical dictionary* 5: 53. 1857.

Nouv.Biogr.Univ. 7: 382-383. 1863.

Engler, [A.]: *Allg.Deutsche Biogr.* 3: 328. 1876.

1 Muscologia recentiorum ...

2 vols. in 4 parts. Gotha-Paris, 1797-1803.

Title: "MVSCOLOGIA RECENTIORVM [2(2): MUSCOLOGIA RECENTIORUM] | SEV | ANALYSIS, HISTORIA, [2(2)-(3) no comma] | ET | DESCRIPTIO METHODICA | OMNIVM MVSCORVM FRONDOSQVRVM HVCVSQVE COGNITORVM [2(1) added: ,] | AD NORMAM HEDWIGII [2(1) added: ,] | A | SAM. EL. BRIDEL. [2(3): SAM. EL. BRIDEL.] | [short rule] [2(2)-(3): short swelled rule] | --- *Nihil est quod non mortalibus afferat vsum* [2(3): *Nihil est, quod non mortalibus afferat vsum.*] | PETRON. FRAGM. | [long rule] [2(2)-(3): long swelled rule] | Tom. I. [2(1): Tom. II. | PARS I] [2(2): Tom. II. | PARS II.] [2(3): Tom. II. | PARS III.] | [2(1): full rule] | [2(1): CVM TABVLIS SEX AENEIS.] [2(2): Cum tabulis sex aeneis.] [2(3): Cum tabulis duabus aeneis.] | [full rule of 2 long and 6 short arrows, with fancy center] [2(1): long wavy rule with four thick straight parts] [2(2): very long swelled rule with wavy middle part] [2(3): very long swelled rule with asterisk in the center] | GOTHAE, [2(2)-(3) no comma] | APVD CAROLVM GVIL. ETTINGERVVM | PARISIIS [2(1) added: ,] | APVD BARROIS IVNIOREM | MDCCXCVII. [2(1): CLOCCXCVIII.] [2(2): MDCCCI.] [2(3): MDCCCIII.] "

Collation: 4^o: vol.1: a-c⁴(*a₁) A-Y⁴(*L₂) Z⁴(-Z₃-Z₄) x¹ (\$1-3 signed); I-V VI-XXIV 7-3 4-179 180-182 (XI);

vol.2(1): *⁴ 2⁴(-2*⁴) A-2E⁴(*2E⁴) (2*₃ unsigned, 2*₁ signed '.'); I-VI-VIII 2VII-2VIII IX-X XI-XII(=XIV) 7-3 4-222 223-224 (134 as '112', 220 as '214');

vol.2(2): a⁴ b²(italics) A-2A⁴ .2 x¹ (H₃ as 'H₂', 2A₃ as 'Z₃', x₃ unsigned); I-VII VIII-XII 7 2-192 2¹ 2¹¹-2¹⁴ 193-194 (152 as '153', 185 as '18' [correct in GRO copy], 188 as '180', 192 as '182', 197);

vol.2(3): A⁴ B-Z⁴ (\$1-2 signed); I-VII VIII 9-176 177-184 (73 75, 173 as '175', 176 as '178').

Contents: vol.1: I title; II □; III dedication, poem to Johann Hedwig (1730-1799), IV □; V-X preface: "PRAELOQVIVM.", dated: "4 Idus Quintiles 1795."; XI-XXIV sources; 7 part-title: "MVSCOLOGIAE | [swelled fancy rule] | PARS I. | CONTINENS MVSCORVM ANALYSIM | ET | MVSCOLOGIAE HISTORIAM. | [swelled fancy rule]"; 2 □; 3-179 text in 11 chapters, morphology and

classifications of *Musci*, including Hedwig's, and descriptions of genera (148-179); 180 contents and imprint; 181-182 addenda et emendanda; vol.2(1): I title; II □; III dedication to Johann Friedrich Karl Grimm (1737-1821), archiater at Gotha; IV □; V-X preface: "PRAELOQVIVM.", dated: "10 Kalendas Ianuarias 1797."; XI additional sources; XII □; 1 part-title: "PARS II."; 2 □; 3-208 text, descriptions of genera, species and occasionally varieties of mosses, *Phascum* - *Barbula*; 209-214 explanations of plates; 215-222 index of Latin names and synonyms of mosses, as well as of names in modern languages; 222 imprint; 223-224 addenda et emendanda; vol.2(2): I title; II □; III part-title: "Tom. III."; IV □; V dedication to Antoine Laurent de Jussieu (1748-1836); VI □; VII-XII preface: "PRAELOQVIVM.", dated: "tertio Idus Decembris 1800."; 7-190 text continued, *Neckera* - *Hypnum*; 191-192 explanation of plates; 192 imprint; 2I-2IV index to part 2; 193-194 addenda et emendanda; vol.2(3): I title; II □; III part-title: "Tom. IV."; IV □; V dedication to Ernst [Friedrich] von Schlotheim (1764-1832), palaeontologist; VI □; VII-VIII, 9-12 preface: "PRAELOQVIVM.", dated: "quarto Idus Quintiles 1802."; 13-14 additional sources; 15-173 text concluded, *Bryum*[sic] - *Mesita*; 174-176 explanation of plates; 177-182 index to part 3; 183-184 □. No RT. Language: Latin.

Plates: 14 copper engravings (possibly with etching) of moss species; numbered: vol.2(1): "I."-"Tab. VI.", vol.2(2): "Tab. I."-"Tab. VI", vol.2(3): "I."-"II", detail-figures in vol.2(3) numbered consecutively; plate-marks: 193 × 159 mm. (pl.1 in vol.2(1)), 226 × 174 mm. (pl.1 in vol.2(3)).

Artist: the author: vol.2(1) pls.5-6 and vol.2(2) pls.2-6 signed, possibly all by him.

Engravers: Liebe, [Christian Gottlob August, died Leipzig circa 1810, or Christian Gottlob, 1746-1819, Leipzig]: vol.2(1) pls. 5-6; Schröter, Johann Friedrich (1770-1836), Leipzig, engraver to the Leipzig University: vol.2(2) pls.1-6, vol.2(3): pls.1-2; other plates unsigned.

Paper (text): leaf height 239 mm. (HBL copy, cut); laid, chains horizontal; wm.: "F [large capital in outline script]": vol.1: a b A-D F; "C B [outline letters]": vol.1: E [seen in NYBG copy; no wm. in HBL copy in this gathering]; "I C S [outline letters in cartouche with knob]": vol.2(1): * 2* B-2E; "4 | R [very large outline 4 with small structure resembling R attached to base of the stalk]": vol.2(1): A; "S [outline slender capital] = 4 [ending in anchor below] [or countermark missing]": vol.2(2): A-I; "L M F [outline letters]": vol.2(2): K-X Z 2A * (Y uncertain); plate paper: vol.2(1): laid, chains vertical; wm.: "ETUPES" (pl.I in HBL copy) or "G.WILD" (pl.VI in HBL copy); vol.2(2)-(3): laid, chains horizontal.

Printer: Hoffmann, Carl Gottlob, "Silusiae" = Schleusingen, Germany; vol.2(3) without imprint.

Publishers: Ettinger, Carl Wilhelm, Gotha, Germany; Barrois Jr., Paris, France.

Dates: vol.1: 1797 (t.-p.); | vol.2(2): 1801 May 9 (Sayre p. 8);
vol.2(1): 1798 (t.-p.); | vol.2(3): 1803 Sep. 25 (Sayre p.15).

Reviews: vol.1: *Aroh.Bot.*(Leipzig) 2(1): 52-54. 1799;
J.Phys. (Paris) 52: 86-87. 1801 Jan.;
vol.1-2(2): De Candolle, A.P.: *Bull.Soc.Philom.Paris* 3(56): 63-64. 1801;
Gött.Gel.Anz. 1801³(167): 1661. 1801;
J.Bot. (Schröd.) 1801¹(1): 188-205. 1802;
vol.1-2(3): *Ann.Bot.*(König & Sims) 1(1): 35. 1804 May 1;
vol.2(3): *Neues J.Bot.* (Schröd.) 1(1): 150-155. 1805;
Ann.Bot.(König & Sims) 2(2): 331-337. 1805 Oct.1.

Refs.: BMNH 235	Graesse 1: 539	Krüg. 241	Pr.ed.1 n.1270
Brun.1: 1255	Heins.1: 414	Linn.Soc. 95	Pr.ed.2 n.1143
Cat.Juss. n.2285	Jacks. 153	(Incompl. copy)	Stafl. TL n.145
E.As.Bot. 53	Kew 77	Milt. 484	Un.Edinb.1: 519.

Variants: 2 copies have been seen with the original cancellandum of L₂ of vol.1 in its place and the cancellans as part of sheet Z (B copy and F, copy 2).

Bibl.notes. The cancellans title-page of vol.1, perhaps, is not present in all copies; this should be checked. I did not find the reason for the cancellans L₂ in vol.1, but I did not have time enough to check word for word. I also suspect some of the "addenda et emendanda" to have been replaced by later leaves, as I could prove for Bridel's *Bryologia Universa*, vol.1. The paper, though with different marks, is rather uniform and has conspicuous darker particles (lignin?).

Bot.notes. Bridel's first bryological work, giving up-to-date treatment of the group *Musci*, and accepting Hedwig's delimitation of the genera. The earlier literature is well covered. By the change of the starting-point of *Musci* (*Sphagnum* excepted) vol.2(2)-(3) became more important, being published shortly after Hedwig's posthumous *Species Muscorum*. This work is not yet cited in vol.2(2), but it is in 2(3). The plates do not have the high quality of those of Hedwig's works.

2 *Muscologiae recentiorum supplementum seu species muscorum.*

3 parts. Gotha, 1806-1817.

Titles: parts 1 & 2: "MVSCOLOGIAE RECENTIORVM [2: MVSCOLOGIAE RECENTIORVM] | SVPPLEMENTVM | SEV | SPECIES MVSCORVM | A | SAM. EL. A BRIDEL. | [medium long rule] | - - - *Nihil est, quod non mortalibus afferat usum.* | PETRON. FRAGM. | [long rule] | *Pars I.* [2: *Pars II.*] | [full rule of alternate round and elliptical dots with fancy middle part] [2: thick-thin double rule with fancy middle part] | GOTHAE, | APUD CAROLUM GVIL. ETTINGERVM [2: EX OFFICINA LIBRARIA ETTINGERIANA.] | MDCCCVI. [2: MDCCCXII.]; part 3: "MUSCOLOGIAE RECENTIORVM | SUPPLEMENTUM | SEU | SPECIES MUSCORVM | A | SAM. EL. A BRIDEL. | [medium long wavy rule] | - - - *Nihil est, quod non mortalibus afferat usum.* | PETRON. FRAGM. | [medium long wavy rule] | *Pars III.* | [full rule decorated with ivy wreath winding over the whole length] | GOTHAE, | EX OFFICINA LIBRARIA ETTINGERIANA. | MDCCCXVII."

Collation: 4°: part 1: *⁴ A-2L⁴ (\$1-3 signed); I-V VI-VIII 1 2-271 272; part 2: *¹ A-2I⁴(-2I₃) 2K² x²; i-ii 1 2-257 258-262; part 3: *⁴ 2*² 3*-4*⁴ 5*² A-0⁴ P² (\$3 unsigned, 3*¹ as '**', 3*² as '*2*'); I-III IV-XXXII 1 2-115 116 (V-VI).

Contents: part 1: I title; II □; III dedication: "A LA CLASSE | DES SCIENCES PHYSIQUES | DE | L'INSTITUT NATIONAL | DE FRANCE"; IV □; V-VI preface: "PRAELOQVIVM.", dated: "IX Calend. Februar. | clolcccvi."; VII-VIII additional sources; 1-269 text, descriptions of mosses, *Phascum* - *Barbula*, including a synoptical table of *Polytrichum* (81); 270-271 addenda; 272 imprint; part 2: i title; ii □; 1-257 text, *Orthotrichum* - *Hypnum*, including synoptical tables, of *Neckera* (43) and *Hypnum* (257); 258 □; 259-261 addenda; 261-262 additional sources; 262 emendanda; part 3: I title; II □; III-IV preface: "Praeloquium.", dated: "Idus Januarias 1817."; V additional sources; VI □; VII-XXXII index to parts 1-3, including names in modern languages; XXXII indication for the binder in German at the far bottom; 1-115 text concluded, *Gymnocyphalus* - *Buxbaumia*, 1 with correction, in footnote, to part 2 p.1; 116 emendanda. No RT. Language: Latin.

Paper: leaf height 239 mm. (HBL copy, cut); laid, chains horizontal; wm.: "4|R [outline, very large 4, small R attached to lower part of its stalk, possibly some other letters present]": part 1: * (in NYBG copy, not in HBL copy) 2I; "4 [stalk ending in anchor, outline]": part 2: x; "W [erect swash script]": part 3: A-E, F partly (NYBG copy, not in HBL copy).

Printer: Crusen, Ge[org] C[hristo]ph Jac[ob], Schleusingen, Germany.

Publisher: Ettinger, Carl Wilhelm (imprint changed into: "EX OFFICINA LIBRARIA ETTINGERIANA." in parts 2 & 3), Gotha, Germany.

Dates: part 1: 1806 Apr. 20 (Sayre: *Dates of publ.* 27. 1959);
part 2: 1812 Sep. 27 (Sayre: *Dates of publ.* 42. 1959);
part 3: 1817 Sep. 28 (Sayre: *Dates of publ.* 53. 1959: already annncd. for Mich.Fair 1816: *Isis* (Oken) 1(1 St.15): 114. 1817 1816; this apparently was not realized in 1816);
prob.bef. Sep. (Sayre cites *J.Scav.* of Sep. 1817).

Reviews: part 1: Palisot de Beauvois: *J.Phys.* (Paris) 67: 16-25. 1808 Jul.;
J.Bot. (Desvaux) 1: 43-61. 1808 (review of foregoing review);
part 2: Palisot de Beauvois: *J.Bot.Appl.* (Desvaux) 2: 153-157. 1813 Oct.

Refs.: BMNH 235	Heins.1: 414, 6: 107	Milt. 484 (date of 1 as 1807)
Brun.1: 1255	(date of 1 as 1807)	Pr.ed.1 n.1270, ed.2 n.1143
Cat.Juss. 2285	Jacks. 153	Stafl. TL n.145
(incompl.copy)	Kew 77	Teyl.1: 404
E.As.Bot. 53	Krüg. 241	Un.Edinb.1: 519.

Variants: part 1: possibly copies with title-date 1807 exist;
part 2: x absent in some copies (HBL); its addition might be a post-publication state.

Bibl.notes. Printed on paper similar to that of *Muscologia recentiorum*, and probably in the same shop, in the small town of Schleusingen, about 30 miles south of Gotha. In part 2 the loose leaf * possibly was conjugate with 2I. The general index was to be placed at the end of part 3, according to the instructions to the binder printed on p.XXXII, so the ideal copy should be reported in this condition; I prefer the simpler collation as the sheets were printed.

Bot.notes. Though the title simply says: supplement of the *muscologia recentiorum*, it is nevertheless virtually a new work, treating all moss genera and species of the world known to Bridel up to date, or cited from other authors. Bridel himself cited these 3 parts later under the second title: *Species muscorum*, which practice was followed in the *Index Muscorum*, for brevity. New genera described are: *Anodontium* Brid. 1: 41 (nom. rej.) and *Schlotheimia* Brid. 2: 16. The spelling of the name of the genus *Cynodontium* of Hedwig was deliberately changed into *Cynodontium*; the latter name was later conserved in a sense excluding the possible types of the genus of Hedwig and Bridel. Some other recent genera were accepted by Bridel, as *Paludella* Ehrh., and *Conostomum* Swartz of which he did not yet cite the original publication, but of which he nevertheless gave Swartz's description. For the rest the treatment of the genera was still closely following the Hedwigian concept.

3 Methodus nova muscorum ... Muscologiae recentiorum supplementum pars 4 seu
Mantissa ...
Gotha, 1819.

Title p.II: "MUSCLOGIAE RECENTIORUM | SUPPLEMENTUM | PARS IV | SEU | MANTISSA |
GENERUM SPECIERUMQUE MUSCORUM | FRONDOSORUM UNIVERSA | A | SAM. EL.A BRIDEL
| [medium long swelled rule] | Nihil est, quod non mortalibus afferat
usum. | PETRON. Fragm. | [long swelled rule] | Cum tabulis duabus aeneis. |
| [very long swelled rule] | GOTHAE | APUD A. UKERTUM | MDCCCXIX."

Title p.III: "METHODUS | NOVA | MUSCORUM | AD NATURAE | NORMAM MELIUS INSTITUTA | ET | MUSCOLOGIA RECENTIORUM | ACCOMMODATA | A | SAM. EL. A BRIDEL. | [two short swelled rules with diamond between] | *Nihil est, quod non mortalibus afferat usum.* | PETRON. Fragm. | [medium long swelled rule] | Cum tabulis duabus aeneis. | [very long swelled rule] | GOTHAE | APUD A. UKERTUM | MDCCCXIX."

Collation: 4°: *-2*⁴ 3*²(-3*²) A-2E⁴(-2E⁴=3*¹) (* unsigned, \$3 unsigned); I-VI VII-XVIII 1 2-220 221-222 (208 as '108').

Contents: I □; II title *Musco. Rec. Suppl.* IV *Seu Mantissa Gen. Spec. Musco.*; III title *Methodus Nov. Musco.*; IV □; V-VI preface: "PRAELOQUIUM," dated: "mense Majo 1818."; VII-XVIII explanation of Bridel's new method of classification of mosses: "*Nonnulla de Methodo nostrâ Muscorum | frondosorum praemissa.*" with classification table and characters of genera (XII-XVIII); 1-205 text, descriptions of species of *Musci*, *Sphagnum* - *Dawsonia*; 206-207 appendix; 208-209 explanation of plates; 210-220 index; 221 errata; 222 □. RT: taxonomic groups, e.g.: "*Vaginulati. Peristomi. Pleurocarpi.*" Language: Latin.

Plates: 2 copper-engravings (possibly with etching) of moss species, numbered: "Tab. I." and "Tab. II."; plate-mark: 224 × 182 mm. (pl.1).

Artist: pls. unsigned; possibly the author.

Engraver: pls. unsigned.

Paper: text: leaf height 237 mm. (HBL copy, cut); laid, chains horizontal; wm. absent (or too small to be observed); plates: wove; wm.: "H [swash script]" in corner of plate 1 (HBL copy).

Printers: no imprint.

Publisher: Ukert [or Uckert], A., Gotha, Germany.

Date: 1818 Dec. 31 (*Leips.Lit.Zeit.*, fide Sayre p.60); 1819 Jan.? (*Allg.Repert.Neuest.In-Ausl.Lit.* 1819¹(3): 203-204. 1819 [Feb.1-15] compare *Isis* (Oken) 3(11): 1851-1856. 1818 [1819?]).

Reviews: see **Date**; Sprengel, C[urt]: *Neue Entdeck.Pflanzensk.* 1:184-204. 1820; *Leips.Lit.Zeit.* 1821 Feb. 21 (fide Sayre).

Refs.: BMNH 235	Krüg. 241	Milt. 484
Brun.1: 1256	Mass.HS-H 38	Pr.ed.1 n.1271, ed.2 n.1144
E.As.Bot. 53	Mass.HS-M 1: 292	Staf. TL n.145
		Un.Edinb.1: 519.

Variants: see title-page issue of 1822: Bridel n.4.

Bibl.notes. The first title indicates this book as *Muscoologiae Recentiorum Supplementum* 4. Several references of publication in Dec. 1818 concern, in my opinion, pre-publication announcements; I did not check this (compare Sayre, p.60). Later Bridel himself cited this issue as: "*Mant. Musco.*"

Bot.notes. New and complete treatment of the mosses, incorporating Bridel's views on the natural classification of the mosses. The Hedwigian classification was not completely followed anymore, as was done in the *Musco. Recent.*; e.g. the characters of the calyptra were used.

Bridel proposed several new genera: *Pleuridium* XII, 10, *Pyramidula* XIII, 20, *Schistidium* XIII, 20, *Glyphomitrium* XIII, 30, *Campylopus* XIV, 71, *Racomitrium* XIV, 78, *Desmatodon* XIV, 86, *Ulota* XIV, 112, *Macromitrium* XVI, 132, *Antitrichia* XVI, 136, *Anacamptodon* XVI, 136, *Chaetophora* 148 (spelled *Chaetophora* XVII, illegitimate because of the earlier homonym *Chaetophora* Agardh in *Algae*), *Pterigophyllum* XVII, 149 (rejected in favor of *Hookeria* Sm.).

⁴ Methodus nova muscorum ... Muscologia recentiorum supplementum pars 4 seu Mantissa ...

[2nd issue] Leipzig, 1822.

Titles: reset, both titles ending: "... aeneis | LIPSIAE | APUD J. A. BARTHIUM | MDCCCXXII."

Collation: 4°: as issue 1, except: *⁴(-+_{1,2} +*_{1,2}); 208 as '108' (Teyl. copy).

Paper (of cancellantia): leaf height 239 mm. (Teyl. copy, cut); laid, chains horizontal; wm.: "N o [swash script, partly outline, in corner of sheet]".

Publisher: Barth, Johann Ambrosius (1760-1813), Leipzig, Germany; firm headed by his son Adolph Ambrosius Barth (1790-1851); biogr.: Mühlbrecht: "Barth, Johann Ambrosius B." in *Allg. Deutsche Biogr.* 2: 99-100. 1875.

Date: 1822 (t.-p.), probably early (see notes).

Refs.: BMNH 235 Heins.7(1): 110 Kew 77 Stafl. TL n.145 Teyl.1: 404.

Bibl. notes. The reason for this issue, as already implied by the change on the title-page, is clearly stated in an advertisement, undated, present in: *Literarischer Anzeiger* (Brockhaus) 1822(7): 4. 1822, in which the latest date was 24 Jan. 1822. This advertisement runs:

"Aus dem Verlage Herrn Uckert's in Gotha habe | an mich gekauft:
[lines in gothic] | Bridel, Sam. El. a, Methodus nova Muscorum | ad naturae
normam melius instituta et musco-|logiae recentiorum accommodata cum tab. II
| aeneis. 4 ma. 2 Thlr. |

Auch unter dem Titel: [line in gothic] |
Bridel, Sam. El. a, Muscologiae recentiorum | supplementum Pars IV. seu
Mantissa generum | specierumque muscorum frondosorum uni-|versa. [remaining
lines in gothic] und empfehlen dieser Band allen Besitzern der früher
erschie-|nenen, so wie jedem Botanik-Studirenden als ein auch für | sich
bestehendes Ganze. Die Ermässigung des Preises von | 3 Thlr. 12 Gr. auf
2 Thlr. wird dem Absatze nur förderlich | sein können. | Joh. Ambr. Barth."

Here the promotion of sale is explicitly mentioned; for the new title
Barth will have had the same reason, fulfilling the criterion for re-issue.
Apparently Bridel was not consulted; in 1822 he was already married and
would have added his wife's name Brideri.

⁵ Bryologia universa ...

2 vols., Leipzig, 1826-1827.

Title: "SAM. EL. A BRIDEL-BRIDERI | A CONSILIIIS SECRETIS LEGATIONIS SAXO-GOTHANAE
etc. | BRYOLOGIA | UNIVERSA | SEU | SYSTEMATICA AD NOVAM METHODUM |
DISPOSITIO, HISTORIA | ET | DESCRIPTIO | OMNIUM | MUSCORUM FRONDOSORUM |
HUCUSQUE COGNITORUM | CUM | SYNONYMIA EX AUCTORIBUS PROBATISSIMIS. |
ACCEDUNT TABULAE AENEAE TREDECIM. | [long rule] | VOLUMEN PRIMUM. [2:
VOLUMEN SECUNDUM.] | [full swelled rule] | LIPSIAE, 1826 [2: LIPSIAE, 1827]
| SUMTIBUS JOAN. AMBROS. BARTH."

Collation: 8°: vol.1: π¹ 1-3⁸ A-22⁸ 3A⁶(-3A₃) 3B-3H⁸ χ¹(*χ₁) (\$1-2 signed);
i-ii I II-XLVI XLVII-XLVIII 1 2-856 857-860 (XIII XXIX XLII 21
717 747);
vol.2: π¹ A-3B⁸(-2F₈-2G₁+2G₁) 3C-3I⁴ 3K⁶ χ¹ 3L⁸(-3L₇=2G₁ cancellans,
-3L₈=χ¹ cancellans of vol.1); i-ii 1 2-463 466-848 849-850 (160 663
668 709 733 836; in inner corner: 141 299; 463 as '463 et 464',
466 as '465 et 466', 760 as '860').

Contents: vol.1: i title; ii the quotation from Petron[ius], used in Bridel's
other bryological works on the title-page; I-XII preface: "PRAELOQUIUM",
dated 16 Dec. 1826; XIII-XXVIII sources (by abbreviations); XXIX-XLI
systematical arrangement of moss genera: "GENERUM MUSCORUM FRONDOSORUM |
DISPOSITIO SYSTEMATICA | PER | CLASSES ET ORDINES."; XLII-XLVI trial of
an arrangement of moss genera in natural families: "TENTAMEN DISPOSITIONIS
MUSCORUM | FRONDOSORUM GENERUM IN FAMI-|LIAS NATURALES."; XLVII-XLVIII □;

7-716 text, descriptions of new genera, species and varieties of *Musci*, *Sphagnum* - *Cinclidium*; 717-746 "APPENDIX. | Muscorum Orthotrichoideorum Dispositio emendata | et enumeratio adaucta."; 746 "FINIS | VOLUMINIS PRIMI."; 747-856 supplement to vol.1, descriptions of new genera, species and varieties and additions to those treated in vol.1; 857-858 list of natural history books published by J.A. Barth; 859- emendations; 860-□; 859+ - 860+ additions and emendations, including the corrections of the cancellandum, some again corrected; vol.2: i title; ii □; 1-732 text concluded, *Paludella* - *Andreaea*; 733-772 supplement to vol.2; 773-831 index of Latin names of genera, species and varieties; 831-835 index of names and genera in German (831-832), French (832-834), English (834-835); 836-848 explanation of the plates; 849-850 additions and emendations to vol.2. RT: in text taxonomic groups down to genera, e.g.: "PLEUROCARPI, PERISTOMI. HYPNUM.", preceded by "SUPPL." in the 2 supplements; chapter headings in the preliminaries, indexes and appendix. Language: Latin.

Plates: 13 copper-engravings (in general stipple-engraving), numbered: "Tab. I" - "Tab. X" and "Suppl. I" - "Suppl. III"; suppl.I & II completely and suppl.III partly hand-colored; pls.1-10 illustrating sporophyte characters of genera (species indicated in the explanation); suppl pls.1-3 giving also species; plate-mark: 198 x 108 mm. (pl.7); pl.5 has the spelling "*Cynolidium*" instead of "*Cinolidium*".

Artist: Clauder, C., Germany: 8 pls. (1-3, 6-10); unsigned: 5 pls. (4-5, suppl.1-3).

Engravers: Böhme, Johann Christian (b. 1771), Germany: 2 pls. (7, 9); Müller, Fr.Ed., Germany: 7 pls. (1-6, suppl.3); unsigned: 4 pls. (8, 10, suppl.1-2).

Paper: text: according to an announcement in *Flora* 10²(Beil.1): 101. 1827 [Dec.], the book was available in four paper varieties: a) Druckpapier, b) Velin-druckpapier, c) Schreibpapier, d) Schweizer Velinpapier; Brunet (ed.5, 1: 1255) mentions only three paper types: "pap. fin" and "pap. vél." besides the normal paper; most copies I saw up to now were on normal paper, described here: leaf height 210 mm. (HBL copy, cut); laid, chains vertical; wm.: "J. P. W. [partly outline script]" at left bottom quarter of sheet; vol.1: complete except x, vol.2: A-G 2S-3B 3C-3F(some copies); "S P [narrow outline script]": vol.2: H-R; "[crown]" in sheet center: vol.2: S 3C 3F-3L(some copies); "B" in sheet center: vol.2: 3F-3L(some copies); plate paper: wove; no wm. observed.

Printer: no imprint (printed in Leipzig, according to *Flora* 8(22): 352. 1825 Jun.14).

Publisher: Barth, Johann Ambrosius, Leipzig (see Bridel n.4).

Dates: vol.1: i-ii 1-746: 1826 (t.-p.); trim.1 (*Linnaea* 1(2): 262-263. 1826 Apr.); vol.1: {pref.: I-XLVI} 1827 bef. 21 Nov. (*Linnaea* 2(4): 682. 1827 Oct.-Dec.); vol.1: {suppl.: 747-856} 1827 bef. 21 Nov. (*Linnaea* 2(4): 682. 1827 Oct.-Dec.); vol.2: {complete} 1827 (t.-p.); bef. 21 Nov. (*Linnaea* 2(4): 682. 1827 Oct.-Dec.; *Flora* 10 (Beil.1): 101. 1827 Dec.; *Flora* 10 (43): 688. 1827 Nov. 21).

Reviews: *Allg.Repert.Neuest.In-Ausl.Lit.* 1827³(4): 241-244. 1827 [16-31 Sep.?]; R[aspai]l: *Bull.Sci.Nat.* 12(12): 383-387. 1827 Dec.; Hornschuch, C.F.: *Jahrb.Wiss.Krit.* 1828¹(55-56): 442-448. 1828, (57-58): 449-464. 1828, (59-60): 465-472. 1828; } (see Hornschuch n.9)

Fürnrohr, A.E.: *Flora* 12²(Ergdnz.Bl.): 1-60. 1829.

Bibliogr.study: Stafleu, F.A.: *Taxonomic Literature* n.146. 1967.

Refs.: BMNH 235	Kew 77	Milt. 485
Brun.1: 1256	Krüg. 242	Fr.ed.1 n.1272, ed.2 n.1145
E.As.Bot. 53	Mass.HS-H 38	Stafl. TL n.146
Heins.7(1): 109	Mass.HS-M 1: 292	Utr. n.268.

Bibl.notes. A number of interesting problems are to be found in this book.

Firstly the date of publication was one of the three major problems which I hoped to solve, especially the relative order of publication of the parts of Schwaegrichen's *Supplement* and the volumes of this work. Particularly the suppl. to vol.1, which clearly was prepared after the main body of vol.1 had been printed, needed more exact dating than the vague indication on which the date 1827 was assigned to it in *Index Muscorum*, as well as the preface and the long introduction. These dates are fairly well settled now, although some refinement still could be achieved. Stafleu, *Tax.Lit.* n.146, discusses the possibility of a long delay in the publication of vol.1+2, until sem.2 of 1828. The reviews and announcements mentioned above, especially those in *Linnaea* (citing the text and even indicating a duplication in the numbering of the genera in vol.1) confirm the tentative conclusion used in *Index Muscorum*. Some doubt remains whether vol.1 (minus introduction and supplement) was generally available in 1826 since I know of only one review. Mougeot (which see) cited page numbers already in 1826, though from correspondence. Nevertheless, 1826 has to stand since there is no proof of the contrary.

Secondly, the large number (4) of paper states in which the book was offered is unusual. Though I was aware of the problem, I have not been able to recognize definitely different paper qualities. I am sure I did not yet see a copy on wove paper, but I might have had some copies of which I did not study the watermark and therefore may have overlooked another laid paper type. Of one of the copies in Paris (PC), I carefully searched for the watermark in a sheet of the supplement to vol.1 which was still unbound, and there was positively no watermark in that sheet; but I did not check other leaves; this may have been a copy on another paper type.

Thirdly, some cancels were found. The cancellans 2G₁ in vol.2 is very obvious because of the double page numbers, since it replaces two leaves, 2F₂ and 2G₁ cancellanda. The reason for this I learned from the GH copy. From the three species treated on the original leaves *Hypnum starkii* was assigned another place on p.595; the others, *H. laxifolium* and *H. crispifolium*, had already been treated as *Isothecium* species (p.359, 356). In the cancellans the remaining species, *Hypnum lutescens*, was assigned a combined number, 57-60. The new text contained a short discussion of the three other species. The same copy has the cancellandum X in vol.1 (as has the GRO copy), recto with corrections, verso blank, originally placed after p.746. The cancellans has recto and verso corrections, includes all corrections of the cancellandum, even corrects an earlier correction (Roggevelt had been Roggeveli in the text and Roggevelo in the cancellandum), and has a correction to the supplement, hence the place assigned to it in this collation.

Bot.notes. This work is the culmination of Bridel's studies on *Musci*. In a masterly way he treated all species known to him, arranged them in well defined genera and the genera into higher groups, elaborating his own classification of 1819. This classification is completely based on the characters of the sporophyte and surrounding organs. He used for two of his five classes the names *Acrocarpi* and *Pleurocarpi*, a time-honored distinction still useful in field work in the temperate region, though outdated in this century by the work of Fleischer and Brotherus.

Bridel proposed 40 new generic names, some illegitimate because of earlier homonyms or because types of earlier names were included. Of the remaining names several were maintained by the majority of later authors, e.g. *Archidium*, *Catocarpium*, *Ceratodon*, *Hyophila*, *Hypopterygium*, *Isothecium*, *Philonotis* and *Rhizogonium*. All species had ample descriptions, many new species were proposed as well as a considerable number of new specific combinations. Some genera were divided into groups, to which the rank of subgenus was assigned in the *Index Muscorum*, especially since trinomials were used; in the index and in the explanation to the plates these names were treated as generic names, with binomials, e.g. *Physcomitrium*. The synonymy is very extensive, with a nearly complete citation of every place where the species in question is mentioned, which was very helpful in tracing post-Hedwigian publications for the *Index Muscorum*.

The first personal name in the parentheses after a specific name in Bridel's work indicates the collector, not the author of the name.

BROWN, Robert

Biogr. Born 1773 Dec. 21, Montrose, Scotland.

Died 1858 Jun. 10, London, England.

R. Brown had his earliest education at the Montrose grammar school. He entered Marischal College, Aberdeen, at the age of 14, and obtained the Ramsay bursary in Philosophy. Going to the University of Edinburgh in 1789 to study medicine, he was more interested in natural history. He became at an early age a member of the Natural History Society of Edinburgh. At the instigation of Professor Walker he made collections of Scottish plants, on which he prepared his first publication in 1791. Military service brought him to Northern Scotland, London (where he met Banks, who allowed him free use of his collections and library) and also to Ireland.

He accepted Banks' offer to join an expedition to the coast of New Holland as a naturalist, 1801-05, under capt. Flinders. On his return he brought nearly 4,000 specimens of dried plants of which many were new to science. He published *Prodromus Florae Novae Hollandiae et Insulae Van-Diemen* ... of which only one volume appeared, London, Apr. 1810, and *Appendix No. III* to Flinders, M.: *A voyage to Terra Australis* ... , London, Jul. 1814.

He was elected associate of the Linnean Society in 1798 and soon afterwards was appointed its librarian. When his friend Dryander died in 1810 he became his successor as librarian of Banks, which ended at Banks' death in 1820. The use of his library and collections was bequeathed to him for life, with the house. In 1827 he assented to transfer the books and specimens to the British Museum (Natural History) where he was appointed keeper of the botanical collections, a position which he held till his death.

In the meantime he had become a fellow of the Royal Society (1811), and was several times elected member of its council. In 1839 the Copley Medal was presented to him, and in 1832 the honorary degree of D.C.L. from the Oxford University; in 1833 he was elected foreign associate of the Académie des Sciences of the Institut de France. Sir Robert Peel granted him an annuity of £ 200, and other honors were bestowed on him.

He described numerous new species and genera, he supported the natural classification with vigor, and defined many new plant families. Fossil botany was a favorite pursuit and he formed a valuable collection of fossil woods (bequeathed to the British Museum). Moreover he discovered the nucleus of the vegetable cell, the mode of fecundation of several species of plants, the development of the pollen and ovulum in *Coniferae* and *Cycadaeae*, and the bearing of these on impregnation in general; the relation of the flower to the axis from which it is derived, the relation of parts of the flower to each other, and the vibration of finely dispersed particles of matter in fluids, which he correctly ascribed to the impact of moving molecules and which is named after him the Brownian movement.

Though he showed a tendency to keep his own information for himself after visitors had freely talked about their knowledge (see van Steenis, *Flora Males.* ser.1, 1: XII. 1950), he had an attractive and gentle character in private life. He was commemorated in the generic name *Brunonia* J.E. Smith 1811 (*Goodeniaceae*).

Refs.: Hunt, R.: *Diot.Natl.Biogr.* 7: 25b-27b. 1886.

Farmer, J.B.: Robert Brown 1773-1858 in *Makers of British botany*: 108-125. Cambridge, 1913.

Stearn, W.T.: An Introduction ... in Brown, R.: *Prodromus Florae Novae Hollandiae* ... : xiii-xxxiii. Facsimile ed. Weinheim, Codicote, New York, 1960.

1 *Chloris Melvilliana* ...

London, 1823.

Title: "CHLORIS MELVILLIANA | [short rule] | A | LIST OF PLANTS | COLLECTED IN | MELVILLE ISLAND, | (LATITUDE 74°-75° N. LONGITUDE 110°-112° W.) | IN THE YEAR 1820; | BY THE OFFICERS OF THE VOYAGE OF DISCOVERY | UNDER THE ORDERS OF | CAPTAIN PARRY. | [short rule] | WITH | CHARACTERS AND DESCRIPTIONS | OF THE | NEW GENERA AND SPECIES. | BY | ROBERT BROWN, F.R.S. AND L.S. | MEMBER OF THE IMPERIAL ACADEMY NATURAE CURIOSORUM, OF THE ROYAL ACADEMY OF SCIENCES | OF STOCKHOLM, AND OF THE ROYAL SOCIETY OF COPENHAGEN; | CORRESPONDING MEMBER OF THE ROYAL ACADEMIES OF PARIS, | BERLIN AND MUNICH, | &c. | [medium long rule] | LONDON: | PRINTED BY W. CLOWES, NORTHUMBERLAND-COURT, STRAND. | [very short rule] | M DCCC XXIII."

Collation: 4°: a-f⁴ g²; 1-3 4-52.

Contents: 1 title; 2 reprint indication: "The following List as No. XI of the Appendix to Captain Parry's Journal of his First Voyage, commencing at page cclix."; 3-52 text, headed: "LIST OF PLANTS COLLECTED IN MELVILLE ISLAND.", and including: prefatory remarks (3-5), list of plants with descriptions of species and varieties (the latter without epithets), and with localities, a number of new genera also with descriptions, and indications of synonyms if necessary (6-49), treating phanerogams (6-35), *Musci* (36-47), *Lichenosae* (47-49), *Fungi* (49), a list of plants unique to Melville Island (50), observations on plants collected by Ross during Parry's second voyage (50-52); 52 imprint. RT: "APPENDIX. BOTANY." Language: prefatory remarks: English; text: Latin.

Plates: 4 copper-engravings, lettered A-D, of new species of plants.

Artist: Bauer, Franz [Andreas] (1758-1840), Austria, botanical artist.

Engraver: Curtis, John (1791-1862).

Paper: leaf height 248 mm. (U copy, cut); wove; no wm.

Printer: Clowes, William, London.

Publisher: probably the author responsible for the reprint.

Date: 1823 (t.-p.),
aft. 21 Apr. (*Flora* 5(15):249, 1823, anncd. to be published shortly);
bef. 31 Dec. (recd. by A.P. de Candolle in 1823 according to Kuntze);
bef. 15 Jan. 1824 (letter from Arnott to Brongniart mentioning *Aplodon*).

Reviews: Raspail: *Bull. Sci. Nat.* 5(5): 73-78. 1825 May;
Edinb. *J. Sci.* 1(1): 170. 1824 Jul. (no definite indication of reprint).

Translation: German: *Flora* 7² (Beil. 2): 65-135. 1824 (semester 2).

Refs.: Cat. Juss. n.2004	Linn. Soc. 118	Pr. ed. 1 n.1372
Kuntze: Rev. Gen. 1:	Lownd. 1: 288 ^b	Pr. ed. 2 n.1234
CXXXVIII. 1891		Stafl. TL n.163, 164.

Bibl. notes. Pre-publication issue of Robert Brown's treatment of plants of Parry's first voyage. The book from which it was reprinted is: Parry, William Edward: *A supplement to the appendix of Captain Parry's voyage for the discovery of a North-West passage in the years 1819-20, containing an account of the subjects of natural-history*. London, 1824, which was presented to the Royal Society, London, on 5 Feb. 1824 (*Philos. Trans. R. Soc.* 1824(2): 8. 1824).

Bot. notes. A number of new taxa were proposed in this report of the botanical results of Parry's first voyage: 5 genera and 37 species in *Phanerogamae*, 12 species in *Musci*, and 1 in *Lichenes*. The new taxon *Aplodon* in *Musci* has a generic description, which is immediately followed by the remark: "This subgenus of *Splachnum* ..."; its status, therefore, is ambiguous.

2 *Vermischte botanische Schriften. In Verbindung mit einigen Freunden ins Deutsche übersetzt und mit Anmerkungen versehen von Christian Gottfried Nees von Esenbeck.*
5 vols. Nürnberg, 1825-1834.

Dates: vol. 1: 1825 (t.-p.), trim. 1-3 (*Linnaea* 1(1): 103. 1826 Jan.);
vol. 2: 1826 (t.-p.), trim. 1 (*Linnaea* 1(2): 275-276. 1826 Apr.);
vol. 3: 1827 (t.-p.), trim. 1-3 (*Linnaea* 2(3): 486-487. 1827 Aug.-Oct.);
vol. 4: 1830 (Pritzel);
vol. 5: 1834 (Pritzel).

Notes. I studied the first volumes of this work. Though the collation is not complicated, the complete recording of the contents with the many translated articles of R. Brown was considered outside the scope of this thesis; the bryological parts were checked for possible annotations by C.G. Nees von Esenbeck and none were found.

BRUCH, Philipp

Biogr. Born 1781 Feb. 11, Zweibrücken, Pfalz, Germany.

Died 1847 Feb. 11, Zweibrücken.

Philipp Bruch, son of pharmacist Johann Christian Bruch in Zweibrücken, was educated in Mainz for pharmacist, studied in Marburg and Paris, and inherited his father's pharmacy when he was 21. The shop thrived under his hands, leaving him time for botany. He was further encouraged in his study when D.J. Koch, author of a synopsis of German and Swiss flora, presented him with a model herbarium. He studied especially mosses and his observations on *Orthotrichum* were incorporated in Bridel's *Bryol.Univ.* 1 (Suppl. 1827). He received visits from other bryologists, e.g. Fühnrohr, who stayed with him for a whole summer. Later he began in collaboration with W.P. Schimper from Strasburg the *Bryologia Europaea*, a master piece, W.T. Gümbel collaborating afterwards. The work was continued after Bruch's death, mainly by the energy of Schimper. In 1835 he lost his only child, a married daughter, and four grandchildren by death, which touched him deeply. His health began to deteriorate and he died on his 66th birthday. He was commemorated in the names of two moss genera: *Bruchia* Schwaegrichen 1824 (*Musci*, *Dicranaceae*), and *Bruchia* Hornschuch 1825 (*Musci*) which includes the type of the conserved name *Platygyrium* Bruch, Schimper & Gümbel (*Musci*, *Hypnaceae*).

Refs.: Gümbel, W.T.: *Jahresber.Pollichia* 5: 10-20. 1847.

Carus: *Allg.Deutsche Biogr.* 3: 375-376. 1876.

1 Versaichniss [der] Laubmoose von Zweibrücken und Umgehung.

Flora 7(48): 760-765. 1824 Dec. 24.

Date: issue dated; see *Flora*.

Note. Study on the mosses of the local region.

2 Bemerkungen über *Phascom alternifolium* Dicks.; *Ph. subulatum* Schreb. und *Ph. globiferum* Bruch.

Flora 8(18): 273-285. 1 pl. 1825 May 14.

Date: issue dated; see *Flora*.

Note. Observations on three related species, of which the original type of Dickson was not studied, leading to much confusion in generic names later.

3 Ueber *Sphagna*, nebst Bemerkungen zu den in Nr. 88[sic for 28] der botan. Zeitung für 1824 durch Inspektor Breutel mitgetheilten Beobachtungen.

Flora 8(40): 624-635. 1825 Oct. 28.

Date: issue dated; see *Flora*.

Note. Critical treatment of peat-mosses, including a new species *Sphagnum molluscum* (635).

4 *Bryologische Beobachtungen.*

Flora 9(11): 161-166. 1826 Mar. 21.

Date: issue dated; see *Flora*.

Note. Discussion of the mosses *Tetraphis ovata* and *T. Browniana* (now *Tetradontium brownianum*). 161-163, and *Meseta*, 163-166.

5 *Correspondenz.*

Flora 9(14): 222-223. 1826 Apr. 14.

Date: issue dated; see *Flora*.

Note. Includes bryological remarks.

6 Ueber einige Laubmoose.

Flora 10(12): 176-182. 1827 Mar. 28.

Date: issue dated; see *Flora*.

Note. Determination of mosses collected by Salzmann, in Spain and Tangier, and not mentioned in Bridel, *Bryol.Univ.*; a number of supposedly new species were described, but no specific epithets were given.

BUCH, Christian Leopold von

Biogr. Born 1774 Apr. 26, Stolpe (castle) near Angermünde, Uckermark, Germany.
Died 1853 Mar. 4, Berlin.

Christian Leopold von Buch, Freiherr von Gellmersdorf, Schöneberg, etc., began the study of mineralogy in Berlin in 1789. He continued in Freiburg from 1793 till 1796, living in the house of the well-known A.G. Werner (1750-1817), the militant leader of the Neptunist school in geology. Being of independent means, von Buch was able to travel widely in Europe and later to visit the Canary Islands, collecting plants and studying results of volcanic activity. Gradually he became convinced of Plutonism. He made fundamental geological studies of the South German Jura Mountains.

He had been nominated an extraordinary member of the Akademie der Wissenschaften at Berlin in 1806, a full member in 1808, and also a corresponding member of the academies of Paris and London.

He was interested in all branches of natural history; these interests, probably, helped him to stress the importance of guide-fossils. One of his latest publications was a study on nerves of fossil leaves as a help in determination.

His name was commemorated in the generic name *Buchia* Humboldt, Bonpland & Kunth 1818, now considered a synonym of *Perama* Aublet 1775 (*Rubiaceae*).

Refs.: Gumbel: *Allg. Deutsche Biogr.* 3: 464-475, 1876.
Quenstadt, W.: *Neue Deutsche Biogr.* 2: 697, 1955.

Physicalische Beschreibung der Canarischen Inseln.

1 text-vol. Berlin, 1825; 1 plate-vol. Berlin, [1826-1831].

Title: text-vol.: "PHYSICALISCHE BESCHREIBUNG | DER | CANARISCHEN INSELN | VON | LEOPOLD VON BUCH. | [short swelled wavy rule] | BERLIN, | GEDRUCKT IN DER DRUCKEREI DER KOENIGLICHEN AKADEMIE | DER WISSENSCHAFTEN. | [short thick-thin rule] | 1825."
plate-vol.: "[double frame of laurels in 8 pieces] | ATLAS | ZUR PHYSICALISCHEN BESCHREIBUNG | DER | CANARISCHEN INSELN | VON | LEOPOLD VON BUCH | [short swelled decorated rule] | BERLIN, | GEDRUCKT IN DER DRUCKEREI DER KOENIGLICHEN AKADEMIE DER WISSENSCHAFTEN | [short thick-thin rule] | 1825."

Collation: text-vol.: 4^o: *⁴ A-3E⁴ 3F² (\$\frac{1}{2}\$y signed); i-viii 1 2-411 412 (53-55 61-63 91-93 105-107 200-203 320-323, 409-411 as '405'-'407'); plate-vol.: 2^o [?]: w² (wrapper-paste-down) 1¹ (paste-down).

Contents: text-vol.: i half-title; ii □; iii title; iv □; v-vi preface headed: "Vorrede.", signed 28 May 1825; vii contents; viii □; 7-52 introduction; 53 section title; 54 □; 55-60 text of section 1, statistical survey of the Canary Islands; 61 section title; 62 □; 63-90 text of section 2, climate; 91 section title; 92 □; 93-104 text of section 3, altitude measurements; 105 section title: "IV. | Uebersicht | der | Flora auf den Canarischen Inseln. | [short swelled wavy rule]"; 106 □; 107-199 text of section 4, flore of the Canary Islands, including lists of plants: a) wild plants on the Canary Islands (137-159) with descriptions of new or rare species signed by Link or Choisy and an occasional description by A.P. de Candolle, b) wild plants arranged according to the "regions", altitudinal zones (160-185), c) endemic plants (186-188), and d) a list prepared by Robert Brown, of the plants growing wild on Madeira (189-199), this list headed: "Verzeichniss | der auf Madeira wildwachsenden Pflanzen." and accompanied by the following note: "Anmerkung. Dieses Verzeichniss ist schon vor vielen Jahren, von Herrn Robert Brown aus Masson's Journal, den Londner Herbarien und aus einige Tage eigener Ansicht, zusammengetragen und mir gütigst mitgetheilt worden. Es bleibt immer noch bei weitem das vollständigste und ohne Vergleich das zuverlässigste. ..."; it is the only list including non-vascular cryptogams (198-199); 200 □; 201 section title; 202 □; 203-319 text of section 5, geognostic description; 320 □; 321 section title; 322 □; 323-411 text of section 6, concerning the nature of the volcanic phenomena on the Canary Islands in connection with those in other regions; 412 correction;

plate-vol.(atlas): title pasted to the recto front cover; explanation of the plates to the verso front cover, list and explanation of the plates I-XIII, with remark to pl.(Fig.) I: can be delivered by the engraver only after a few years, and to pl.(Fig.) II: awaits its completion by the engraver too; no explanation or mention of the botanical plate; paste-down on the verso back cover has a printed frame similar to that of the title, but no text.

RT (text-vol.): short section title; in botanical part: "*Uebersicht der Flora | auf den oeanarischen Inseln.*" Language: German, with descriptions of new or insufficiently known plant species in Latin.

Plates: 8 engravings, of which one view of mountains has a color-surface added of a mezzotint character; the botanical plate is mainly stipple-engraving, the other plates are maps, cross-sections, or views of volcanic islands; 2 lithograph plates, printed on special paper which was pasted to the large broadsheets of the atlas volume (the larger plate in fact consisting of 2 lithographs pasted closely together); individual "Figuren" numbered 1 3-13; the botanical plate at the end unnumbered, marked "LAURUS foetens", flowering branch and fruit details; plate-mark of bot.pl. absent, leaf cut at enclosing lines and pasted to a larger leaf.

Artist: pls. unsigned.

Engraver: Tardieu, Pierre, Paris: pl.1; remaining pls. unsigned.

Paper: text-vol.: leaf height 391 mm. (UB Utrecht copy, cut); wove; wm.: "H. OSER [at left bottom of sheet] = IN BASEL [right bottom of sheet, all letters in outline]"; plate vol.: outside paste-downs buff-colored; explanation paste-down not checked; plate-paper: engravings wove, no wm.; lithographs and botanical plate pasted to larger leaves, not checked; leaf height of bot. pl. 449 mm. (UB Utrecht copy).

Printer: printer of the Königl. Akademie der Wissenschaften, Berlin, Germany.

Publisher: privately issued by the author; not in trade; copies in libraries are usually inscribed by the author as presentation copies.

Bot.collaborators: Brown, Robert (which see): list of Madeira plants; de Candolle, Aug.Pyr. (which see): a few descriptions; Choisy, Jacques Denys (1799-1859), Genève: a number of descriptions; Link, Heinrich Friedrich (1787-1851), Berlin: most descriptions.

Dates: text-vol.: 1825 (t.-p.), after 28 May (pref.); plate-vol.: "Fig."3-13: 1826, bef. 22 Apr. (*Gött.Gel.Ans.* 1(64):625-634. 1826); "Fig."1 not before 1831 (inscription "*Gravée ... en 1831.*"); "Fig."2 never published; date of bot. pl. not ascertained.

Reviews: *Gött.Gel.Ans.* 1(64): 625-634. 1826 (stated that the text was published some time ago); *Istis* (Oken) 22(7): 695-702. 1829.

Refs.: Arn.Arb.	BMNH 274	Brun.1: 1367	Pr.ed.1 n.1455
1: 120a	Bradl.1: 497a	Graesse 1: 562	Pr.ed.2 n.1308.

Variants: My colleague of the HBL, Dr. G. Buchheim, informed me that he saw copies of the atlas with a larger leaf with explanations in another type-setting.

Translation: A French translation of the botanical part was published in *Archives de botanique* 1, apparently in two fascicles.

I saw an undated copy of a separate: "*Coup d'oeil sur la flore des îles Canaries*", 56 p., 8°, the second part (29-56) with the title: "*Catalogue des plantes spontanées qui ont été jusqu'ici trouvées dans les îles Canaries*." The article probably was translated by Adrien de Jussieu, since the French introduction is signed "A. J." and contains a reference to the herbarium of the Muséum d'Histoire Naturelle at Paris.

Bibl.notes. Reprint in book form of earlier essays of Buch on the Canary Islands, with additions. The botanical part was already published as: "*Allgemeine Uebersicht der Flora auf den Canarischen Inseln*," *Abh. Physik. Klasse Kön. Preuss. Akad. Wiss.* 1816-1817: 337-382, 383-384. 1819. The latter pages had the supplement: "*Nachtrag zur Abhandlung über die Flora auf den Canarischen Inseln*." On p. 372 R. Brown's list of Madeira plants was given, only containing 18 phanerogams and no cryptogams.

The bibliographical format of the atlas, usually stated as folio, might be broadsheet. However, I have no certainty, since no gatherings are present; the explanation leaf could have been printed as a single broadsheet as well as half folio sheet. The larger type-setting state points more to broadsheet.

Bot.notes. This work is important for the geology of the Canary Islands; its flora was checked because of a reference to the name *Fissidens bryoides* var. *giganteus*. This name is present on p. 199 in the list of Madeira plants, attributed to Robert Brown; a description is absent. The name was validated in Bridel, *Bryol. Univ.* 2: 688. 1827 by a short description. The *Laurus foetidus* of the botanical plate is mentioned on p. 140 without a description or a reference to the plate, but with the synonym "(*Til*, [sic] *maderensis* Lam.)". The introduction gives botanical notes in biographies of travelers who visited the Canary Islands, esp. in that of Christian Smith (1785-1816).

CAMBESSÈDES, Jacques

Biogr. Born 1799 Aug. 6, Montpellier, France.

Died 1863 Dec. 20, Férussac, near Meyrueis, dép. Lozère, France.

Cambessèdes began the study of law at Aix in 1818; he changed to medicine at Montpellier in 1819. In 1822 he went to Paris, and he made connections with the foremost naturalists there. He undertook a botanical journey to the Landes, Pyrenees, the Balears, and visited on his return the "Massif Central". The results were published in 1827. He collaborated with A. de Saint-Hilaire for the *Flora Bras. Merid.* Entering the "garde nationale parisienne" after the 1830 revolution, he became captain and was a "guide de camp" to general Mathieu Dumas. In 1831 he obtained an appointment as "aide-naturaliste" at the Muséum d'Histoire Naturelle, Paris, to justify his staying in Paris to his father, who wanted him to return to his country-seat. At the Muséum he classified the collections of Victor Jacquemont (1801-1832) from 1833-35.

The death of his father caused him to leave Paris and to devote himself to the care of the country-seat "Pradines" in the "Causse-Noir", Cevennes. He applied his scientific knowledge now to agriculture and introduced new crops and better methods. In 1855 he moved to Férussac, to devote his energy to improve another property. Throughout his agricultural period he remained strongly interested in natural history, and guided visiting naturalists to the Cevennes area.

His well kept herbarium was left to the "Faculté des Sciences" at Montpellier. His name was commemorated in the generic names *Cambessèdea* Kunth 1824, *nom. rej.*, now a synonym of *Buohania* Spreng. (*Anacardiaceae*), and *Cambessedesia* A.P. De Candolle 1828, *nom. cons.* (*Melastomataceae*).

Refs.: Planchon, J.E.: *Notice sur la vie et les travaux de Jacques Cambessèdes*. [separate.] 44 p. Mende, 1865.

Also in: *Bull. Soc. Bot. France* 10: 543-584. 1865.

Le Tourneur, St.: *Diet. Biogr. Frang.* 7: 953-954. 1956.

1 *Enumeratio plantarum quas in insulis Balearibus collegit ...*

Paris, 1827 [separate].

Title: "ENUMERATIO PLANTARUM | QUAS | IN INSULIS BALEARIBUS | COLLEGIT | J. CAMBESSEDES, | SOCIET. PHILOM. ET HIST. NAT. PARIS, | EARUMQUE | CIRCA MARE MEDITERRANEUM | DISTRIBUTIO GEOGRAPHICA, | [swelled rule] | PARISIIS, | EX TYPIS A. BELIN, VIA MATHURINENSIIUM, N° 14 | [very short rule] | 1827."

Collation: 4°: π^2 1-21⁴ (9, as '8'); i-iv 1 2-168 (6 28-29 163 165, 105 as '107', 106 as '108', 107 as '105', 108 as '106', 109 as '111', 110 as '112', 111 as '109', 112 as '110').

Contents: i half-title; ii □; iii title; iv □; 1-5 "Avertissement."; 6-27 introduction; 28 sources; 29-162 text, list with descriptions and synonymy and occasionally long discussions of the species collected in the Balears; 163-164 corrections and additions; 165-168 alphabetical index of generic names. RT: names of plant groups, e.g.: "DICOTYLEDONES | ANONACEAE.-NYMPHAEACEAE.", or chapter headings. Language: text in French, descriptions in Latin.

Paper: sheet size 547 × 418 mm. (gathering 19, PMusBC copy); laid, chains horizontal; wm.: "T [small triangle]. A [partly outline]".

Plates: 9 copper-engravings, each numbered in right top corner: "Pl. 1" - "Pl. 9" as well as in left top corner: "Tom. 14 Pl. 10" - "Tom. 14 Pl. 18", illustrating the following plant species:

- | | |
|---|---|
| 1: <i>Brassica Balearica</i> [sic] Pers., | 6: <i>Lotus tetraphyllus</i> Linn.fil., |
| 2: <i>Helianthemum serrae</i> Nob., | 7: <i>Helichrysum lamarckii</i> Nob., |
| 3: <i>Silene dietricha</i> Wild., | 8: <i>Helichrysum fontanesii</i> Nob., |
| 4: <i>Silene villosa</i> var. <i>nana</i> , | 9: <i>Disandra africana</i> Nob. |
| 5: <i>Genista lucida</i> Nob., | |

Artists, engravers: plates unsigned.

Printer: Bélin, A., Paris.

Date: 1827 (t.-p.), bef. 2 Jun. (*Bibliogr.France* 16 (44): 461. 1827).

Review: *Isis*(Oken) 21(7): 663-671. 1828.

Bibliogr.study: Stafleu, F.A.: *Taxonomia literature* n.190. 1967.

Refs.: Arn.Arb.1: 132	Jacks. 341	Linn.Soc. 137
Bradl.1: 420 ^a	Kew 95	Pr.ed.1 n.1636
Cat.Juss. n.1669	Lindl.Libr. 65	Pr.ed.2 n.1432.

Bibl.notes. Separate of n.2, with new title leaves and independent pagination. Pre-publication seems to be indicated by the nearly 4 weeks difference in the announcements of separate and fascicle of the periodical in *Bibliogr.France*. However, the periodicals are listed quarterly. Another indication is present in one copy of the periodical (see n.2).

The first announcement states that the separate was printed in 100 copies which were not for sale.

Bot.notes. Important paper for the region, the first one with long discussions and descriptions of the species. Older records were critically reviewed. The species were compared with Mediterranean relatives. New species and combinations were proposed. One new moss species, *Didymodon subulatus*, p.160, n.665, was overlooked by bryologists. For the names of phanerogams checked the *Index Kewensis* refers to the periodical. The *Index Londinensis* (Stapf) refers to both separate and periodical except for plate 1, where only the citation of the periodical is given.

2 *Enumeratio plantarum quas in insulis Balearibus collegit ...*

Mém. Mus. Hist. Nat. Paris 14(9)-(10): 173-335. 1827.

Head-title: "[full thick-thin rule] | ENUMERATIO PLANTARUM | QUAS IN INSULIS
BALEARIBUS COLLEGIT | J. CAMBESSEDES | SOCIET. PHILOM. ET HIST. NAT. PAR.
| EARUMQUE CIRCA MARE MEDITERRANEUM DISTRIBUTIO GEOGRAPHICA. | [rule]".

Collation: 4°: fasc.[9]: 23-32^h; 173 174-252 (178 200 207);
fasc.[10]: 33-42^h 43^{1,2r}; 253-335.

Contents: 173-177 preface: "AVERTISSEMENT."; 178-199 introduction; 200 sources:
"Liste des auteurs cités les plus fréquemment pour la | géographie des
plantes des Baléares."; 201-333 text, headed: "ENUMERATIO PLANTARUM | IN
INSULIS BALEARIBUS NASCENTIUM", enumeration of species collected in the
Balears, with the descriptions of a number of species either new or not
sufficiently known at the time; 334-335 corrections and addenda. RT:
chapter headings; in the taxonomical part names of class and family, e.g.:
"DICOTYLEDONES. | GERANIACEAE." Language: French, with Latin descriptions.

Plates, artists and engravers: see n.1.

Paper: see Mém.Mus.Hist.Nat. Paris.

Printer: Bélin, A., Paris.

Publishers: Muséum d'Histoire Naturelle, Paris;
Bélin, A., Paris.

Date: 1827 (t.-p. vol.); trim.2, bef. 27 Jun. (*Bibliogr.France* 16 (51): 540.
1827 Jun. 27; see *Bibl.notes*).

Review: *Bot.Lit.Blätt.* 1: 41-47. 1828.

Refs.: Bradl.1:423^a RSC 1: 772.

Bibl.notes. The announcement in *Bibliogr.France* mentions fascicles 8-12 of the periodical together, and is nearly 4 weeks later than the announcement of the separate. However, the periodical fascicles were listed quarterly except for the first fascicle in the year. Hence the different fascicles 8-12 could have been published sometime in the second quarter of 1827. The break between fascicles 8 and 9 is indicated in the Teyler copy by the place of plates 10-14, which apparently were bound in at the end of fascicle 8.

An indication of earlier printing of the separate is a set of mistakes in one gathering of the copy of the periodical at the Bibliothèque Central du Muséum d'Histoire Naturelle, Paris, the publishing institute. Gathering 41 was missigned '19' and its pages were completely misnumbered: '145'-'152', exactly those of the corresponding gathering of the separate. If the whole edition of the periodical had the wrong numbers, it would be proof that the separate was a preprint (the compositor would have forgotten to change these numbers from the earlier printed separate). However, I checked another copy of the periodical (Teyler, Haarlem) which has the correct signature and page numbers. This difference can be explained in two ways: the Paris copy was made with an incidental sheet from the wrong pile, or the mistakes were corrected by stop-press corrections after the sheets of the Paris copy had been assembled. In the last case the separate was printed earlier, and an argument for this possibility is that the copy of the Muséum will have belonged to an early set of copies. Nevertheless it is quite possible that fasc.9 of the periodical was published before the separate or fasc.10.

I hoped to find an answer in contemporaneous financial documents of the Muséum, but in the short time at my disposal I was unable to check the existence of such documents in the Archives Nationales, Paris. The matter is worth further investigation.

Bot.notes. The contents do not differ from those of the separate, except for the page numbers which, of course, are 172 higher. The moss species, *Didymodon subulatus*, is described on p.332. Further see n.1.

CANDOLLE, Augustin-Pyramus de

Biogr. Born 1778 Feb. 4, Genève, Switzerland.

Died 1841 Sep. 9, Genève.

A.-P. de Candolle was born in an influential family in the government of the republic of Geneva, a stronghold of Protestantism. His youth was spent in Geneva; in June 1792 he entered the "auditoire de belles-lettres" of the "Académie" at Geneva, while a French army threatened the city. A revolution in Dec. 1792 replaced the government by a provisional council; the father of de Candolle retired to Champagne, a small village near Neuchâtel (Switzerland), where he had bought a country-seat.

De Candolle became interested in botany through a course of lectures by Vaucher (Jean Pierre Étienne, 1763-1841, professor of theology in Geneva, a well-known algologist), attending only a few of the first lectures. He studied the plants at Champagne without knowing any plant name or classification, therefore without prejudice, and with the mind open for a natural classification. He completed his studies in Geneva with a course in philosophy and sciences, and departed in March 1798 for Paris, because the independence of Geneva was threatened and indeed lost some months later, which reduced the chances for his future there.

In Paris he studied botany actively, and he laid many contacts with scientists. He studied in several herbaria, especially of L'Héritier, and of the Museum. He wrote some articles for Lamarck's *Encyclopédie méthodique, Botanique*, and the text to the famous work *Histoire des plantes grasses*, illustrated by Redouté, which he prepared under the guidance of Desfontaines. He married Fanny Torras, of Genevan descent, in Paris, 4 Apr. 1802. To earn a living, he accepted Lamarck's offer to prepare a new edition of the *Flore française*, which he completed in 1805. In the meantime he lectured on natural history in Cuvier's place at the Collège de France, taking plant physiology as his topic. He received the degree of Doctor of medicine from the École de médecine in 1804. After the completion of the new edition of the *Flore française* he prepared with the help of some friends a cheap extract, *Synopsis plantarum in Flora Gallia descriptarum*, at the request of the publisher, to compete with another botanical book which was purported to be an extract too.

The French government charged him to travel in botanically "white" regions of the map of France, to study the botany and agriculture. Candolle applied for membership of the Académie, then Institut, de France, first to fill the list of required candidates, later hoping to obtain a place. This hope was not fulfilled, owing to intrigues in Paris, in connection with his religion. In 1807, at the death of Broussonet, a professorship at Montpellier was offered to de Candolle, which he first refused, since he preferred to continue his botanical travels in France. Finally he accepted, when he had the choice between both or nothing. He was appointed 15 Jan. 1808.

He organized his courses in botany in Montpellier during the spring, to be able to travel during summer. He was able to expand the botanical garden, and he prepared a number of books in Montpellier, including his *Théorie élémentaire*, and the beginnings of his "*Systema*": *Regni vegetabilis systema naturale*, 1818-1821. During the royalist government of 1813 he applied for the position of Rector of the University, which was left open because the candidate of the predominant religion was insignificant. He was nominated by the government of Napoléon's return (the "Hundred days"), and managed to have the University undamaged through this difficult time, in which partisan feelings ran high in France. He received a congratulation on this from an official of the second restoration government on his report to the Napoleonic government. Nevertheless, he was dismissed as rector, and religious zealots exploited minor details to discredit him.

De Candolle preferred a professorship in natural history in Geneva, though his income there was considerably lower than in Montpellier. He began his lessons in Geneva in the autumn of 1816, but was nominated as from 1 Jan. 1816, to be reimbursed for the move of his library and herbarium. He became director of the botanical garden in Geneva in 1817, and spent the rest of his active life there, except for a number of travels in Europe and a course in botany in Montpellier in 1817. In Geneva he filled a number of other posts, in the Council of the republic,

Rector of the University, and in some social organisations in which he was interested. Likewise he had already early in his Paris period founded a charitable society (Société philanthropique) and one for the encouragement of industry (Société pour l'encouragement de l'industrie nationale).

He suffered from illness and retired from active life in 1835, becoming "professeur honoraire". He realized that he would not be able to finish his life-work, the *Prodromus systematis naturalis regni vegetabilis*. He was survived by his only remaining child Alphonse L.P.P. de Candolle, botanist in his own right.

His collections came to the "Conservatoire et Jardin botanique de Genève". Several genera were dedicated to him: *Candollea* Mirbel 1803, according to Christensen, *Index Filicum*, a synonym of *Cyolophorus* Desvaux; *Candollea* Labillardière 1805, *nom. rej.*, = *Stylidium* Swartz *nom. cons.* (*Stylidiaceae*); *Candollea* Labillardière 1806 (*Dilleniaceae*); *Decandolia* Bastard 1809, *nom. illeg.*, including the type of *Agrostis* L. (*Gramineae*); *Candollea* Raddi 1818, including species of the genera *Plagiochila* Dumortier and *Radula* Dumortier, *nom. cons.* (*Hepaticae*).

Ref.: Candolle, Aug. P. de: *Mémoires et souvenirs de Augustin-Pyramus de Candolle ... écrits par lui-même et publiés par son fils*. Genève, 1862. XVI, 599 p. 8°. This includes a bibliography and a number of lists such as of left manuscripts and botanical plates, numbers of new species described, generic names dedicated to persons, and a list of other biographies.

1 Organographie végétale ...

2 vols. Paris, 1827.

Title: "ORGANOGRAPHIE | VÉGÉTALE, | OU | DESCRIPTION RAISONNÉE DES ORGANES | DES PLANTES, | POUR SERVIR DE SUITE ET DE DÉVELOPPEMENT A LA THÉORIE | ÉLÉMENTAIRE DE LA BOTANIQUE, ET D'INTRODUCTION A LA | PHYSIOLOGIE VÉGÉTALE ET A LA DESCRIPTION DES FAMILLES; | AVEC 60 PLANCHES EN TAILLE-DOUCE; | PAR M.^r AUG.-PYR. DE CANDOLLE, | Membre du Conseil souverain de la République et Canton de Genève, | Professeur d'Histoire naturelle à l'Académie, Directeur du Jardin | botanique, Membre de la Société de Physique et d'Histoire naturelle, | Président de la Société des Arts de Genève; | [new paragraph:] Associé étranger de l'Académie des Sciences de l'Institut royal de France, | des Sociétés royales de Londres et d'Édimbourg, des Académies royales de | Copenhague, Munich, Naples, Stockholm, Turin, de l'Académie C. L. C. | des Curieux de la Nature, de l'Académie royale de Médecine de Paris, | des Sociétés d'Horticulture de Londres, d'Agriculture de Paris, Moscou, | etc., de la Société helvétique des Sciences naturelles, etc., etc., etc. | TOME I.^{er} [vol.2: TOME II.] | [swelled rule with fancy middle part] | A PARIS, | CHEZ DETERVILLE, LIBRAIRE, | RUE HAUTEFEUILLE, N.^o 8. | 1827."

Series-title: "COURS DE BOTANIQUE. | [long wavy rule] | PREMIÈRE PARTIE. | [long wavy rule] | ORGANOGRAPHIE. | [short double rule] | VOLUME I.^{er} [vol.2: VOLUME II.]"

Collation: 8°: vol.1: π^2 a⁸ 1-35⁸(-35_g); i-v vi-xx 1 2-558 (xv 4 5); vol.2: π^2 1-19⁸; i-iv 1 2-304 (261 289).

Contents: vol.1: i series-title; ii addresses of four booksellers in different countries where the book is available; iii title; iv imprint; v-xiv preface, dated "30 septembre 1826."; xv-xx contents of vols.1-2; 1-558 text, introduction and organography through "organes reproducteuses (structure des fleurs)"; vol.2: i series-title; ii list of booksellers as in vol.1; iii title; iv imprint; 1-260 text, concluded, "organes reproducteuses (structure du fruit)" to end; 261-288 explanation of the plates; 289-304 index of names of genera and families. RT: subject indications, e.g.: "ORGANES ÉLÉMENTAIRES." Language: French.

Plates: 50 copper-engravings, mainly line-engravings, some with roulette-stippling, including 3 folded plates, numbered: "Pl.1."-"Pl.60.", illustrating morphology and organography of plants, including a few *Fungi*.

Artists: de Candolle, Alphonse Louis Pierre Pyramus (1806-1893), Swiss botanist, son of the author: pls. 4 and 43;
 Heyland, Jean Christophe (1792, Frankfurt a.M. -1866 Aug. 29, near Genève), painter and water-colorist (biogr.: Bénézit 4: 695. 1955): all plates except pls. 4, 10, 33, 37, 43, 44, 55-59; partly only: pls. 34, 48;
 Moricand, Moïse Etienne (1779 - 1854 Jun. 26), botanist: pl. 37;
 Nodé Vêran, Montpellier, draughtsman (trained by A.P. de Candolle, *Mémoires* 208, 213, 1862): pls. 10, 33, 55-59; partly pl. 34;
 Redouté, Pierre Joseph (1759-1840), botanical artist (biogr.: Stafleu, F.A. in *Cat. Redouteana* p.1-31. 1963): pl. 44; partly pl. 48;
 Turpin, Pierre Jean François (1775 Mar. 11, Vire, France -1840 May 1, Paris), botanist: partly pl. 34.

Engravers: Plée père [Sr., Auguste? fl. 1801-1827];
 Plée (fil.), F[rançois], fl. 1827-35 (Bénézit, 6: 725. 1956);
 all plates signed: "*Plée père et F. fils sc.*"

Paper: leaf height 207 mm.; laid, chains vertical; wm.:
 "D[script]": majority of vol.1, some leaves in vol.2;
 "AD [...] serces[script, AD in monogram]": majority of vol.2, some leaves in vol.1;
 "V[script]": last part of vol.2 and gath. a of vol.1;
 plates: white, thicker than of text; laid with wm."M[script]" near border: pls. 1-13, 16-20, 23-60; or wove without wm.: pls. 14, 15, 21, 22.

Printer: Moëssard, Adrien.

Publisher: Déterville, Paris.

Date: 1827, bef. 25 Apr. (*Bibliogr.France* 1827(33): 350. 1827).

Reviews: Duby: *Bibl.Univ.Sci.* 35(5): 65-83, (6): 112-128, (7): 216-234. 1827;
 Guillemin: *Bull.Sci.Nat.* 11(6): 247-251. 1827;
Linnaea Litt.Ber. 3(1): 12. 1828;
 Isis (Oken) 21(10): 970-971. 1828;
 Bartling: *Gött.Gel.Ans.* 1829, (58/59): 572-582. 1829;
 Link, H.F.: *Jahrb.Wiss.Kritik* 1829²(19): 148-152, (20): 153-156. 1829;
Edinb.Review 99 (not seen); [translated in:]
Antologia Straniera Giorn.Sci.Torino 1(1): 65-77, (2): 161-177. 1830;
J.Savans Paris 1833(4): 243-250. 1833;
 de Candolle, A.P.: *Mémoires* ... 391-392. 1862.

Refs.: Arn.Arb.1: 138	Kew 99	Pr.ed.1 n.2269
BMNH 311	Krüg. 71	Pr.ed.2 n.1501
Bradl.1: 100b	Linn.Soc. 143	Teyl. 320
Brun.1: 1538	Milt. 49	Un.Edinb.1: 671.
Cat.Juss. n.715	Niss. n.326	

Bot.notes. Fundamental textbook for its period, giving a wealth of details concerning the organs of plants, their structure, and indicating the functions. Many of de Candolle's own observations were included; his opinions on unsettled questions were sometimes very carefully expressed and further observations were suggested; some other opinions were later found to be incorrect. The structure of mosses is discussed in vol.1: 367-374 (de Candolle doubted the report of stomata in *Splachnum* capsules); the structure of hepatics is treated in vol.1: 374-377, the reproduction of mosses in vol.2: 142-152, and that of hepatics in vol.2: 152-157. The German translation is treated below; an English translation by Kingdon was published in London in monthly parts from Feb. 1839 to Mar. 1840 (not seen).

2 *Organographie der Gewächse ...*

2 vols. Stuttgart & Tübingen, 1828.

Title [in gothic]: "August Pyramus De Candolle's | Organographie der Gewächse | oder | kritische Beschreibung | der | Pflanzen=Organe. | Eine | Fortsetzung und Entwicklung [vol.2: Entwicklung] der Anfangsgründe der Botanik | und Einleitung zur Pflanzen=Physiologie und der Beschreibung | der Familien. | Mit 60 Steintafeln. [line absent in vol.2] | Aus dem Französischen Übersetzt | und | mit einigen Anmerkungen versehen | von | Dr.[roman] Carl Friedrich Meisner, [vol.2: Carl Friedrich Meisner[gothic] M.D.[roman]] | Mitglied der allgemeinen schweizerischen Gesellschaft für die Naturwissenschaften. [vol.2: ordentl. öffentl. Professor der Physiologie und allgemeinen Pathologie an der | Universität zu Basel; der allgemeinen schweizerischen Gesellschaft für die | Naturwissenschaften Mitglied.] | [short swelled rule] | Erster Band. [vol.2: Zweiter Band.] | [full swelled rule] | Stuttgart und Tübingen, | in der J. G. Cotta'schen Buchhandlung. | 1828."

Series-title [in gothic]: "A. P. De Candolle's | Vorlesungen | über die | Botanik. | [short swelled rule] | Erster Theil. | Organographie. | [very short thin rule] | Erster Band. [vol.2: Zweiter Band.] | [full swelled rule] | Stuttgart und Tübingen, | in der J. G. Cotta'schen Buchhandlung. | 1828."

Collation: 8°: vol.1: *⁸(unsigned) 2*⁴ 3*² 1-31⁸(-31⁸); I-V VI-XXVIII
 1 2-491 492-494 (XV XXV 3 8 24 49 53 63 73 78 81 85 100
 104 107 110 112 116 119 121 122 204 227 314 339 343 395);
 vol.2: π⁴(-π⁴) 1-16⁸ 17-18⁴ 19²(-19²); I-V VI 1 2-273 274
 (61 102 108 156 157, 65 as '56').

Contents: vol.1: I series-title; II □; III title; IV □; V-XIV preface of the translator, dated 31 Dec. 1827; XV-XXIV preface; XXV-XXVIII table of contents to vol.1; 1-491 text, introduction and organography through structure of flowers; 492 □; 493-494 corrections;
 vol.2: I series-title; II □; III title; IV □; V-VI table of contents to vol.2; 1-226 text concluded, structure of fruits to end; 227-252 explanation of plates; 253-273 index of plant names; 274 corrections.

Plates: 60 lithographs, numbered 1-60, copied from the French edition.

Artists: see n.1; however, these plates unsigned, but the names stated in the explanations.

Engraver(s): plates unsigned; not ascertained.

Paper: leaf height 210 mm. (HBL copy, cut); laid, chains vertical; no wm.; plates: wove; as fold-outs tipped to leaves (which have chain-lines horizontal, wm.: "[unicorn]" and countermark [?] "Niederohm[script]").

Printer: not ascertained (far from Berne, probably in Germany).

Publisher: Cotta, J.G., Stuttgart & Tübingen, Germany.

Translator: Meisner or Meissner, Carl Friedrich (1800-1847), Swiss botanist who studied under A.P. de Candolle (biogr.: de Candolle, Alph.: *Bull.Soc.Bot. France* 21: 279-283. 1874).

Date: 1828 (t.-p.). in or shortly bef. Jul. (*Jahrb.Wiss.Kritik* 1828² (wrapper Jul. fasc.) announced as "soeben erschienen").

Review: *Linnaea Litt.Ber.* 3(4): 171. 1828.

Refs.: Arn.Arb.1: 138 ^a	Heins.8(1): 166 ^b	Milt. 49	Fr.ed.1 n.2269
Bradl.1: 100 ^b	Krüg. 71	Niss. n.326	Fr.ed.2 n.1501.

Notes. German translation with many additional footnotes by the translator, giving information on the points discussed, especially from German authors, but also from others, e.g. Robert Brown's observations on the leaves of *Euxbaumia* and *Fissidens* (p.322 and 323), not mentioned by de Candolle, and observations on the presence of stomata in moss capsules.

CASSEBEER, Johann Heinrich

Biogr. Born 1785 ... , Gelnhausen, Germany.

Died 1850 Apr. 21, Bieber, Germany.

Cassebeer was a pharmacist in Gelnhausen. He was interested in mosses, and began an exsiccata series in 1814. Later he experimented extensively with germination of moss spores and though his approach to the experiments was sound, he nevertheless did not interpret his observations correctly.

His herbarium, according to Grimme, is preserved in FR.

He was commemorated in the generic names *Cassebeeria* Dennstedt ex O. Kuntze 1891, considered a synonym of *Sonerila* Roxburgh (*Melastomataceae*) and *Cassebeera* Kaulfuss 1824 (*Polypodiaceae*).

Refs.: his works;

Ascherson & Graebner: *Syn.Mittelleur.Fl.* 3: 86.

Grimme, A.T.: *Abh.Ver.Naturw.Kassel* 58: 135. 1936.

1 Wetterauische Laubmoose.

Frankfurt am Main, 1814-....[1822?] [exsiccata].

Title, collation, contents etc.: no copy seen.

Dates: "Decurie" 1 (n. 1-10): 1814;

"Decurie" 2 (n.11-20):;

"Decurie" 3 (n.21-30): [1822? bef. May] (*Isis*(Oken) 1822(4) back wrapper recto: "Eingegangen").

Review: *Isis*(Oken) 1822(5): 544-545. 1822 (Jun.).

Notes. The review mentioned gives a list of all 30 moss species contained, but without differentiating which were distributed in the 3 fascicles of 10 mosses. The form is very unusual for the exsiccata of the time, since the mosses were given loose in folded pieces of paper, which were pasted on different places of the folio leaves. The contents of one label are given in the review: "Gymnostomum sphaericum, Hedwig, gesammelt am Rande der Teiche, unterm Thiergarten bey Büdingen im Septbr. 1811." Descriptions were not present.

2 Ueber die Entwicklung der Laubmoose.

Frankfurt am Main, 1823.

Title [in gothic]: "Ueber die | Entwicklung der Laubmoose. | Von | Johann Heinrich Cassebeer, | Apotheker zu Gelnhausen. | Mehrerer gelehrten Gesellschaften Mitglied. | [short swelled rule] | [full thick-thin rule] | Frankfurt am Main, | Verlag des Hermannschen Buchhandlung | 1823."

Collation: 16^o? : π¹ 2π² 3π² 1-4⁸ 5⁴ 6⁴(-6₄); I-V VI-VIII IX-X 1 2-77 78.

Contents: I title; II □; III quotation from Kurt Sprengel; IV □; V-VIII preface: "Vorerinnerung.[gothic]", dated: "Gelnhausen, im Dezember 1822. | Der Verfasser.[gothic]"; IX contents; X □; 1-77 text; 78 imprint.

Paper: leaf height 161 mm.; laid, chains horizontal; wm. probably: "W[erect swash script]" as in Bridel n.2 (part 3), though in some sheets the marks seem to differ.

Printer: Kittsteiner, J.G., Hanau, Germany.

Publisher: Hermannsche Buchhandlung, Frankfurt am Main, Germany.

Date: 1823 (t.-p.), bef. 30 Nov. (review).

Review: Allg.Repert.Neuast.In- Ausl.Lit. 1823³(6): 406-408, 1823 Nov. 30;
Leips.Lit.Zeit. 1824(58).

Refs.: BMNH 323 Heins.7(1): 132 Milt.74-75 Pr.ed.1 n.1725, ed.2 n.1577.

Bibl.notes. The size suggests normal octavo; nevertheless the horizontal chain-lines would indicate 16°, but it also could be a case of horizontal chain-lines in the sheet. The paper reminds one, besides in the curls in the fragments of the watermark seen, of the paper in Bridel's *Muscologia* and supplements by the many brownish fragments present, which resemble wood fragments, though the copies compared in Farlow Herbarium were markedly different: Bridel much fogged and Cassebeer not. The structure of the r's was settled by checking the conjugate leaves; it is evident that they can form a complete sheet together with 6, but the chain-lines have not been checked to confirm this.

Bot.notes. Interesting discussion of experiments about generatio spontanea, which was advocated for microscopic organisms at the time, especially for the "Priestleyan green matter", said to be formed in water under the action of sunlight. The experiments first were directed to obtain pure water, without germs from outside, and the author stated that he achieved this by cleaning the vessels with steam and keeping them closed with a cork or paper. However, in the next step he apparently did not realize the importance of germs of bacteria etc. in the order of magnitude of 1-10 μ . He crushed sporophytes of different species of mosses in a mortar and put some of this in the vessels. He observed different forms of growth for the different species, and concluded that the so-called generatio aequivoca was correct, and not generatio spontanea, the idea apparently being, expressed in modern terms, that the cell constituents of special species would give rise to small forms of life, different from those of other species. This is reminiscent of the recent ideas of Olga Kosinskaya on the origin of life based upon observations in protoplasm of chicken eggs without nuclei. The observations in both cases may have been correct, but the interpretations given not. Cassebeer probably had different contaminations.

3 Ueber die leichteste Methode, unmittelbar aus der reifen Moosbüchse die Conferve darzustellen.

Isis (Oken) 1826(3): 289-293. 1826.

Head-title: "Ueber die leichteste Methode, unmittelbar aus der reifen Moosbüchse | die Conferve darzustellen, von Senator Cassebeer zu | Gelnhausen."

Collation: 4°: 19₁r-19₂r; 289-293 (columns).

Date: fasc.3 of the periodical *Isis* (Oken), nominally over Apr., but certainly issued later, probably May 1826.

Paper: laid, chains horizontal; wm. not checked.

Ref.: RSC 1: 813.

Notes. An account of experiments with the germination of mosses, including those with crushed contents of capsules, which were cultivated in clean boiled vessels. The green matter observed was attributed to "Larven der niederen Pflanzen, Larven des Laubmooses" (col.291). The other part contains correctly interpreted observations on experiments with germination of moss spores in closed tubes with water, left standing in the sun, in which the protonema, indicated as confervae, was seen developing.

CHEVALLIER, François Fulgis

Biogr. Born 1796 Jul. 2, Paris, France.

Died 1840 Dec. 24, Freiburg im Breisgau, Baden, Germany.

No biography available to me. F.F. Chevallier botanized in the Paris region, and worked on a *Flore de la France*, in which he developed in more detail the bases of the classification proposed in the work below (Quérard: *La France Litt.* 2: 182-183, 1828).

After Nestler's death (1832) he applied for the chair of botany in Strasburg for the "concours" that followed he apparently prepared: *Notices sur les travaux scientifiques de F. F. Chevallier ... candidat à la Chaire de Botanique de la Faculté de Médecine de Strasbourg*, Colmar, no date, 4p., but he withdrew when he realized that Fée's rights were better founded than his own (mss. in Archives Départementales, Strasbourg).

His death prevented the completion of his large work on *Fungi*.

He was commemorated in the generic name *Chevaliera* Gaudichaud 1843 (*Bromeliaceae*).

Ref.: Pr. ed.2: 61.

1 Flore générale des environs de Paris, selon la méthode naturelle.

2 vols. in 3 parts. Paris, 1826-1827.

Collation: 8°: vol.1: a⁸ b⁴(italics) 1-40⁸ 41-44⁴ 45²; I-IX X-XXIV
1 2-674 675-676 (XV XVII XXIII 28 510 641 649);
vol.2(1): π² 1-32⁸; i-iv 1 2-512 (129);
vol.2(2): π² 33-59⁸ 60² 61-64⁴ 65²; i-iv 513-980 981-984 (949,
839 as '339', 923 as '223', 953 as '593').

Contents: vol.1: I-II □?; III half-title; IV imprint; V title; VI □; VII dedication to "PETR. EL. FOUQUIER" (1776-1850, physician); VIII □; IX-XIV preface; XV-XVI introduction to the study of the two kingdoms, animal and vegetable; XVII-XXII separate treatment of *Oscillatoria*, considered a connection between the animal and vegetable kingdom; XXIII-XXIV considerations on the division of the plant kingdom; 1-638 text, descriptions of classes, sections, orders, genera and species of *Algae*, *Fungi* ("Champignons") and *Lichenes*; 639-640 corrections and additions to vol.1; 641-674 index of generic and specific names referring to pages as well as to plates; 675-676 omissions;
vol.2(1): i half-title; ii imprint; iii title; iv □; 1-512 text, descriptions of taxa of the same ranks of *Hepaticae*, *Musci*, *Filices*, *Synarthrophytae* [= *Equisetaceae* + *Characeae*] and *Phanerogamae*, *Alopecurus* - *Erythraea vaillantii*;
vol.2(2): i half-title; ii imprint; iii title; iv □; 513-948 text, *Phanerogamae* concluded, *Erythraea vaillantii* - *Clematis recta* and the omitted order *Juglandaceae* with *Juglans regia*; 949-980 index of generic and specific names of vol.2; 981 explication of botanical signs; 982-983 corrections to vol.2; 984 □.

Plates: 18 copper-engravings, possibly with etching, numbered 1-18 (vol.1: 15 pls., vol.2: 3 pls.), illustrating cryptogams, many species per plate, indicated with arabic numerals and letters, no names; plate-marks partly visible (copy PMusBC).

Artist: Duménil, Paul Chrétien Romain Constant (biogr.: Bénézit 3: 398. 1955): all plates.

Engravers: Dien [? Claude Marie François (1787 Nov. 11 - 1865 Aug. 20, Paris) (biogr.: Bénézit 3: 259. 1955)]: pls. 12-14;
Joyeau ... : pls. 16-18;
Lanvin ... , Paris (biogr.: Bénézit 5: 405. 1956): pls. 1-6;
Plée, Veuve [Widow] ... : pls. 7-11, 15 (pls. 7-9 signed: "V. Plée").

Paper: leaf height 207 mm. (copy PMusBC, cut); laid, chains vertical; wm.: "P I[script, last letter possibly incomplete]" in left top corner of sheet; plates: wove; no wm. seen.

Printer: Decourchant (or De Courchant), Paris.

Publisher: Ferra jeune (vol.2), Paris. [N.B.: Quérard: *La France Litt.* 2: 183. 1828, indicated that the publisher was Gaury, Paris. Not studied further.]

Dates: vol.1: 1826 (t.-p.), bef. 5 Aug., with all (18) plates
(*Bibliogr.France* 15 (62):681.1826);
vol.2: 1827 (t.-p.), bef. 5 Jan. 1828 (*Bibliogr.France* 17 (1): 5. 1828).

Review: R[aspail]: *Bull.Sci.Nat.* 14(7): 337-338. 1828 Jul.

Refs.: Arn.Arb.1: 153ab	Kew 111	Niss. n.353
BMNH 343	Krüg. 146	Pr.ed.1 n.1824
Bradl.1: 408a	Milt. 131	Pr.ed.2 n.1691
Cat.Juss. n.1608		Stafl. TL n.231.

Bibl.notes. Quérard, *La France Litt.* 2: 182-183. 1828, indicated states with un-colored plates and with colored plates (prices 24 francs for the first and 32 for the latter). I did not see a copy with colored plates of this edition and do not know if the color was partly printed as in ed.2. If so, it would be a close second for color prints of mosses as far as I know (compare Sommerfelt n.2.). Leaf a₁ is included in the printed pagination of the remainder of the gathering; however, I have not seen a copy in which it was preserved, and I assume that it was blank.
I did not transcribe the title.

Bot.notes. In this regional flora the natural classification of A.L. de Jussieu and A.P. de Candolle was used, and especially applied to the *Cryptogamae*, which were extensively treated. In *Musci*, not a specialty of the author, a number of new combinations and some new taxa of specific and varietal rank were proposed, which have been overlooked by bryological indexers up to now. New names in ferns and phanerogams were listed by Beckerer: *Repert.Speo.Nov.* 27: 366-368. 1930.

2 Flore générale des environs de Paris ...

Ed.2. 2 vols. in 3 parts. Paris, 1836.

Title: "FLORE | GÉNÉRALE | DES ENVIRONS DE PARIS, | SELON LA MÉTHODE NATURELLE.
| ... | PARIS, | FERRA, LIBRAIRE-ÉDITEUR, | ... | 1836."

Collation: 8°: vol.1: a⁸ b⁴(italics) 1-40⁸(-17^{6,7} +17^{6,7} *39^{1,8}) 41-44⁴
45²(-45¹) x⁴(-x⁴) 2x-3x¹ 11-114 (4₂ as '2'); I-IX X-XXIV 1 2-680
681-684 [14 leaves:] 11-114 (XV XVII XXIII 28 570 649 675);
vol.2(1): x² 1-26⁸ 115-120; i-iv 1 2-416 [6 leaves:] 115-120;
vol.2(2): x² 27-59⁸ 60² 61-64⁴ 65² (52₁ as '5'); i-iv 417-980
981-984 (949) [paginations not completely checked].

Contents: essentially the same as of ed.1, except:
vol.1: 675-680 index; 681-682 omissions; 683 part-title to explanations of the plates; 684 □; 11-114 rectos □, versos explanations of plates 1-14, headed: "PLANCHE I." - "PLANCHE XIV";
vol.2: 115-120 rectos □, versos explanations of pls. 15-20.

Plates: 20 copper-engravings (possibly with etching), black and white, or colored if so, pls.1-14 only hand-colored, pls.15-20 printed in two colors "à la poupée" and finished with hand-coloring; numbered: vol.1: I-XIV, vol.2: XV-XX; no complete plate-marks seen.

Artists & engravers: pls.1-18 not different from those of vol.1;
pls.19-20 not checked.

Paper: not studied.

Publisher: Ferra, Paris.

Date: 1836 (t.-p.), bef. 2 Apr. (*Bibliogr.France* 25 (14): 160. 1836).

Refs.: Arn.Arb.1: 158	Graesse 2: 131	Pr.ed.1 n.1824, ed.2 n.1691
BMNH 343	Kew-S 61	Stafl. TL n.231.

Bibl.notes. An uncut copy was studied because of its interesting cancels. I did not have the two editions on hand at the same time; a comparison of the collation indicates that the second edition consists mainly of sheets of the first edition with reset preliminaries, the cancellantia and the addition of the explanation to the plates. The leaves concerned, 3x, 11-120, were all printed at one side of a few sheets and cut before binding, which is indicated by the places of the torn edges.

Some plates were added; the color-prints of mosses are already referred to under n.1.

Bot.notes. For additions or changes only the explanations and cancellantia have to be studied.

DEMERSON, L.

Biogr. According to the card catalogue of the Bibliothèque Centrale, Muséum d'Histoire Naturelle, Paris, this is a pseudonym or a later name of L. Hanin. I have found no confirmation, nor any other indication of this identity.

Hanin, Louis, was born in Metz in 17..., published botanical papers in the Napoleonic era, but not later. I could not find the date of his death. Possibly a name change was involved, which would explain both. It is less probable that the name Demerson was a pseudonym to avoid difficulties in the changed political circumstances, since the title of the work treated below indicated Demerson as a "chevalier de l'ordre royal de la Légion-d'Honneur", and the third edition of the *Calendrier français* gives his address, as he was its publisher (rue de l'Échiquier, n. 4, Paris).

The name Demerson can be found without an accent, or with an acute accent over the first e: Démerson. Since the earliest indications do not have an accent I have adopted this. Demerson also published in other fields in lesson-form, e.g. chemistry, and three editions of a *Calendrier français*, which have some botanical phaenological information, but no bryology. These I described bibliographically in *Huntia* 2: 164-168. 1965.

1 La botanique enseignée en vingt-deux leçons ... Paris, 1825.

Title: "LA BOTANIQUE [shadowed outline] | ENSEIGNÉE | En vingt-deux Leçons, [line in gothic] | OUVRAGE DANS LEQUEL SONT EXPOSÉS | LES ÉLÉMENTS[sic] ET LES PRINCIPES | RELATIFS A CETTE SCIENCE, | ET ORNÉ DE ONZE PLANCHES COLORIÉES; | PAR M. L. DEMERSON, | CHEVALIER DE L'ORDRE ROYAL DE LA LÉGION-D'HONNEUR, | DOCTEUR EN MÉDECINE, PROFESSEUR DE PHILOSOPHIE NATURELLE, | ET MEMBRE DE PLUSIEURS SOCIÉTÉS SAVANTES, | [short shadowed swelled rule with pearl] | PARIS, | P. PERSAN ET C^{IE}, ÉDITEURS, | RUE DE L'ARBRE SEC, N° 22. | [short rule] | 1825".

Collation: 12°: π¹ 2π-4π² 1-19¹² 20⁴(-20₄) (\$5 as \$*); i-vii viii-xiv
1 2-462 (19 61 113 126 144 152 165 197 212 223 238 258 284
295 310 326 342 351 381 411 424 438 460 461).

Contents: *i* half-title; *ii* announcement: "Se trouve | CHEZ AUDIN, QUAI DES AUGUSTINS, N° 25.", and imprint at bottom; *iii* title; *iv* □; *v*-xiv introduction; 1-437 text in 22 chapters named "leçon"; 438-459 word list: "ÉTYMOLOGIE | DES MOTS EMPLOYÉS DANS CES LEÇONS."; 460 □; 461-462 contents. RT: chapter headings, e.g.: "BOTANIQUE | LEÇON V." Language: French.

Plates: 11 hand-colored copper-engravings, frontispiece illustrating *Dionaea muscipula*, and 10 plates numbered: "Pl. I." - "Pl. X.", illustrating botanical terms; plates trimmed, probably several plate-pages combined into one copper-plate.

Artist: plates unsigned.

Engraver: Bonnet, Paris?: all 11 plates.

Paper: leaf height 168 mm. (HBL copy, cut); laid, chains horizontal; wm.: "J [diamond] B = L [outline letters]"; plates: laid, chains vertical; wm.: "[shell]" and fragments of erect script letters.

Printer: Casimir, Paris.

Publisher: "P. Persan et compagnie", Paris, and in stock with Audin, Paris.

Date: 1825 (t.-p.), bef. 20 Aug. (*Bibliogr.France* 15 (34): 557, 1825).

Refs.: Bradl.1: 85^b Krüg. 54 Milt. 47 Pr.ed.1 n.2434, ed.2 n.2153.

Variants: The announcement of 20 complete sheets (*Bibliogr.France* 1825(34): 557, 1825) seems to indicate another state, with two more leaves, although these might have been blanks and then represent the ideal copy. The announcement at the verso of the half-title, of bookseller Audin who was the sole publisher of the third edition, possibly indicates a variant.

Bibl.notes. This book is regular except for the preliminaries in which a single leaf π^1 is followed by three consecutive pairs of conjugate leaves. I have not been able to prove that π^1 had been conjugate with leaf 20₁, because the places of the chain-lines in the many different leaves do not vary conspicuously; in these two they do not contradict this supposition.

Bot.notes. This work is only of interest for the history of teaching of botany. *Musci* are treated succinctly (433-435) with scant references to literature.

2 La botanique enseignée en vingt-deux leçons ...

Ed.2. Paris, 1826.

Title, collation, contents etc.: no copy seen.

Date: 1826, bef. 1 Apr. (*Bibliogr.France* 15 (26): 278, 1826, announced as 12°, with 19½ sheet, and plates).

Refs.: *Bibliogr.France* (see Date) states: "les faux titre et titre sont suivis Quérard: *France Lit.* 2: 469, 1828. d'onglet".

Notes. Quérard supposed that this was a re-issue with a new title-page. The indication of sheets in the announcement cited under Date confirm this if we assume that the leaf with contents was bound with the preliminaries, and that these were not included in the count given. This would be represented by the following hypothetical collation: $\pi^1(\pi^1) 2\pi-5\pi^2(-5\pi^2) 1-19^{12} 20^4(-20_3-5\pi_1 -20_4)$.

3 La botanique enseignée en vingt-deux leçons ...

Ed.3. Paris, 1827.

Title: "LA BOTANIQUE | ENSEIGNÉE | En vingt-deux Leçons [line in gothic] | OUVRAGE
DANS LEQUEL SONT EXPOSÉS | LES ÉLÉMENTS ET LES PRINCIPES | RELATIFS A CETTE
SCIENCE, | PAR M. L. DEMERSON, | CHEVALLIER DE L'ORDRE ROYAL DE LA LÉGIION
D'HONNEUR, | DOCTEUR EN MÉDECINE ET PROFESSEUR DE PHILOSOPHIE NATURELLE. |
Troisième Edition, [line in gothic] | ORNÉE DE ONZE PLANCHES COLORIÉES. |
[short interrupted swelled rule] | PARIS, | CHEZ AUDIN, LIBRAIRE, | QUAI
DES AUGUSTINS, N° 25. | [short wavy rule] | 1827."

Lithographed title (in calligraphy): "LA BOTANIQUE | enseignée | en XXII leçons, |
PAR M^r DEMERSON | D. M. Chev.^{er}" de la légion d'honneur. | 3^e EDITION |
CORRIGÉE ET AUGMENTÉE, | Paris. [in gothic] | Audin Libraire, Quai des
Augustins, 25. | Editeur de la Collection | d'ouvrages en leçons. | 1827."

Collation: 12°: π^2 a^2 a^{*4} 1-21¹²(-21_{10,11,12}); i-v vi-xv xvi 1 2-498
(21 66 120 133 151 159 172 204 219 230 247 269 295 306 320
336 352 361 391 421 434 448 476 497, 244 as '544').

Contents: i half-title; ii imprint: "Imprimerie et Fonderie de J. Pinard, | Rue
d'Anjou-Dauphine, N. 8, à Paris."; iii title; iv \square ; v-xv introduction;
xvi \square ; 1-475 text, popular treatment of botany; 476-496 etymology of
words: "Etymologie des mots employés dans ces leçons."; 497-498 contents.
RT: chapter headings, e.g.: "BOTANIQUE | LEÇON VIII". Language: French.

Plates: 1 lithographed title between π_1 and π_2 , and 11 hand-colored copper-
engravings, frontispiece illustrating *Dionaea muscipula* (probably with
changed or erased page-number indication, not checked), 10 plates numbered
I-X as in ed.1, illustrating botanical terms; plate-marks partly visible.

Paper: leaf height 172 mm. (BR copy, cut); laid, chains horizontal; wm.:
"Y [diamond] B = L [letters in outline]";
plate paper: laid, slightly bluish, chains not checked; no wm.

Printer: Pinard, J., Paris.

Publisher: Audin, Paris.

Date: 1827 (t.-p.); bef. 25 Jul. (*Bibliogr. France* 16 (59): 609. 1827).

Refs.: BMNH 439 | Pr.ed.1 n.2434 | Quérard: *France Lit.* 2:469.1828.
Plesch 57 | Pr.ed.2 n.2153

Notes. No important changes noted over the first edition. Quérard supposed this
edition too to consist of the same sheets as edition 1.

4 La botanica insegnata in ventidue lezioni ...

Milano, 1826.

Title, contents, etc.: no copy seen.

Collation: 8°: ... ; 100 p.

Announcements: *Bibliot. Ital.* 44(11): 268-269. 1826 Nov.;
Flora 10² (Beil.3): 89. 1827.

Translator: Ferraro or Ferrario, Ottavio.

Notes. According to *Flora* (see *Announcements*) this is merely a translation.

DESMAZIÈRES, Jean Baptiste Henri Joseph

Biogr. Born 1786 Jul. 10, Lille [now dép. du Nord], France.

Died 1862 Jun. 23, Lambersart near Lille.

Desmazières apparently lived on an estate. As a botanist he first concentrated on the regional flora, and he found many additional species. Gradually he concentrated on cryptogams, especially on lower fungi, in which group he became an expert. He did not study mosses thoroughly. His other interests were mainly agricultural; no definite details are available to me.

He was commemorated in the generic names *Desmazzeria* Dumortier 1823 [corrected to *Desmazeria* Dumortier] (*Gramineae*), *Desmazieria* Montagne 1825 (*Lichenes*) and *Desmazierella* Libert 1829 (*Fungi*). A prize, prix Desmazières, for cryptogamic publications in France, commemorates his name too.

Refs.: Bull.Soc.Bot.France 9: 321-323. 1863.

Bull.Soc.Bot.Belg. 1: 102-105. 1862 (date of death: 24 Jun.).

Pr. ed.2: 81. 1872 (year of birth: 1796).

Le Tourneur, St.: *Diat.Biogr.Frang.* 10: 1456. 1965 (date of death: 25 Jul.).

1 Plantes cryptogames du Nord de la France.

44 fasc. + index-vol. Lille, 1825-1851 [exsiccata].

Title: "PLANTES | CRYPTOAMES | DU | NORD DE LA FRANCE, | Par J.B.H.J. DESMAZIERES, | MEMBRE DE LA SOCIÉTÉ D'AMATEURS DES SCIENCES, DE L'AGRICULTURE ET DES ARTS, | A LILLE; CORRESPONDANT DE LA SOCIÉTÉ LINNÉENNE DE PARIS; DE LA SOCIÉTÉ DE | FLORE DE BRUXELLES; DE LA SOCIÉTÉ ROYALE D'AGRICULTURE ET DE BOTANIQUE DE GAND; | DE CELLE D'HORTICULTURE DE TOURNAI; DE LA SOCIÉTÉ POUR L'ENCOURAGEMENT | DES SCIENCES, DES LETTRES ET DES ARTS, A ARRAS, etc. | [long rule at right] | Herbarium praeestat omni icone, necessarium omni Botanico.[at right] | LINN., *Phil. Bot.* p. 7.[at extreme right] | [long rule at right] | FASCICULE I.^{er} | [wavy rule] | A LILLE, | IMPRIMERIE DE LELEUX, GRANDE PLACE. | [very short double rule] | JANVIER . 1825."; fasc.2: as fasc.1, same type-setting with second I added: "FASCICULE II." and date line changed into "1825."; fasc.3: as fasc.2, same type-setting except: "FASCICULE III." and "1826." (the 6 clearly different from other numerals); fasc.4: as fasc.3, except: "FASCICULE IV."; reset (partly?); fasc.5: as fasc.4, (same type-setting?) except: "FASCICULE V." and "1827."; fasc.6: as fasc.5, same type-setting except: "FASCICULE VI" and "1827" (the I in VI and the 7 in 1827 clearly heavier than the rest); fasc.7: as fasc.5, same type-setting except: "FASCICULE VII" and "1828"; fasc.8: reset (partly?); same title except: "MEMBRE TITULAIRE DE LA SOCIÉTÉ ROYALE DES SCIENCES DE L'AGRICULTURE ET DES ARTS," ... "FASCICULE VIII." and "1829."; fasc.9: as fasc.8, same type-setting except: "FASCICULE IX"; fasc.10: as fasc.9, except: "FASCICULE X" and "1830" (setting not studied); fasc.11: as fasc.10, same type-setting except: "FASCICULE XI." and "1831." [sic] (the I's clearly added); fasc.12: 1832, fasc.13: 1833, fasc.14: 1833, fasc.15: 1834, fasc.16: 1836, not studied in detail; fasc.17: "PLANTES | CRYPTOAMES | DE FRANCE, | Par J.B.H.J. DESMAZIERES, | MEMBRE TITULAIRE DE LA SOCIÉTÉ ROYALE DES SCIENCES, DE L'AGRICULTURE ET DES ARTS, DE LILLE, | CORRESPONDANT DE LA SOCIÉTÉ D'HISTOIRE NATURELLE DE PARIS ET DE CELLES DES SCIENCES PHYSIQUES, | CHIMIQUES ET ARTS INDUSTRIELS DE LA MÊME VILLE; DE LA SOCIÉTÉ LINNÉENNE DU CALVADOS; DE | L'ACADÉMIE ROYALE DES SCIENCES, BELLES LETTRES ET ARTS DE ROUEN; DE LA SOCIÉTÉ LIBRE | D'ÉMULATION DE LA MÊME VILLE, DE LA SOCIÉTÉ ACADÉMIQUE DE FALAISE; DE CELLE POUR | L'ENCOURAGEMENT DES SCIENCES, DES BELLES LETTRES ET DES ARTS, A ARRAS; DE LA SOCIÉTÉ CENTRALE | D'AGRICULTURE, SCIENCES ET ARTS DU DÉPARTEMENT DU NORD; DE LA SOCIÉTÉ ROYALE D'ÉMULATION | D'ABBEVILLE; DE LA SOCIÉTÉ DES

NATURALISTES DE LEIPZIG; DE LA SOCIÉTÉ ROYALE D'AGRICULTURE ET | DE
 BOTANIQUE DE GAND, DES SOCIÉTÉS D'AGRICULTURE ET D'HORTICULTURE DE LILLE,
 BOULOGNE, | BRUXELLES, TOURNAI etc. | [rule above quotation at right] |
 Herbarium praestat omni icone, necessarium omni Botanico. | LINN., *Phil.*
Bot., p.7. | [rule below quotation] | FASCICULE XVII. | [wavy rule] | A
 LILLE, | IMPRIMERIE DE LELEUX, GRANDE PLACE. | [very short double rule] |
 1836.";
 fasc.18-20: similar, except: 1837, 1838, 1839;
 fasc.21: "PLANTES | CRYPTOGRAMMES | DE FRANCE, Par J.B.H.J.DESMAZIERES, |
 MEMBRE DE PLUSIEURS SOCIÉTÉS SAVANTES. | [same quotation between rules] |
 FASCICULE XXI. | [wavy rule] | A LILLE, IMPRIMERIE DE LELEUX, GRANDE PLACE.
 | [short double rule] | 1839.";
 fasc.22: same type-setting, except: "FASCICULE XXII." and "1840.";
 fasc.23-44: 1841-1851, not studied in detail;
 index-vol.: "INDEX | GENERUM, SPECIERUM ET SYNONYMORUM | IN | J. B. H. J.
 DESMAZIERES, | PLANTES CRYPTOGRAMMES DE FRANCE, | EDIT. I, SER. I, FASC.
 I-XLIV, 1825-1851. | EDIT. II, ser. I, FASC. I-XXXVII, 1836-1851. | [short
 fancy swelled rule] | LILLE, | IMPRIMERIE DE LELEUX, GRANDE PLACE | [very
 short rule] | 1851."

Collation: 4°: fasc.1: $\pi^4(\pi_1=\text{paste-down})$ 1-3⁴ χ^1 ; i-vi 1 2-23 24-26;
 fasc.2: $\pi^4(\pi_1=\text{paste-down}, -\pi_4)$ χ^1 ; i-iv 1-2;
 fasc.3: π^2 χ -2 χ^1 ; i-iv 1-4;
 fasc.4: π^2 χ^1 ; i-iv 1-2;
 fasc.5: $\pi^4(\pi_1=\text{paste-down})$ χ^1 ; i-vi 1-2;
 fasc.6: $\pi^4(\pi_1=\text{paste-down})$ χ^1 ; i-vi 1-2;
 fasc.7-20: not studied in detail (not essentially different);
 fasc.21: π^2 χ^2 χ^1 ; i-iv 1-6;
 fasc.22-44: not studied in detail;
 index-vol.: π^2 χ^2 2-7²; 1-5 6-31 32.

Contents: fasc.1: i half-title; ii announcement of addresses where the set was
 for sale, and condition (8 fr. per fasc.); iii title; iv □; v-vi dedica-
 tion to C.H. Persoon (1755-1837); 7-23 preface, with announcement that
 fasc.2 would appear within four months, and the others with more or less
 the same interval, each would contain 50 specimens of cryptogams, method-
 ically arranged from "Algues" to "Naiades"; 24 □; 25 index of specimens
 preceded by short list of families; 26 □;
 fasc.2: i half-title; ii announcements as in fasc.1; iii title; iv □;
 7 index to specimens as in fasc.1; 2 □;
 fasc.3: i half-title; ii announcement; iii title; iv □; 1 □; 2 whole
 page description to n.101; 3 index to specimens as in fasc.1; 4 □;
 fasc.4: i half-title; ii □; iii title; iv □; 7 index to specimens; 2 □;
 fasc.5-20: not studied in detail; essentially the same make-up;
 fasc.21: i half-title; ii □; iii title; iv □; 7 introduction; 2-4
 monography, headed: "CERAMIIUM", with descriptions of four subgenera pro-
 posed by the brothers Crouan after their manuscript notes; 5-6 "Obser-
 vations sur les Tétraspores des Algues | par MM. Crouan Frères.";
 fasc.22-44: not studied in detail;
 index-vol.: 1 half-title; 2 □; 3 title; 4 □; 5-31 index, headed:
 "INDEX | GENERUM, SPECIERUM ET SYNONYMORUM"; 32 □.

Specimen-parts: quired gatherings of 8, 10 or 12 leaves, of which the last leaf
 is usually a paste-down, the last but one a blank leaf, before which the
 printed χ , the index, is tipped in; 50 leaves per fascicle are devoted to
 the specimens, these being pasted usually on slips of paper, which in turn
 are pasted to the rectos of the leaves, one per leaf, and printed labels
 pasted to the same side (in one case a whole printed page is devoted to a
 long description and serves as label, facing the specimen); the labels
 contain: number, binomial, a reference to literature in italics, as the
 case may require synonyms, the habitat, the season, and descriptions when
 not yet described or when the taxa were also published by Desmazières in a
 contemporaneous journal.

Paper: laid, chains horizontal, or wove; wm. not studied;
text: laid: fasc.1-20, 21x, 25-44;
 wove: fasc.21 (except x), 22-24;
specimen-part: laid: fasc.1-19, 22-44;
 wove: fasc.20-21.

Printer: Leleux, Lille, France.

Publisher: the author.

<i>Dates:</i>	fasc.	specimen numbers	date t.-p.	other data	fasc.	specimen numbers	date t.-p.
	1	{preface 1- 50}	Jan.1825	{Dec.1824 bef.28 Feb. }	23	1101-1150	1841
	2	51- 100	1825	bef.Jun.1826	24	1151-1200	1842{2 added in ink
	3	101- 150	1826	bef.Jun.1826	25	1201-1250	1842
	4	151- 200	1826		26	1251-1300	1843
	5	201- 250	1827		27	1301-1350	1843
	6	251- 300	1827		28	1351-1400	1845
	7	301- 350	1828		29	1401-1450	1845
	8	351- 400	1829		30	1451-1500	1846
	9	401- 450	1829		31	1501-1550	1846
	10	451- 500	1830		32	1551-1600	1847
	11	501- 550	1831		33	1601-1650	1847
	12	551- 600	1832		34	1651-1700	1848
	13	601- 650	1833		35	1701-1750	1848
	14	651- 700	1834		36	1751-1800	1849
	15	701- 750	1834		37	1801-1850	1849
	16	751- 800	1836	bef.Oct.	38	1851-1900	1849
	17	801- 850	1836	bef.Oct.	39	1901-1950	1849
	18	851- 900	1837		40	1951-2000	1850
	19	901- 950	1838		41	2001-2050	1850
	20	951-1000	1839		42	2051-2100	1851
	21	1001-1050	1839		43	2101-2150	1851
	22	1051-1100	1840		44	2151-2200	1851
						index-vol.	1851

Reviews and date-confirming announcements:

preface (bef. 28 Dec.?): *Mém.Soc.Linn.Paris* 3(6): XLII, CVIII. 1825;
 fasc.1: *Philos.Mag. & J.* 65: 132. 1825 Feb. 28;
 Bory de St. Vincent: *Bull.Sci.Nat.* 5(5): 90-91. 1825 May;
 Dumortier, B.C.: *Messenger Sci.Arts* 1825(3/4): 70-73. 1825 Mar.-Apr.;
 fasc.2-3: Dumortier, B.C.: *Messenger Sci.Arts* 1826(3/5):49-51.1826 Mar.-May;
 fasc.4: Gaillon, B.: *Bull.Sci.Nat.* 16(2): 259-261. 1829 Feb.;
 fasc.16-17: Desmazières: *Ann.Sci.Nat.* ser.2, 6: 242-247. 1836 Oct. 6;
 fasc.17: *Ann.Mag.Nat.Hist.* (London) 1(1): 69-70. 1838 Mar.;
 fasc.21: *Ann.Mag.Nat.Hist.* (London) 6: 146. 1840 Oct.

Refs.: BMNH 445 Krüg. 113 Milt. 276 Pr.ed.1 n.2512 Staffl. TL p.104.

Bibl.notes. This large series of exsiccata has some peculiarities which warrant careful research. The title-page setting was used for quite a number of fascicles, possibly printed in advance. In several cases the changed numerals (e.g. the last digit of the year) clearly stand apart in a number of volumes, and the position of broken letters indicate the same type-setting. In some others the digit is even not printed but filled out by hand. This indicates that these title-pages were printed so far ahead of publication, that there was no reasonable certainty about the year. Therefore, a chance exists, that of other fascicles with completely printed year numbers the date is too early. In several of the early fascicles the first leaf of the printed gathering was used as a paste-down against the front

cover (this, of course, is not counted in the pagination). The fascicles from the same imposition should have the same position of the leaves in the gathering; from standing type another imposition can be expected. This seems to be the case in fasc.3. However, this might be the same imposition as fasc.1 and 2, when the blank pair of conjugate leaves $\pi_1 + \pi_4$ is placed before the pair $\pi_2 + \pi_3$. I realized this too late and cannot recheck the conjugacy and matching chain-lines to settle the possibility of standing type.

The thickness of the specimen-part was in some gatherings counterbalanced by extra folds in the spine. The mixture of laid and wove paper is interesting; at a certain moment apparently only wove paper was available; the printed part shifted back later than the specimen-part, which also indicates that the titles of a number of fascicles were printed at the same time, long before actual publication.

Finally a large number of corrections to earlier specimens were issued in later fascicles, often in the form of slips of paper with the corrected names, which could be pasted over the old names, as well in the indexes of the fascicle volumes as on the specimen-leaf, or even complete new labels for the latter. The author's copy in Paris, PC, has these all in place.

Bot.notes. This series of exsiccata reflects the author's interest. Though containing cryptogams of all groups, the *Algae* and especially lower *Fungi* are better represented than other groups, with many new or recently described species and varieties. Many of these were published by Desmazières in journals of the same year, some clearly not yet published when the text of these exsiccata was prepared, so that the precise dating of many fascicles is important. However, since I did not find new names of *Musci* in the series except the first valid publication of the name *Orthotrichum crispulum* Bruch (as far as I am aware), I did not concentrate on determining the precise dates. There is a possibility to find information in local newspapers, but this was outside the scope of my work.

2 Plantes cryptogames de France.

Ed.2. 37 fasc. Lille, 1836-1851 [exsiccata]

Title, collation and contents: no copy seen.

Refs.: Brun.2: 627 Graesse 7: 242 Kew 153 Pr.ed.1 n.2512 Staf1. TL p.104.

Reviews: fasc.1-6: S[chimper], W.P.: *Flora* 22² *Lit.Ber.*9(9): 129-130. 1839; fasc.5-6: Desmazières: *Ann.Sci.Nat.* ser.2, 10: 308-314. 1838.

Notes. Apparently the supply of many fascicles of the first edition had become exhausted, so that at the same time with the change of the title of the first edition this second was begun, in which many species of the foregoing fascicles could be issued again, probably from another locality.

3 Plantes cryptogames de France.

[Ed.2 ser.2, or Ed.3.] 16 fasc. Lille, 1853-1860[1861] [exsiccata].

Title, collation, contents, etc.: no copy seen.

Ref: Kew 153 Staf1. TL p.104.

Notes. Listed because of the complicated references to the series as a whole. An indication of series or edition is lacking on the title-page, but is imperative in citations of specimens. In the author's copy (PC) the last fascicle, dated 1860 in print on the title-page, had the spine-label with the date 1861 in which the last digit was filled out by hand, a feature which I referred to in the bibliographical introduction as a help in dating.

DESVAUX, Nicaise Auguste

Biogr. Born 1784 Aug. 28, Poitiers (now dép. Vienne), France.

Died 1856 Jul. 12, Bellevue near Angers, dép. Maine-et-Loire, France.

No biography available to me. According to his own statement in 1827 he studied mosses with Palisot de Beauvois during 10 years and had studied ferns for 15 years.

He edited the *Journal de botanique* (Desvaux), which was interrupted and finally stopped because a servant of the printer had stolen the copper plates of the volume ready for printing when Desvaux was not in Paris from 1818 to 1820. This he wrote to Ad. Brongniart in a letter dated 20 Sep. 1827, from which it is also clear that the stock of the first two volumes was with the publisher Dufour, and that Desvaux himself had the stock of the remaining volumes, though incomplete.

He became director of the botanical garden at Angers.

His Christian names are usually cited: Augustin Nicaise, but contemporaneous references were to N.A. Desvaux, and I therefore prefer to follow the names as given in the Barnhart file: Nicaise Auguste.

He was commemorated in the generic names *Desvauxia* K. Brown 1810, considered a synonym of *Centrolepis* Labillardière 1804 (*Centrolepidaceae*) and *Desvauxia* Pal. Beauvois ex Desvaux 1828 (*Eriocaulaceae*).

Refs.: *Bull. Soc. Bot. France* 3: 637-638. 1856, 22: lxxxvi. 1875 (herb. at Angers).

1 Exposition méthodique des genres de la famille des mousses ...

Mém. Soc. Linn. Paris 3(2): 211-228. 1824 May.

Head-title: "[full fancy wavy rule] | EXPOSITION MÉTHODIQUE | *Des genres de la famille des Mousses, pour servir | de complément au travail de feu PALISOT DE | BEAUVOIS* (1), par M. DESVAUX, directeur | du Jardin des plantes à Angers, correspondant | [short rule]", with footnote: "(1) Inséré dans le | premier volume des Mémoires de la Société."

Collation: 8°: 15₂r-16₂v; 211 212-228 (see *Mém. Soc. Linn. Paris*).

Contents: 211 head-title; 211-214 introduction and general discussion; 214-216 keys to genera (no taxa higher in rank than genus); 217-218 description of 63 genera. No RT. Language: French.

Paper: leaf height 200 mm. (Teyl. copy, cut); laid, chains vertical; no wm.

Printer: Lebel, Paris.

Publisher: Société Linnéenne de Paris.

Date: 1824, May (fascicle title); bef. 10 Jul. (see *Mém. Soc. Linn. Paris*).

Ref.: RSC 2: 275.

Bibl. note. Article in periodical.

Bot. notes. This article was written to form a complement to the article of Palisot de Beauvois of 1822 in the same journal. Palisot de Beauvois died before his article was published; therefore, discrepancies existed between the names in the text and in the plate-part, which was prepared long before. These discrepancies were straightened out by Desvaux who retained the classification and most of the generic delimitations of the older author. The new generic name *Codonophorus* was said to be an error; Desvaux changed it into *Codonophorus* and supplied a description. The illegitimate name *Chaetophora* Brid. was replaced by *Calypstrochaete* Desv.

Desvaux, in his introduction, did not support the idea of Palisot de Beauvois concerning the sexual function of the columella, observing that particles like those to which the role of propagation was assigned, come from several sorts of tissue which definitely have no sexual function.

2 *Prodrome de la famille des fougères.*

Mém. Soc. Linn. Paris 6(2): 171-212. 1827 May, 6(3): 213-337. 1827 Jul.

Head-title: "[full wavy rule] | PRODROME | *De la famille des Fougères*; | par M. DESVAUX, | Directeur du Jardin des Plantes d'Angers, | Correspondant. | [very short rule]".

Collation: 8°: part 1: 12₂-12₈ 13⁸ 14⁶; 177 172-212 (176);
part 2: 15-21⁴⁺⁴ 22⁴ 22₅-22₇r; 213-337.

Contents: 177 head-title; 177-172 introduction; 172 key to the higher taxa of ferns; 173-175 key to the genera of ferns; 176 head-title to the taxonomical part: "[full wavy rule] | PRODROMUS | *FILICUM*. | Nullum vocabulum in differentia specifica | superfluum erit. | LINNÉ, *Phil. bot.*, n° 292 | [short rule]"; 176-335 enumeration of families, genera and species of ferns (families, genera and new species with descriptions); 335-336 appendix, descriptions of 2 additional genera and enumeration of their species; 336-337 explanations of the plates. No RT. Language: text French, descriptions Latin.

Plates: 2 copper-engravings of ferns, numbered: "Pl.VII." - "Pl.VIII.", both titled: "FOUGÈRES Inédites" (last word in italics in pl.7); plate-marks: partly cut off.

Artist: Millet: 2 pls.

Engraver: Tourcaty: 2 pls.

Paper: leaf height 198 mm. (Teyl. copy, cut); laid, chains vertical; wm.: different marks, possibly at random in the sheets: "L = C [diamond] D", "B F ...", "D [triangle] T" [all letters in outline].

Dates: part 1: 1827 May (fasc.title), bef. 30 Jun. (*Bibliogr. France*);
part 2: 1827 Jul. (fasc.title), bef. 20 Sep. (letter Desvaux, see below).

Refs.: E.As.Bot.S. 55^a RSC 2: 276.

States: detached leaves of the periodical fascicles were used for separates, with the original fascicle wrappers as covers (NYBG copy, see *Bibl.notes*); they were certainly not issued before the publication of the fascicles.

Bibl.notes. In bound copies of the periodical the breaks between fascicles are not easily found, unless all plates of a fascicle were bound at the end of the corresponding fascicle. The fascicle wrappers of the two fascicles concerned state the exact fascicle contents in print; moreover they have the fascicle title *Annales de la Société Linnéenne de Paris* (see the treatment under *Mémoires de la Société Linnéenne de Paris*).

Bot.notes. Though not containing any *Musci*, I include this article since it is important for the knowledge of the structure of the periodical which has several bryological articles. Moreover I found in my research some other information worth recording. This was contained in a letter from Desvaux to Ad. Brongniart (in PMusBC), dated 20 Sep. 1827. Desvaux wrote: "*J'aurais désiré Monsieur pouvoir Vous faire parvenir un exemplaire de mon prodromus-filicium. extrait des annales Linnéennes ou il a été assez mal et infidèlement imprimé, mais je n'en ai pas reçu le tirage séparément. Probablement vous pourriez avoir occasion de la consulter: mais je vous prie de croire que je n'ai point un Gymnogramme Thiebautii, il y avait Boryi. parce que c'est le Botaniiste qui l'a communiqué à Willd. ... je ne prend point sur mon compte les citations d'herbier Thiebaut et herbier de la Société Linnéenne. c'est bien assez de mes propres erreurs sans que l'on aille s'autoriser d'herbier que je ne connais pas, pour trouver les espèces que je n'ai eu en vue. Je ne dis pas que les plantes indiquées ne puissent se trouver dans ce collection, mais j'ai la conviction que toutes ne peuvent y être et je crois qu'il faut [?] un autre botaniste que Mr. le secrétaire de la Société Linnéenne pour juger de l'identité des espèces d'une famille sur laquelle j'ai publié des matériaux depuis quinze années.*"

Le Dr. Greville d'Edimbourg, publiant un ouvrage sur les fougères, s'il allait consulter les herbiers cités, pourrait nul juger de mes véritables espèces ... ". From this letter three points can be discussed. Firstly, it is clear that separates were not available to the author on 20 Sep. 1827 and that the fascicles of the periodical definitely existed on that date. The separate, therefore, has no nomenclatural consequences. Secondly, whatever names the author wrote in his manuscript, the name appearing in print is the effectively published one. Even the author's citation is not affected by the change of the name, since there is no indication in print accompanying the article, that the editor was responsible for the change. Nevertheless it does no harm to cite in this case: *Gymnogramme thiebautii* Thiebaut ex Desvaux, indicating that Desvaux is responsible for the description. Thirdly, the fact that the editor introduced in print the citation of specimens not seen by the author, must be taken into account in the selection of type specimens for new taxa, even if they were the only specimens cited. The specimens examined by the author remain decisive. Desvaux proposed 13 new genera, and a number of new species and new combinations. For the new generic names the page in the key with the French description in the May fascicle should be cited together with the later page of the Latin description in the May or July fascicle. This also reveals an occasional printing error, e.g. *Polyaetnium*, p. 218, is correctly *Polytaetnium*, p. 174.

DIETRICH, David Nathaniel Friedrich

Biogr. Born 1799 ... , Ziegenhain, Hesse-Nassau, Germany.

Died 1888 Dec. 23, Jena, Germany.

D.N.F. Dietrich belonged to a family of botany-minded gardeners; he was a nephew of F.G. Dietrich. He settled as "Privatgelehrter" in Jena and became in 1828 botanical gardener of the University there. In the last years of his life he was curator of the University herbarium at Jena, under Prof. E. Stahl.

Together with Zenker he published exsiccata of mosses of Thuringia.

Refs.: *Ann. Bot.* 2: 399. 1888 (with list of publ.).

Balzer, G.: *Neue Deutsche Biogr.* 3: 694. 1957.

1 Musci Thuringici. 1821-1825.

See: Zenker & Dietrich n.1.

DIETRICH, Friedrich Gottlieb

Biogr. Born 1765 Mar. 9, Ziegenhain, Hesse-Nassau, Germany.

Died 1850 Jan. 2, Eisenach, Thuringia, Germany.

When young F.G. Dietrich came to Weimar; he had the good luck to accompany Goethe on a tour from Weimar to Karlsbad in 1785, on which the latter enjoyed the enthusiasm of the young botanist. This provided him help from the Duke Karl August of Weimar who enabled him to study at Jena and to travel to England (Kew and Chelsea). He was ducal gardener from 1792-1801, from 1794 with the title "Hofgärtner", in Weimar. He provided Goethe with the plant material for his botanical studies. In 1807 he moved to Eisenach, where he helped to create and later directed another ducal botanical garden, in Wilhelmsthal. Here he became "Grossherz. Rath", acquired the degree of Dr. Phil. and was appointed professor of botany. Though his main work is much of a compilation, Dietrich included his own observations.

He was commemorated in the generic name *Dietrichia* Trattinick 1812, now considered a synonym of *Roohea* A.P. De Candolle 1810 (*Crassulaceae*).

Refs.: Balzer, G.: *Neue Deutsche Biogr.* 3: 694-695. 1957 (giving the Christian names: Johann Christian Gottlieb).

1 Vollständiges Lexicon der Gärtnerei und Botanik.

11 vols. Weimar or Berlin, 1801-1811.

Titles, collation, contents etc.: not studied in detail.

Dates & reviews:	vol.	year	trim.	place	Physik.Ök.Bibl.Beckman	Ann.Bot.(König & Sims)
	1	1802	4	Weimar	21(4): 581-583. 1802	} 1(1): 55. 1804 May
	2	1803	1	"	22(1): 68-70. 1803	
	3	1804	3	"	22(3): 323-326. 1804	
	4	1804	4	"	22(4): 496-499. 1804	
	5	1805	2	Berlin	23(2): 257-258. 1805	
	6	1806	4	"	23(4): 527-528. 1806	
	7	1807		"		
	8	1808		"		
	9	1809		"		
	10	1810	3 or 4	"	(after 28 Sep., pref.)	
	Gen.Reg.	1811		"		

Refs.: BMNH 461 | Heins.1: 684, 5: 132 | Krüg. 66 | Pr.ed.1 n.2615
 Bradl.3: 74a | Kew 161 | Milt. 340 | Pr.ed.2 n.2274.

Notes. Though outside the scope of my proper period, I include a short treatment here, as this title was not mentioned by Dr. G.Sayre (*Dates of Publications describing Musci, 1801-1821*), nor were the contents checked for *Index Muscorum*. Some revalidation of moss names may be present, as it was published shortly after Hedwig's *Species Muscorum*.

2 Vollständiges Lexicon der Gärtnerei und Botanik.

Ed.2. 2 vols. Berlin, 1820-1824.

Title, collation, contents, etc.: no copy seen.

Dates and reviews:

vol.1: 1820, bef. 15 Oct. (*Allg.Repert.Neuest.In-Ausl.Lit.* 1820⁴(2): 92-93, 1820 Oct.;
Bot.Taschenb. (Trattinick) 1: 277-278, 1821);
 vol.2: 1824, in or bef. Oct.? (*Isis* (Oken) 15(9): 962, 1824).

Ref.: Heins.7: 178 (vol.2 only).

Note. Second edition, apparently because the stock of the first edition of these two volumes was exhausted.

3 Nachtrag zum vollständigen Lexicon der Gärtnerei und Botanik.

10 vols. Berlin, 1815-1824.

Title, contents, etc.: not all copies seen.

Collation: 8°: ...

Dates & reviews: see table next page.

Refs. Bradl.3: 74a | Jacks. 12 | Krüg. 66 | Pr.ed.1 n.2615
 Heins.5: 132, 7: 178 | Kew 161 | Milt. 340 | Pr.ed.2 n.2274.

Notes. Not of importance for mosses and other cryptogams, which are referred to a supplement for cryptogams, which never appeared. See however n.5.

<i>Dates & reviews:</i>	vol.	date t.-p.	publ. date	sources
	1	1815	after Oct.	(pref.)
	2	1816		
	3	1817	Easter Fair? (Apr. 20)	<i>Isis</i> (Oken) 1 ⁷ (127): 1016. 1817: "now appearing"; 1 ⁷ (130): 1037. 1817 (from Easter Fair Cat., no pages cited).
	4	1818		
	5	1819	circa Oct.	<i>Isis</i> (Oken) 5(8): 1316-1317. 1819, rev.; <i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1819 ² (2): 72. 1819, rev.
	6	1820	in or bef. Oct.	<i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1820 ⁴ (2): 91-92. 1820, rev.; <i>Bot.Taschenb.</i> (Trattinick) 1: 306-307. 1821; <i>Isis</i> (Oken) 9(9): 839-847. 1821.
	7	1821	bef. 15 Jul.	<i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1821 ³ (1): 9-10. 1821, rev.
	8	1822	Jun. or Jul. bef. Jul.	<i>Isis</i> (Oken) 11(6): back wrapper recto, over Jun., possibly published Jul.; <i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1822 ³ (1): 12-13. 1822, rev.; <i>Isis</i> (Oken) 12(1): 94-95. 1823, rev.
	9	1823	bef. 15 Aug.	<i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1822 ³ (3): 169-171. 1823.
	10	1824	bef. Feb. 1825?	<i>Isis</i> (Oken) 1825(2): 206. 1825 Feb.?

⁴ Berichtigungen und Bemerkungen über den Inhalt ... des vollständigen Lexicons ...
Berlin, 1824.

[No copy seen.]

Title (cited from *Isis*): Berichtigungen und Bemerkungen über den Inhalt und die Bearbeitung des vollständigen Lexicons der Gärtnerei und Botanik I - X. Band 1802-1810 Nachtrag I - X. Band 1815-1824. [Berlin, 1824].

Collation and contents: not studied; 8°.

Date & review: 1824, bef. Sep.? (*Isis* (Oken) 15(9): 962-965. 1824).

⁵ Neuer Nachtrag zum vollständigen Lexicon der Gärtnerei und Botanik
[alternative title:] Neu entdeckte Pflanzen ...
10 vols. Berlin or Ulm, 1825-1840.

Titles: not transcribed.

Collation: 8°: vol.1: π^2 a⁴(-a₁) A-2P⁸ 2Q⁴(-2Q₄) 2R⁴ (\$1-2 signed in gothic letters); *i-ii* I-III IV-VIII 1 2-618 619-622 (473 615, 123 as '223', 264 as '624', 504 as '304');
 vol.2: π^2 A-2O⁸ 2P⁶(-2P₆); *i-iv* 1 2-599 600-602 (598);
 vol.3: π^2 A-2R⁸ 2S⁶; *i-iv* 1 2-650 651-652 (566 as '588', 644);
 vol.4: π^2 A-2T⁸ 2U⁶; *i-iv* 1 2-681 682-684 (678);
 vol.5: π^2 A-2P⁸(-2P₇ -2P₈); *i-iv* 1 2-603 604 (598);
 vol.6: π^2 2 π^2 A-2N⁸ 2O⁴; *i-iv* I II-IV 1 2-583 584 (580);
 vol.7: π^2 A-2L⁸ 2M⁶ 2N²; *i-iv* 1 2-560 (467 as '367', 558);
 vol.8: π^2 A-2P⁸ 2R⁶ 2S⁴; *i-iv* 1 2-642 643-644 (640);
 vol.9: (not seen);
 vol.10: π^2 2 π^4 (2 π_{11} +3 π^1) A-3A⁸(-3A₈); I-V VI-XIII XIV 1 2-750 (21 33 281 695).

Contents: vol.1: *i* □; *ii* title: "NEUER NACHTRAG ..."; *I* title: "NEU ENTDECKTE PFLANZEN ..."; *II* □; *III-VIII* preface, dated April 1825; 1-614 text, dictionary *Abiliosa-Bomarea*; 615-618 index of German plant names; 619 corrections; 620 imprint; 621-622 □;
 vol.2: *i* □; *ii* title: "NEUER NACHTRAG ..."; *iii* title: "NEU ENTDECKTE PFLANZEN ..."; *iv* □; 1-595 text, *Bonamia-Citharexylum*; 596-599 index of German names; 600 imprint; 601-602 □;
 vol.3: *i-iv* titles as in vol.2; 1-643 text, *Citrosma-Eysenhardtia*; 644-650 index of German names; 651 corrections; 652 □;
 vol.4: *i-iv* titles as in vol.2; 1-675 text, *Fabiana-Iungermannia*; 676-681 index of German names; 682 □; 683-684 announcements of books available in J. Ebner's bookshop;
 vol.5: *i-iv* titles as in vol.2; 1-597 text, *Jungia-Nomordia*; 598-603 index of German names; 604 corrections;
 vol.6: *i-iv* titles as in vol.2; I-IV publisher's preface at the occasion of the commemoration of Dietrich's 50 years botanical authorship, with quotation from *Flora* 1835(25), signed Dr. F.H-L, in which Goethe is cited and his connection with Dietrich, also including announcement that vol.7 is under the press and will be ready for shipment at the "Jubilate-Messe 1837"; 1-579 text, *Monachanthus-Phytosys*; 580-583 index of German names; 584 corrections;
 vol.7: *i-iv* titles as in vol.2; 1-557 text, *Piscina-Rhytiphloea*; 557 corrections; 558-560 index of German names;
 vol.8: *i-iv* titles as in vol.2; 1-639 text, *Sabal-Tittmannia*; 640-642 index of German names; 643 corrections; 644 announcement of four horticultural titles;
 vol.9: *i-iv* titles probably as in vol.2; 1-... text, *Tmesipteris-Zymum* "mit Anhang" (with Appendix); ... index of German names; ...;
 vol.10: I-IV titles as in vol.2; V-VI preface: "Vorwort", dated: "Mai 1840"; VII-XIII contents; XIV corrections; 1-20 introduction; 21-22 preface: "Vorbericht"; 23-32 synopsis of the classification and arrangement of the natural plant families in Reichenbach's system; 33-280 condensed treatment of 98 plant families, following Reichenbach, ending with "Botanische Pflanzkunst" (277-280); 281-594 appendix and supplement to the lexicon; 595-742 general index of German plant names; 742 corrections to vol.10; 743-748 corrections to vols. 1-10; 749-750 advertisement of "Neuestes vollständiges Gartenbuch".

Paper: leaf height 188 mm. (NYBG copy, cut); laid, chains vertical: vols.1-2, 5-7, or wove: vols. 3-4, 8 (9 & 10 not checked); wm. not studied.

Printer: Froebel, "Hofbuchdruckerei", Rudolstadt, Germany: vols. 1-2; no indication in the other volumes.

Publishers: Gädicke, Gebr., Berlin, Germany: vols. 1-2;
Ebner, J., Ulm, Germany: vols. 3-10.

Dates: vol.1: 1825 (t.-p.), trim.1-3 (*Linnaea* 1(1): 134. 1826 Jan.);
vol.2: 1826 (t.-p.);
vol.3: 1834 betw. 15 Jan. and 12 Mar. (*Flora* 17(15): 258. 1834);
vol.4: 1835 probably after 14 Nov. (*Flora* 18² *Intelligenzbl.* 1: 14. 1835, announced as in press);
vol.5: 1836 betw. 11 May and 13 Jul. (*Flora* 19(27): 451. 1836);
vol.6: 1837 probably trim.1 (see vol.7); bef. 15 Sep. (see *Reviews*);
vol.7: 1837 probably Jubilatesmesse (3rd Sunday after Easter), (announced in vol.6 as being in press, and ready for sale at "Jubilatesmesse"); first other announcement found: 30 Apr. 1838 (*Flora* 16(2): 146-147. 1838);
vol.8: 1838 bef. 1 Sep. (*Flora* 21(35): 565. 1838);
vol.9: 1839 bef. 7 Mar. (see review);
vol.10: 1840 bef. 15 Oct. (see review).

Reviews: vol.3: *Flora* 17(15): 258. 1834;
vol.5: *Repert. Gesamt. Deutsch. Lit.* (Gersdorf) 10(2): 166. 1836;
vol.6: " " " " " 13(4): 347-348. 1837;
vol.7: " " " " " 16(2): 146-147. 1838;
vol.8-9: " " " " " 22(6): 542-543. 1838;
vol.10: " " " " " 26(1): 57. 1840.

Refs.: Heins.7: 178 (vol.1-2)	Bradl.3: 74 ^a	Milt. 340
9: 203 ^a (vol.5-7)	Kew 1: 161	Pr.ed.1 n.2616
10(1): 192 ^b (vol.8-10)	Krüg. 66-67 (7 vols.)	Pr.ed.2 n.2275.

Notes. This new supplement to Dietrich's *Vollständiges Lexicon der Gärtnerei und Botanik* shows a shift from laid to wove paper, and again laid paper in a later volume, indicating that the price difference began to diminish.

Essentially a botanical compilation of new genera and species published since the earlier supplement, with horticultural remarks; it was neglected by some contemporary botanists, even if it contained new species with descriptions (no attempt was made to trace any in this supplement; the preface to the first supplement implies new species with descriptions). In the first two volumes the cryptogams, when mentioned, were referred to a cryptogamic supplement (as in first supplement), or given a very short description or reference to an accepted generic name before this indication: "s. Nachtr. Kryptogamie." In vols.3-9, after the change of publisher, this plan apparently was given up, since this reference no longer appeared and cryptogams were treated in their alphabetical place. No new combinations in *Musci* were seen nor expected, since Dietrich's interest was mainly in phanerogams and probably vascular cryptogamous plants (ferns).

DRUMMOND, James Lawson

Biogr. Born 1783 ... , Larne, Co. Antrim, Ireland.

Died 1853 May 17, Belfast, Ireland.

J.L. Drummond was from 1807 to 27 May 1813 a navy surgeon in the Mediterranean. Having received the M.D. degree at Edinburgh on 24 Jun. 1814, he became a practising physician at Belfast. He was nominated first professor of anatomy and physiology in the Belfast Academical Institution on 15 Dec. 1818. In 1820 he was one of the leading projectors of the Botanical Garden at Belfast. He founded with others the Belfast Natural History Society on 5 Jun. 1821, which became in 1840 the Belfast Natural History and Philosophical Society, and helped in 1830-31 to create the museum of this society, of which the building stone was laid 4 May 1830; it opened 1 Nov. 1831.

He married three times, but had no issue.

As far as I can ascertain, he was commemorated in the generic name *Drummondita* Harvey 1855 (*Rutaceae*).

Refs: G[ordon], A[lexander], *Diot.Natl.Biogr.* 16: 33-34. 1888.
Belfast Nat.Hist.Soc.Cent. vol.72, 73: 126.
Proc.Belfast Nat.Cl. ser.2, 6: 618. 1882.
 McMillan, N.F.: *Irish Natural.J.* 12(9): 222-223. 1958 Jan.

1 *First steps to botany ...*

Ed.2. London, 1826.

Title: "FIRST STEPS TO BOTANY, | INTENDED AS | Popular Illustrations [line in gothic] | OF THE SCIENCE, | LEADING TO ITS STUDY AS A BRANCH OF | GENERAL EDUCATION. | [short rule] | BY JAMES L. DRUMMOND, M.D. | PROFESSOR OF ANATOMY AND PHYSIOLOGY IN THE | BELFAST ACADEMICAL INSTITUTION. | [short rule] | SECOND EDITION. | [short rule] | [woodcut or engraving, stone with inscription: "LINNAEUS." surrounded by flowers] | LONDON: | PRINTED FOR LONGMAN, REES, ORME, BROWN, AND GREEN, | PATERNOSTER-RROW. | 1826."

Collation: 12°: A⁴ B-R¹² S⁴ (\$1-6 signed except A₂₋₄ & S₄); i-vii viii
 1 2-391 392 (378 379).

Contents: i half-title; ii poem, unsigned; iii title; iv imprint: "LONDON: | Printed by A. & R. Spottiswoode, | New-Street-Square."; v dedication to the officials of the Belfast Academical Institution; vi □; vii-viii preface, dated 27 May 1826; 1-377 text, containing 8 chapters with descriptions of morphological terms from root to fructification and nectary (1-233), a chapter of the Linnaean classification (234-365), with short observations for each class and order and giving a few names of species in these groups and a conclusion (366-377); 378 □; 379-391 index; 392 imprint. RT: chapter headings (versos) and subjects (rectos).
 Language: English.

Text illustrations: 89 numbered wood engravings, illustrating morphological terms and plants in different groups, and 11 vignettes, unnumbered, mostly not related to the text, probably wood engravings too.

Artists: Bonner, G.W.: "the greater number";
 Drummond (the author): "a few"; } see preface.
 Sowerby: "a considerable number";

Engraver: Bonner, G.W.: all figures.

Paper: leaf height 178 mm. (HBL copy, cut); wove; no wm.

Printers: A. & R. Spottiswoode, London.

Publishers: Longman, Rees, Orme, Brown, and Green, London.

Date: 1826, after 27 May (preface), and bef. 1 Oct. (see review).

Review: *Linnaea* 1(1): 155. 1826 Oct. 1.

Refs.: BMNH 481	Kew 168	Linn.Soc. 225	Mass.HS-M 1: 527
Bradl.1: 85b	Krüg. 54	Mass.HS-H 82a	Milt. 47 (without date)

Notes. A popular introduction to botany, second edition (first edition not compared). In the preface to this edition it is stated that the suggestion to add a sketch of the natural classification of de Jussieu was not followed, since it would be "too short to afford sufficient information, or too long to be compatible with the general nature and object of the work." The first edition is dated 1823; an octavo third edition is indicated in *Edinburgh New Phil.J.* 11(2): 406. 1831. A number of poems are partly quoted as to some passage in connection with flowers; the author is usually cited in a footnote.
 Some details of the collation and contents were kindly checked for me by my colleague Mrs. H. Lancour.

DRUMMOND, Thomas

Biogr. Born circa 1780, Perth?, Scotland.

Died 1835, early Mar., Havana, Cuba.

Thomas Drummond worked during the early part of his life in Don's nursery, was active in field botany, and prepared *Musci Scottici*. For Sir Franklin's second land expedition he was appointed assistant naturalist to Dr. Richardson. He sailed from Liverpool 16 Feb. 1825 and arrived at New York 15 Mar. 1825. They traveled up the Hudson River, along Lake Ontario and via Winnipeg to the Mackenzie River. In Cumberland Drummond left the expedition to proceed to the Rocky Mountains.

From 1828-31 he was curator of the Belfast Botanical Garden, and he went for a second time to America to collect plants for this garden. In spring 1831 he traveled on foot through the Allegheny Mountains, came to St. Louis in July, but then he fell ill so that he was unable to join the fur traders to the north. Instead he went to the New Orleans region and made a botanical tour in Texas. In Velasco he was attacked by cholera; he was said to be the only one from those attacked to recover. He embarked for Havana 9 Feb. 1835, where he died soon after his arrival.

He was commemorated in the generic name *Drummondia* W.J. Hooker 1828, nom. cons. (*Musci*, *Orthotrichaceae*).

Ref.: B. D[aydon] J[ackson]: *Diet. Natl. Biogr.* 16: 41. 1888.

1 *Musci Scottici* or dried specimens of the mosses that have been discovered in Scotland, with reference to their localities.

2 vols. 1824-1825 [exsiccata].

Title, collation, contents etc.: no copy seen.

Dates: vol.1: 1824, bef. Oct.;

vol.2: 1825, bef. Apr. (*Edinb.J.Sci.* 2(2): 354. 1825 Apr., announcement: "has now appeared").

Review: *Edinb.J.Sci.* 1(2): 365-367. 1824 Oct. (with list of species): 2 vols. with 200 specimens.

Notes. To quote the review in *Edinb.J.Sci.* (probably written by W.J. Hooker from an advance copy): "Two volumes with 200 dried specimens. Each volume has 100 leaves upon which an excellent specimen and the names, synonyms and habitats are given on a label below." The labels had references to Hooker & Taylor, *Muscologia Britannica*, 1818, Hooker, *Flora Scottica*, 1821, and Greville, *Flora Edinensis*, 1822. I have not seen a reference to any description on the label, and took the absence of descriptions for granted in the preparation of *Index Muscorum*. At least one name is reported to be published here for the first time: *Grimmia spiralis* Hooker & Taylor, vol.2, n.20.

2 *Musci Americani exsiccati* or dried specimens of 286 species of mosses from British North America.

2 vols. Glasgow, 1828 [exsiccata]

Title, collation, contents etc.: no copy seen.

Specimens: 286 specimens pasted to rectos of the leaves.

Date: 1828.

Review: Hooker, W.J.: *Bot.Misc.* 1: 93-94. 1829

Notes. Important set of exsiccata of the North American bryoflora. According to literature references descriptions are present. About 20 new species were proposed, some described and signed by W.J. Hooker, one new genus, *Drummondia* W.J. Hooker, and at least one new varietal combination, *Hypnum abietinum* var. *scitum* (P. Beauvois) Drummond. Names of interesting species are given in Hooker's review cited. From Drummond's collections of his second tour a new series of exsiccata was prepared by W. Wilson and W.J. Hooker in 1841.

DURET, L. See: Lorey & Duret.

EATON, Amos

Biogr. Born 1776 May 17, New Concord, Chatham, Columbia County, New York.

Died 1842 May 10, Troy, New York.

Eaton entered Williams College, Williamstown, Mass., in Sep. 1795, and received the A.B. degree in 1799. He began the study of law in Sep. 1799 under Hon. Elisha Williams in Spencertown, N.Y., and continued in 1800 under Hon. Josiah Ogden Hoffman, Att. Gen. at New York, in the meantime studying botany, chemistry and natural philosophy under David Hosack and S.L. Mitchill. He was licensed as an Attorney on 30 Oct. 1802 and became a land agent in Oct. 1802.

He had a flourishing business in the region of Catskill, N.Y., and began a "Catskill Botanical School", for which he produced his first botanical book. His position there, however, was ruined by machinations of persons who wanted his downfall and finally succeeded in a suit for forgery, for which he was sentenced to imprisonment, 26 Aug. 1811. During his term he became friends with John Torrey, with whom he studied botany, and also studied mineralogy and chemistry, preparing books on these subjects. He was pardoned conditionally 17 Nov. 1815 (the condition being that he depart from the state of New York) and unconditionally 23 Feb. 1817, which enabled him to return to his state.

He arrived in Yale College, New Haven, 23 Feb. 1816, making mineralogical observations while traveling. He studied botany under Eli Ives, chemistry, mineralogy and geology under Benjamin Silliman, and remained there a year acquiring certificates for teaching from Ives and Silliman. From March 1817 he lectured at Williams College, Williamstown, Mass., in botany and mineralogy, in the meantime qualifying himself for a degree there: M.A., 3 Sep. 1817. He was named corresponding member of the Lyceum of Natural History, New York.

From 1817 to 1824 he was an itinerant lecturer, giving courses in botany, mineralogy and chemistry at several places in New England and New York. A Lyceum of Natural History was formed at Troy, N.Y., in 1819, of which he became official lecturer 8 Nov. 1819. He also officially lectured at Castleton Medical Academy, Vermont, at the new College at Amherst, Mass., and gave a course to members of the Legislature at the Capitol, Albany, N.Y. These lectures were successful in popularizing natural sciences.

Eaton made a geological survey of Rensselaer County and of other counties in New York, and of the region of the Erie Canal, on which he worked several summers. 5 Nov. 1824 the Rensselaer School was founded at Troy, N.Y., later named Rensselaer Institute and now Rensselaer Polytechnic Institute, of which Eaton was the driving force. He served as senior professor and principal till his death. Strong emphasis was laid on the practical work by the students, and though their numbers were small, the School had a great qualitative influence.

Eaton married four times, losing three wives by death. Moreover he lost a number of sons by death, two after they had entered Rensselaer School. The son he loved most, Amos Beebe Eaton, studied at West Point and had a worthy military career. A son of this son, Daniel Cady Eaton, became a botanist in his own right.

Eaton's importance as a botanist lies mainly, as he stressed himself, in the field of teaching and popularizing. He was able to reach large numbers of people through his lectures, and to prepare the ground for the reception of works of more thorough botanists like Torrey.

Apart from the 7 editions of the *Manual of Botany*, treated here, Eaton published other small botanical books: *A botanical dictionary*, in several editions, translated from Bulliard and Richard, *Botanical exercises*, Albany 1820, and *A botanical grammar*, in some editions combined with the dictionary. Though closely related to his manual, they are not treated here, since they are not important for bryology. The eighth edition of the manual was published under a new title: Eaton, Amos, and Wright, John: *North American Botany* ... Troy, 1840 (vi + 625 p.). Eaton himself considered his botanical science of minor importance, but laid more stress on his contributions to geology.

Eaton's herbarium is reportedly deposited in the Osborn Botanical Laboratory, Yale University. It is described by Merrill and Reeder as "amateurish", even taking into account the general neglect of labels and information in herbaria of the period. He was commemorated in the generic name *Eatonia* Rafinesque 1819 (*Gramineae*).

- Refs.:** McAllister, Ethel M.: *Amos Eaton scientist and educator 1776-1842*. Philadelphia, Univ. of Penna. Press. 1941.
 Good, H.G.: *Amos Eaton (1776-1842) scientist and teacher of science, Sci.Monthly* 53: 464-469. 1941 Nov.
 Merrill, E.D. & Reeder, J.R.: *New plant names published by Amos Eaton between the years 1817 and 1840. Bartonia* 24: 26-79. 1947 Feb. 15.
 Merrill, E.D.: *Am. Fern Journal* 37: 6-10. 1947.
 Merrill, E.D.: *The Amos Eaton herbarium. Rhodora* 48: 201-205. 1948.

1 A Manual of Botany for the Northern states ...

[anonymous] Albany, 1817.

Title: "A | MANUAL OF BOTANY | FOR | The Northern States. [line in gothic] | COMPRISING | GENERIC DESCRIPTIONS OF ALL PHANEROGAMOUS AND CRYPTO-|GAMOUS PLANTS TO THE NORTH OF VIRGINIA, HITH-|ERTO DESCRIBED; WITH REFERENCES TO | THE NATURAL ORDERS OF LIN-|NEUS AND JUSSIEU. | Each Genus is further illustrated by short Descriptions of | its most common Species. | [short fancy rule] | BY THE MEMBERS OF THE BOTANICAL CLASS IN | WILLIAMS' COLLEGE, (Mass.) | From a Manuscript System, | COMPILED BY THE AUTHOR OF | RICHARD'S BOTANICAL DICTIONARY. | [very long fancy rule] | ALBANY: [swash A's and N] | PRINTED BY WEBSTERS AND SKINNERS. | [very short stippled rule] | 1817."

Collation: 12° in 6s: A-O⁶ P²(-P²) (\$3 signed \$2, O₁ as 'M', O₃ as 'M₂', P₁ as 'N'); i-ii iii-vi 1-164 (iv-v 6-7 151 163, 107 as '701').

Contents: i title; ii-iii letter of appreciation "to the author | of | Richard's botanical dictionary", dated 8 Apr. 1817 and signed by the members of the course on mineralogy, nearly completed and of the coming course of botany (Williams College, Mass.), in which they thank the lecturer for the systematic description of vegetables which was presented to them gratuitously, for publication; iv □; v-vi preface; 1-5 Linnaean classification, as modified by Willdenow (22 classes); 5 explanation of signs; 6 □; 7-142 text, descriptions of plant genera in the Linnaean classification; 142-150 index of Latin names of genera; 151-162 index of vernacular names; 163-164 errata. RT: class and order number, none in preliminaries. Language: English.

Paper: leaf height 185 mm., sheet size 549 x 440 mm. (Beinecke Yale copy); wove; no wm.

Printers: Websters and Skinners, Albany, N.Y.

Date: 1817 (t.-p.); between 18 and 31 Jul. (two letters from Eaton to Torrey, quoted by McAllister: *Amos Eaton* 175. 1941).

Review: R[afinesque]: *Am.Monthly Mag.* 1(6): 426-430. 1817 Oct.

Bibliogr.studies: Sayre, G.: *Dates of publ.* 54. 1959;
 Stafleu, F.A.: *Taxonomic literature* n.329i. 1967.

Refs.: Am.Bibliogr. n.40722 | BMNH 502 | Jacks. 354 | Pr.ed.1 n.2882, ed.2 n.2593
 Arn.Arb.1:223, 2:106 | Bradl.1:306a | Meis.3:378 | Soulsby Add. n.807a.

Bibl.notes. As the author explained in the preface, the format was chosen to enable buyers to bind it together with his translation of Richard's dictionary published at New Haven, with which it should be used.

The double use of the signatures is a problem; the collation could be written in another way: A-N⁶ X⁶ 2X¹ (X₁ as 'M', X₃ as 'M₂', 2X₁ as 'N').

An unusual point is the type-font of the headings on A_{3r}: "PREFACE." and on P_{1r}: "ERRATA", swash capitals leaning backwards. According to the preface of the second edition 500 copies were printed, and apparently it sold well.

Bot.notes. Eaton attempted to produce an inexpensive introduction to botany. For this he condensed the characters of each genus into a few lines, not too difficult to understand. Under each genus one or two common species were mentioned. The book was critically reviewed by Rafinesque, and probably also received with reserve by other botanists, who had learned their plants the hard way. Nevertheless it helped popularize botany, in connection with his lecturing in New England and New York State. *Musci* are treated on p.125-130, *Hepaticae* on p.130-132. In *Musci* the spelling *Diphascum* (p.128) was used for *Diphyscium*. For names of phanerogamous plants of this and all other editions see Merrill & Reeder, 1947.

2 A Manual of Botany for the Northern and Middle States.

Ed.2. Albany, 1818.

Title: "A | MANUAL OF BOTANY | FOR THE | NORTHERN AND MIDDLE | STATES. [thin-thick outline] | [very short fancy rule] | PART I. [swash A] | CONTAINING | GENERIC DESCRIPTIONS OF THE PLANTS TO THE | NORTH OF VIRGINIA, WITH REFERENCES TO | THE NATURAL ORDERS OF LINNÆUS | AND JUSSIEU. | [very short fancy rule] | PART II. [swash A] | CONTAINING | SPECIFIC DESCRIPTIONS OF THE INDIGENOUS | PLANTS, WHICH ARE WELL DEFINED | AND ESTABLISHED; AND OF THE | CULTIVATED EXOTICS. | [short double rule] | BY AMOS EATON, A. M. | Lecturer on Botany, Mineralogy and Chemistry. | Corresponding Member of the Lyceum of Natural History | of New-York. | [short double rule] | *Second Edition, corrected and enlarged.* | [medium double rule] | ALBANY: | PRINTED AND PUBLISHED BY WEBSTERS AND SKINNERS. | [short rule of asterisks] | 1818."

Collation: 12° in 6s: A-B⁶ x⁶ C-U⁶ V⁶ W-2S⁶ 2T⁴ (\$3 signed \$2, x₁ as 'Bb', x₃ as 'Bb₂', Y₁ as 'yY', Y₃ as 'Yy₂', 2S₃ unsigned); i-v "[6]"-"[12]" 1-524 (25 127 570-571).

Contents: i title; ii registration, dated 12 May "in the forty-first year of the Independence of the United States of America ..." (1818); iii dedication, to Zephaniah Swift Moore (1770-1823), Chester Dewey (1784-1867), and Ebenezer Kellogg, president and professors of Williams College (Mass.); iv □; v-"[12]" preface, including the transcript of a letter dated Nov. 24, 1817; 1-24 introduction, including tables of the Linnaean classification (modified) and a list of the natural orders of [de] Jussieu; 25-119 text, a system of genera with descriptions of plant genera in the Linnaean classification, ending with: end of part I; 120 abbreviations; 127-501 text, species of plants, alphabetically arranged descriptions of species, ending with: end of part II; 502-509 additions and corrections, including improvements after Nuttall's genera of North American plants, received when "432 pages were struck off"; 570 "ADVERTISEMENT.", mentioning the number of species included; 571-524 index of vernacular names. RT: class and order number in part I and generic names in part II, chapter headings in introduction and index, none over preface. Language: English.

Paper: leaf height 177 mm. (HBL copy, cut); wove; no wm.

Printers and publishers: Websters and Skinners, Albany, N.Y.

Date: 1818 (t.-p.); aft. 2 Jun. (letter from Eaton to Torrey: "not yet published", quoted by McAllister: *Amos Eaton* 226, 1941);
Jul. (Rickett & Stafleu: *Taxon* 10(3): 81, 1941);
bef. 8 Sep. (*Albany Gazette & Daily Advertiser*,
quoted by McAllister: *Amos Eaton* 223, 1941).

Review: R[afinesque]: *N.Am.Review*, 1818 Sep.

Bibliogr. studies: Sayre, G.: *Dates of publ.* 55, 1959;
Rickett & Stafleu: *Taxon* 10(3): 81, 1961.

Refs.: Am.Bibliogr. n.43907	Mass.HS-H 86	Pr.ed.1 n.2882
Arn.Arb.2: 106	Mass.HS-M 1: 539	Pr.ed.2 n.2593
Bradl.1: 306a	Meis.3: 378	Soulsby Add. n.807b
LCC 43: 173		Stafl. TL n.329i.

Variants: the error *Naphar* instead of *Nuphar* was printed in about $\frac{1}{4}$ of the edition; the error *Solidago rauta* (p.445) was corrected to *S. arguta* in part of the edition.

Notes. In the first set the page numbers were printed between square brackets; the unnumbered pages are reported here in roman numerals for simplicity. The experiment with the first edition proved successful and Eaton felt justified to add his name on the title-page of the new edition. He considerably augmented the usefulness by adding condensed descriptions of species, though their arrangement in alphabetical order of the generic names removed these far from the generic descriptions.

3 Manual of Botany, for the Northern and Middle States of America.
Ed.3. Albany, 1822.

Title: "MANUAL | OF | BOTANY, [shaded outline] | FOR THE | NORTHERN AND MIDDLE STATES | OF AMERICA. | CONTAINING GENERIC AND SPECIFIC DESCRIPTIONS | OF THE INDIGENOUS PLANTS AND COMMON | CULTIVATED EXOTICS, GROWING | NORTH OF VIRGINIA. | TO WHICH ARE PREFIXED, | THE NATURAL AND ARTIFICIAL CLASSES AND ORDERS OF LINNEUS; | AND THE NATURAL ORDERS OF JUSSIEU, WITH THE | MEDICINAL PROPERTIES OF EACH ORDER. | [short rule] | BY AMOS EATON, A. M. | Professor of Botany and Chemistry in the Vermont Medical Institution, which is con-|nected with Middlebury College, and Lecturer in the Troy Lyceum; | Member of the American Geological Society; Corresponding | Member of the New-York Lyceum of Natural | History, and Honorary Member of | the Hudson Lyceum. | [short rule] | " THAT EXISTENCE IS SURELY CONTEMPTIBLE, WHICH REGARDS ON-|" LY THE GRATIFICATION OF INSTINCTIVE WANTS, AND THE PRESER-|" VATION OF A BODY, MADE TO PERISH:" [space] *Linneus*. | [long double rule] | THIRD EDITION, REVISED AND CORRECTED. | [long double rule] | ALBANY: [swash A's and N] | PRINTED AND PUBLISHED BY WEBSTERS AND SKINNERS. | [very short fancy rule] | 1822."

Collation: 12° in 6s: A⁶ B-U⁶ V⁶ W-2T⁶ 2U⁴ (\$3 signed \$2); 1-5 6-536 (12 55 153 523 535).

Contents: 1-2 □; 3 title; 4 registration of the second edition with its date 12 May 1818; 5-11 preface to ed.3, dated 17 Jan. 1822; 12 □; 13-16 artificial classes and orders (Linnaean); 16-17 rules for distinguishing poisonous plants; 18-54 natural orders of Linnaeus and of de Jussieu, the latter amply treated, including medicinal properties; 55-150 text, description of genera in Linnaean classification (modified); 151-152 explanation of abbreviations and signs; 153-520 text, descriptions of species in alphabetical arrangement; 521-522 additions and corrections, including a remark, softening his criticisms of contemporary botanists; 523-534 index of vernacular names; 535-536 notices, being an advertisement, mentioning the number of species included. RT: numbers of class and order in the genus part, generic names in the species part, elsewhere chapter indications. Language: English.

Paper: leaf height 182 mm. (HBL copy, cut); wove; no wm.

Printers and publishers: Websters and Skinners, Albany, N.Y.

Date: 1822, after 17 Jan. (preface); betw. 23 Mar. (letter by Torrey to Eaton, congratulations on the finishing of the printing, quoted by McAllister: *Amos Eaton* 229. 1941), and 23 Apr. (Rickett & Stafleu: *Taxon* 10(3): 81, 1961)

Refs.: Bradl.1: 306a	Pr.ed.1 n.2882	Soulsby Add. n.807C
Meis.3: 378	Pr.ed.2 n.2593	Stafl. TL n.3291.

Notes. Revised and augmented edition, in which author names were added to the binomials; several species, however, were placed in other genera than the author cited had done; this makes identification of the name sometimes difficult. New name in *Musci*: *Grimmia michauxi* Torrey, based on *Grimmia gracilis* Michaux 1803 (non *G. gracilis* (Hedw.) Weber et Mohr 1803), now considered a synonym of *Blindia acuta* (Hedw.) B.S.G. *Hypnum torreyanum* Sprengel is given on p.315, without a description. *Diphascum* is replaced by *Diphyasium* (p.133, 266). For combinations in phanerogams see Merrill and Reeder, 1947.

4 A Manual of Botany for the Northern and Middle States of America.
Ed.4. Albany, 1824.

Title: "A | Manual of Botany, [line in gothic] | FOR THE | NORTHERN AND MIDDLE STATES | OF AMERICA. | CONTAINING GENERIC AND SPECIFIC DESCRIPTIONS OF THE INDIGEN-|OUS PLANTS AND COMMON CULTIVATED EXOTICS, GROW-|ING NORTH OF VIRGINIA. | TO WHICH IS PREFIXED: | A GRAMMAR AND VOCABULARY; | ALSO, THE NATURAL ORDERS OF LINNEUS AND OF JUSSIEU, WITH | THE MEDICINAL PROPERTIES OF EACH ORDER. | [short rule] | BY AMOS EATON, A. M. | Late Professor of Botany, and now Professor of Chemistry and Natural Philosophy | in the Vermont Academy of Medicine, and Lecturer in the Troy Lyceum; Member | of the American Geological Society; Corresponding Member of the New-York | Lyceum of Natural History, and Honorary Member of the Hudson and Newburgh | Branches. | [short rule] | THAT EXISTENCE IS SURELY CONTEMPTIBLE, WHICH REGARDS ONLY | THE GRATIFICATION OF INSTINCTIVE WANTS, AND THE PRESERVA-|TION OF A BODY MADE TO PERISH. [space] *Linneus*. | [very short swelled rule] | FOURTH EDITION, REVISED AND CORRECTED. | [medium thick-thin rule] | ALBANY: [swash A's and N] | PRINTED AND PUBLISHED BY WEBSTERS & SKINNERS, | Corner of State and Pearl-streets. | [very short swelled rule] | 1824."

Collation: 12° in 6s: A-V⁶ W-2U⁶ 2V⁶ (\$3 signed \$2); i-iii iv-ix 10-11 12-539 540 (96 184 508-509 516-517).

Contents: i title; ii registration, dated "the twelfth of May, in the forty-first year of the independence of the United States of America ..."; iii-ix preface to the third edition repeated; 10 preface to the fourth edition, dated "Troy (N.Y.) 1823."; 11-78 grammar of botany, including: 11 physiology, 12-13 growing, 13-23 morphological terms, 24-37 the Linnaean classification (Willdenow's modified form with 22 classes), 38-42 natural orders of Linnaeus, 42-77 natural orders of [de] Jussieu, 77-78 general rules for avoiding poisons; 79-93 vocabulary of botanical terms; 94-95 explanation of numbers, signs and abbreviations used in the descriptions; 96 □; 97-183 generic descriptions in the Linnaean classification (modified); 184 □; 185-507 descriptions of species (alphabetical); 508 □; 509-515 index of vernacular names; 516 □; 517-539 appendix, with a short introduction, signed: "Albany, Feb. 1, 1824 LEWIS C. BECK.", stating that he prepared additions mostly from Torrey, *Fl.N.Middle States*, and Halsey, *Ann.New-York Lye.*; 540 □.

Paper: leaf height 180 mm. (HBL copy, cut); wove; no wm.

Printers and publishers: Websters and Skinners, Albany, N.Y.

Collaborator: Beck, Lewis Caleb (1798-1853).

Date: 1824 (t.-p.); after 1 Feb. (appendix, p.519).

Bibliogr.study: Stafleu, F.A.: *Taxonomia literature* n.329i. 1967.

Refs.: BMNH 502	Lindl.Lib. 130	Pr.ed.2 n.2593
Bradl.1: 306 ^a	Meis.3: 378	Soulsby Add. n.807 ^d .

Notes. New edition, with "but few alterations", "a concise grammar of botany, and a vocabulary of technical terms", and an appendix by L.C. Beck, who also corrected the proofs (see footnote on p. ix of the 6th edition).

5 Manual of botany, for North America: containing generic and specific descriptions of the indigenous plants and common cultivated exotics, growing north of the Gulf of Mexico.

Ed.5. Albany, 1829.

Title, collation, contents etc.: not studied. 12°.

Paper: leaf height 190 mm.

Printers and publishers: Websters and Skinners, Albany, N.Y.

Collaborators: Aikin, William Edward A. (1807-1888); } see ed.6, preface, p. vi.
Eaton, Hezekiah Hulbert (1809-1832);

Date: 1829 (t.-p.), bef. 25 Sep. (letter from Torrey to G.W. Clinton, quoted by McAllister: *Amos Eaton* p.231. 1941).

Refs.: Bradl.1: 306a	Mass.HS-H 86	Pr.ed.1 n.2882
LCC 43: 173	Mass.HS-M 1: 539	Pr.ed.2 n.2593
	Meis.3: 378	Stafl. TL n.329i.

Notes. This fifth edition was "revised, corrected, and much extended", according to the title-page. *Hypnum ooleyanum* S[prengel] is mentioned on p.253 and described in the Appendix, p.3 (courtesy I. MacPhail, Beinecke Library, Yale University). Torrey's judgment (see letter under Date) was: "a hasty compilation".

6 Manual of botany for North America ...

Ed.6. Albany, 1833.

Title: "MANUAL OF BOTANY, | FOR | NORTH AMERICA: | CONTAINING | GENERIC AND SPECIFIC DESCRIPTIONS OF | THE INDIGENOUS PLANTS AND COMMON | CULTIVATED EXOTICS, | GROWING | NORTH OF THE GULF OF MEXICO. | [very short fancy rule] | BY PROF. AMOS EATON. | [very short fancy rule] | "That existence is surely contemptible, which regards only the gratification of instinctive | wants, and the preservation of a body made to perish." [space] *Linneus.* | [long rule] | SIXTH EDITION. | WITH THE ADDITION OF THE MOST APPROVED | NATURAL ARRANGEMENT OF GENERA: | ALSO THEIR ETYMOLOGIES AND ACCENTUATION | [long rule] | ALBANY: | PUBLISHED BY OLIVER STEELE, | And for sale by Grigg & Elliott, Carey, Lea & Blanchard, Desilver & Thomas, Hogan & | Thompson, U. Hunt, and Perkins & Marvin, *Philadelphia*; Collins & Hannay, N. & J. | White, S. Wood & Sons, and G. & C. & H. Carvill, *New-York*; Carter Hendee & Co. | Lilly, Wait & Co., Stimson & Clapp, and Crooker & Brewster, *Boston*; F. Adancourt, | W. S. Parker & Son, and Z. Clark, *Troy.* | [very short fancy rule] | F. Adancourt, [swash A] Printer, Troy. | 1833."

Collation: 12° in 6s: A⁶ B-H⁶ I⁴ 1-33⁶ 34² 35-46⁶ (A₃ signed '1*');
[pagination arranged in three sets:] part 1[1]: i-iii iv-x 77-78 13-103
704 (24 26 27), part 1[2]: 1 2-401 402-404, part 2: 1-3 4-137
138-140 (114 116).

Contents: part 1[1]: *i* title; *ii* registration: "in the year 1833"; *iii*-x preface, dated: "May 22, 1833"; 11 part-title of "part first"; 12 □; 13-23 classification of plants, systems of Linnaeus, de Jussieu and subdivisions by "Lindley and others"; 24-25 abbreviations and signs; 26 particular directions for the student in botany; 27-103 text, descriptions of genera; 104 □; part 1[2]: 1-401 text, descriptions of species in alphabetical order; 402-404 □; part 2: 1 title of "part second"; 2 □; 3-113 descriptions of natural orders of [de] Jussieu, with generic and specific descriptions of non-vascular cryptogams; 114 □; 115-137 vocabulary and index; 138 additions and corrections; 139-140 □. RT: class and order number in the genus part, generic names in the species part, subject or chapter heading in the other parts, except p.x, having "APPENDIX" instead of "PREFACE". Language: English.

Paper: leaf height 179 mm. (HBL copy, cut); wove; no wm.

Printer: Adancourt, F., Troy, N.Y.

Publisher: Steele, Oliver, Albany, N.Y.

Collaborators: Williams, S.W. (1812-1884): etymologies;
Lehmus: revised the etymologies;
Hall, James (1811 Sep. 12 - 1898 Aug. 7): inserted new localities from many sources (mentioned in preface), and read the proofs.

Date: 1833 (t.-p., registration), after 22 May (preface), on or bef. 3 Jun. 1833 (letter from Eaton to O. Steele, 12 copies already received, quoted by McAllister: *Amos Eaton* 234. 1941).

Refs.: Arn.Arb.2: 106	LCC 43: 173	Pr.ed.1 n.2882, ed.2 n.2593
BMNH 502	Mass.HS-H 86	Roorb. 170
Bradl.1: 306 ^a	Mass.HS-M 1:539	Soulsby Add. n.807 ^e
Kew 177	Meis.3: 378	Stafl. TL n.329i.

Bibl.notes. The change of publisher and Eaton's reasons for it were discussed by McAllister in her biography of Eaton. The three series of page numbers make citation ambiguous, but clarity can be achieved by taking the first two sets as subdivisions of part 1: 1[1] for the generic descriptions, and 1[2] for the species descriptions; the cryptogams and the natural orders in the third set have to be cited as part 2.

Bot.notes. Eaton held in the preface a philippic against the natural classification as the best way of learning botanical taxonomy, beginning: "Since Dr. Faustus first exhibited his printed bibles in the year 1463, no book has, probably, excited such consternation and dismay, as Dr. Torrey's edition of Lindley's Introduction[sic] to the Natural System of Botany." In an addition to the preface, apparently written later, Eaton mentioned L.C. Beck: *Natural system of the plants of the States North of Virginia* (published by Websters and Skinners), as just received, and gave an impartial review of it.

An important change in this edition is the transfer of the descriptions of the genera and species of cryptogams to the part with the natural classification, which will have made this part more useful. The *Musci* (2: 68-80) include *Eypnum cooleyianum* S[prengel] (2: 75). According to Eaton about 100 genera were added and 140 new species. For new names and combinations in vascular plants see Merrill and Reeder, 1947.

7 Manual of botany for North America ...

Ed.7. Albany, 1836.

Title: "MANUAL OF BOTANY, | FOR | NORTH AMERICA: | CONTAINING | GENERIC AND SPECIFIC DESCRIPTIONS | OF THE INDIGENOUS PLANTS AND COMMON | CULTIVATED EXOTICS, | GROWING | NORTH OF THE GULF OF MEXICO. | BY AMOS EATON, A. M., | Senior Prof. in Rensselaer Institute, and Prof. of Civil Engineering; Member | of the American Geological Society; Acad. Nat. Sci. Phil.; N. York | Lyc. Nat. Hist.; Albany Inst.; Troy Lyceum Nat. History. | Also, of the more recently established learned Societies | of Hudson, Utica, Detroit, Newburgh, &c. | " That existence is surely contemptible, which regards only the gratification of | instinctive wants, and the preservation of a body made to perish."—*Linneus*. | SEVENTH EDITION, | With an improved and modernized GRAMMAR and DICTIONARY; and about | 500 new Species, chiefly from the Oregon and Arctic regions. | [short double rule] | ALBANY: | PUBLISHED BY OLIVER STEELE, | And for sale by Grigg & Elliott; Carey & Hart; Desilver, Thomas & Co.; Hogan & | Thompson, and N. Hunt, Philadelphia: B. & S. Collins; N. & J. White; | G. & C. Carvill & Co.; S. Wood & Sons; Robinson, Pratt & Co., and | Leavitt, Lord & Co., New York: Hilliard, Gray & Co., and | Marsh, Capen & Lyon, Boston; W. S. Parker & Son, | and Z. Clark, Troy. | N.[swash capital] Tuttle, printer, Troy. | 1836."

Collation: 12° in 6s: A⁶ 1-55⁶ (\$3 signed \$2); i-iii iv-vi 7-672 (11 37 139 600-601 659, 370 as '270').

Contents: i title; ii registration: "in the year 1836"; iii-vi preface, dated 22 Mar. 1836; 7-8 directions; 9-10 abbreviations and signs; 17-36 synopsis of taxonomy, including the classifications of Linnaeus and de Jussieu; 37-658 text, including 37-138 descriptions of genera in the Linnaean classification, 139-599 descriptions of species in alphabetical order; 600 □; 601-658 species of [non-vascular] cryptogams in alphabetical order; 659-670 index of vernacular plant names; 670-672 corrections and additions, including 15 species of *Carex*, published by Dewey. RT: class and order number in genera part, generic names in species part, chapter headings elsewhere. Language: English.

Paper: leaf height 181 mm. (HBL copy, cut); wove; no wm.

Printer: Tuttle, N., Troy, N.Y.

Publisher: Steele, Oliver, Albany, N.Y.

Collaborator: Hall, James (1811 Sep. 12 - 1898 Aug. 7): selected additional species and translated their descriptions.

Date: 1836 (t.-p.); after 22 Mar. (preface); Apr.? (Rickett & Stafleu: *Taxon* 10(3): 81. 1961); on or bef. 8 Jun. (letter from Eaton to Steele, the publisher, with directions to send copies to particular persons, quoted by McAllister: *Amos Eaton* 236. 1941).

Refs.: Arn.Arb.2: 106	Jacks. 355	Pr.ed.1 n.2882, ed.2 n.2593
Bradl.1: 306 ^a	Meis.3: 378	Staf. TL n.329i.

Notes. Bound together with the fourth edition of Eaton's *Botanical Grammar and Dictionary*, ed.4. This is referred to in the preface, as added because of criticisms of the former edition, where it was lacking. The close connection between descriptions of genera and of species of non-vascular cryptogams introduced in the 6th edition, was abandoned, and they are again widely separated in place. The species descriptions were again alphabetically arranged, all non-vascular cryptogams of different groups mixed, which must have been a disadvantage over the 6th edition. About 80 genera were added, and about 400 species, particularly from the Western and Northern part of the continent, derived mainly from W.J. Hooker, *Flora Boreali-Americani*, vol.1, 1833.

FLORA oder Allgemeine botanische Zeitung.

Vol. 8-10. Regensburg, 1825-1827.

Titles: vol.8¹: "Flora | oder | Botanische Zeitung | welche | Recensionen, Abhandlungen, Aufsätze, | Neuigkeiten und Nachrichten, | die | Botanik betreffend, enthält. | [medium swelled rule] | Herausgegeben | von | der königl. bayer. [8²-10¹: bayer.] botanischen Gesellschaft | in Regensburg. | [medium fancy rule] | Achter Jahrgang. | [short rule] | Erster Band. | Mit 10 Bogen Beilagen und 1 Kupfertafel. | [full fancy rule] | Regensburg, 1825.";

vol.8²: same except: "Achter Jahrgang. | [short rule] | Zweiter Band. | Mit 5 Bogen Ergänzungs-Blätter, 6 Bogen Beilagen | und 1 Kupfertafel. | [full fancy rule] | Regensburg, 1825.";

vol.9¹: same except: "Neunter Jahrgang. | [short rule] | Erster Band. | Mit 6 1/2 Bogen Beilagen und 2 Tafeln. | [full fancy rule] | Regensburg, 1826.";

vol.9²: same except: "Neunter Jahrgang. | [short rule] | Zweiter Band. | Mit 6 1/2 Bogen Beilagen und 1 Steintafel. | [full fancy rule] | Regensburg, 1826.";

vol.10¹: same except: "Zehnter Jahrgang. | [short rule] | Erster Band. | Mit 7 Bogen Beilagen und 2 Abbildungen. | [full fancy rule] | Regensburg, 1827.";

vol.10²: "Flora | oder | Botanische Zeitung | welche | Recensionen, Abhandlungen, Auf-sätze, Neuigkeiten und Nachrichten, | die | Botanik betreffend, | enthält. | [medium swelled rule] | Herausgegeben | von | der königl. bayer. botanischen Gesellschaft | in Regensburg. | [medium fancy rule] | Zehnter Jahrgang. | [short rule] | Zweiter Band. | Mit 7 1/2 Bogen Beilagen und 3 Abbildungen. | [full rule] | Regensburg, 1827."

Collation. The format is 8°. In the table (see next page) the collation of the fascicles of vol.8 is given, and of those parts in vol.9 and 10 which differ from vol.8. The preliminaries *² are, of course, bound in at the beginning, though issued last. The table contains in columns firstly the number of the fascicle (issue, "Lieferung" in German); secondly the signature of the gathering; thirdly the page numbers per unit, simplified by indicating the first, unnumbered, page and the last page (the pages between were duly numbered, except for mistakes reported in footnotes); lastly the dates as printed on the first page of the fascicle, in its head-title (the year is only given at the top of the column). Bound in with each half-yearly part are one or more "Beilagen", supplementary parts, treated in the same way except for the dates, since they do not bear precise dates. The collations of vol.9 and 10 are identical with that of vol.8 except for the years, the "Beilagen", and mistakes in page numbers. A cancellans, M₈, in vol.10, is not especially noted.

Plates: not studied; not belonging to articles with bryology.

Paper: leaf height 178 mm. (U copy, cut); laid, chains vertical; wm.:
 vol.5-6 (1822-23): "L = R [outline]", except vol.6² title and index;
 vol. 7 (1824): script letters (also in vol. 6² title and index);
 vol. 8 (1825): usually "BlascheK [script, swash K]", combined with marks in the border of the sheet: "H N [swash script] 3 [partly outline]", or "F" instead of the H (gath.41 unmarked in U copy);
 vol. 9 (1826): "F[outline]";
 vol.10 (1827): letters, possibly: "L = R [outline]"; not studied in detail.

Dates: issues dated (see table of collation); no attempt was made to collect the many announcements and reviews in contemporaneous literature, of which I saw a few. Usually a number of fascicles were announced or reviewed together; I do not remember having seen any other case, but realizing too late the importance of this point, I did not make notes of the particular fascicles reviewed or announced.

Bibliogr.study: Stafleu, F.A.: *Taxonomic literature* n.549. 1967.

Collation:

volume 8¹:

"Lieferung"	gath.	pages	1825
1	A ⁸	1- 16	Jan. 7
2	B ⁸	17- 32	" 14
3	C ⁸	33- 48	" 21
4	D ⁸	49- 64	" 28
5	E ⁸	65- 80	Feb. 7
6	F ⁸	81- 96	" 14
7	G ⁸	97-112	" 21
8	H ⁸	113-128	" 28
9	I ⁸	129-144	Mar. 7
10	K ⁸	145-160	" 14
11	L ⁸	161-176	" 21
12	M ⁸	177-192	" 28
13	N ⁸	193-208	Apr. 7
14	O ⁸	209-224	" 14
15	P ⁸	225-240	" 21
16	Q ⁸	241-256	" 28 1)
17	R ⁸	257-272	May 7
18	S ⁸	273-288	" 14 2)
19	T ⁸	289-304	" 21
20	U ⁸	305-320	" 28
21	X ⁸	321-336	Jun. 7
22	Y ⁸	337-352	" 14
23	Z ⁸	353-368	" 21
24	2A ⁸	369-384	" 28
1.Beilage	1-4 ⁸	1- 64	
2.Beilage	5-6 ⁸	65- 96	
3.Beilage	7 ⁸	97-112	
4.Beilage	8-9 ⁸	113-144	
5.Beilage	10 ⁶	145-156	
[titles]	12	i- iv	} Jul.?

1) + fold-out

2) + 1 plate (not in other vols.)

volume 8²:

"Lieferung"	gath.	pages	1825
25	2B ⁸	385-400	Jul. 7
26	2C ⁸	401-416	" 14
27	2D ⁸	417-432	" 21
28	2E ⁸	433-448	" 28
29	2F ⁸	449-464	Aug. 7
30	2G ⁸	465-480	" 14
31	2H ⁸	481-496	" 21
32	2I ⁸	497-512	" 28
33	2K ⁸	513-528	Sep. 7
34	2L ⁸	529-544	" 14
35	2M ⁸	545-560	" 21
36	2N ⁸	561-576	" 28
37	2O ⁸	577-592	Oct. 7
38	2P ⁸	593-608	" 14
39	2Q ⁸	609-624	" 21
40	2R ⁸	625-640	" 28
41	2S ⁸	641-656	Nov. 7 3)
42	2T ⁸	657-672	" 14
43	2U ⁸	673-688	" 21
44	2X ⁸	689-704	" 28
45	2Y ⁸	705-720	Dec. 7 4)
46	2Z ⁸	721-736	" 14
47	3A ⁸	737-752	" 21
48	3B ⁸	753-768	" 28
1.Beilage	1 ⁸	1- 16	
2.Beilage	2 ⁸	17- 32	
3.Beilage	3 ⁸	33- 48	
4.Beilage	4-5 ⁸	49- 80	
5.Beilage	6 ⁶	81- 92	
[titles]	12	i- iv	} 1826 Jan?
Ergänzungs- Blätter	A-C ⁸	1- 48	

3) 646-656 as '666'-'676'

4) 2Y⁸ + fold-out: "Plantae lectae in itinere Hispanico-Tingitano. Index Fasciculi Primi."
+ folded plate (not in other vols.)

Collation of vol. 9 and 10 identical with that of vol. 8, except:

volume 9¹: 1826, Jan.-Jun.

	gathering	pages
1.Beilage	1-6 ⁸	1- 96
2.Beilage	7 ¹ -7 ⁶	97-108
Auszer- ordentliche Beilage	7 ⁷ -7 ⁸	109-112
Druckfehler	x	113-114

volume 9²: 1826, Jul.-Dec.

	gathering	pages
Beilage	1-6 ⁸ 7 ⁶	1-108
(main text: page 248 as '148' page 622 as '922')		

volume 10¹: 1827, Jan.-Jun.

1.Beilage	1 ⁸	1- 16
2.Beilage	2 ⁸	17- 32
3.Beilage	3-6 ⁸	33- 96
4.Beilage	7 ⁶	97-108

volume 10²: 1827, Jul.-Dec.

1.Beilage	1-7 ⁸ 8 ⁴	1-120
(no incorrect page numbers seen in volume 10)		

Notes. When I began my work for *Index Muscorum* I took it for granted that the dates on the fascicles were correct. Gradually I began to wonder how these weekly sheets could have been efficiently handled. I realized that I did not see traces of wear in individual fascicles, which could be expected with weekly issue. My doubts were diminished when I found in *Flora* 8¹ (*Beil.*4): 139. 1825, the statement: *Flora* "kann nach Belieben posttäglich, monatlich, oder quartalweise bezogen werden." This explained the immaculate library copies. Local members would have received the fascicles weekly indeed. However, I also found the following announcement on one of the fascicle wrappers of *Isis* (Oken), 1826, of the second quarter:

Von folgenden Werken hat der Unterzeichnete die Lieferung zu beistehenden Preisen in Preuss. Courant übernommen, und erlaubt sich, dieselben allen Botanikern dringend zu empfehlen.

Flora, oder botanische Zeitung, welche Recensionen, Abhandlungen, [...] die Botanik betreffend enthält. Herausgegeben von der königlichen bayerischen botanischen Gesellschaft in Regensburg. 8 Jahrgänge sind erschienen, der neunte Jahrgang von 1826 wird in monatlichen Lieferungen ausgegeben.

Preis eines Jahrgangs von 2 Bänden 3 Thlr.

Leipzig, im April 1826.

Friedrich Hofmeister.

(Translated: Of the following works the undersigned has taken over the delivery at the mentioned prices in Prussian currency, and he permits himself to recommend these strongly to all botanists.)

Flora, or botanical journal, which contains reviews, articles and news concerning botany. Published by the royal Bavarian botanical society at Regensburg. 8 years appeared, the ninth year of 1826 is being published in monthly instalments. Price of one year of 2 volumes 3 Thaler.)

Another announcement was published in *Flora* 10¹ (*Beil.*2): 32. 1827 (sem.1), which stated: "... der zehnte Jahrgang von 1827 wird in monatlichen Lieferungen ausgegeben. Preis einer Jahrgang von 2 Bänden 3 Thlr. 8 Ggr." This definitely indicates monthly publication of groups of four weekly fascicles from that date. I assume that as a rule these will not have been published before the date on the last fascicle. It still is possible that each fascicle was printed before the date indicated in its head-title, and was distributed on that day to the local members of the society in Regensburg. These days, however, in some months, would all be Sundays, and other days in other months. Therefore, these days will not coincide with regular meeting days of the society, making distribution on these days unlikely as a regular occurrence. Moreover, if so, it can scarcely be taken as effective publication, available to the general public, but this possibility should be investigated more closely, e.g. in the archives of the society. In critical cases it may make a difference for the priority of plant names, which date is the correct one for publication, the weekly or the monthly date. Of course the publication easily could have been delayed beyond the last printed date.

The numbering of the fascicles is continuous throughout the year. Therefore, in citing fascicles, I omit the semester number and give only the volume of the year and the fascicle number between parentheses: e.g. 8(3) or 8(48). For the "Beilagen" the situation is different. Firstly these are numbered anew for each semester; its number, therefore, has to be stated in the correct citation. Here it is given as a superscript, e.g.: 8¹ (*Beil.*3), though it could be added after a comma, e.g.: 8,1 (*Beil.*3). Secondly, they are undated. This is a real problem for precise dating, the more so, since these supplements contain new described species and taxa of other ranks, as well as useful information for the more precise dating of the other publications, if their own dates were better known. Up to now I have not been able to find information on this point. In the light of the announcement cited it could be expected that each month with four gatherings of normal text would also have one or two gatherings of "Beilagen". However, their number is not a multiple of 6, for the years studied, and the hypothesis of

a regular number of sheets per month does not lead to a solution. The only explanation which is likely from a bibliographical point of view is that an incomplete gathering at the end (the several gatherings in 6s) were really issued at the same time with or later than the latest fascicle, since they will have contained the title-page to the whole volume and its conjugate leaf (*₁ & *₂); moreover they usually contain the index.

Besides the "Beilagen" some other publications were issued together with the fascicles of *Flora*. In the first place this was: *Sylloge plantarum novarum* ... , vol.1-2, [1822]-1828. This title is important and is treated separately in this thesis. Another was the *Literaturblatt* to *Flora*, of which F.G. Eschweiler (1796-1831) was the editor. I found some information in the correspondence of Ad. Brongniart (PMusBC), though this does not concern the period I want to treat. Eschweiler wrote to him on 20 Feb. 1828 that he would soon (*sous peu*) send its first fascicle to Brongniart. In the next letter, dated 20 Jul. 1828 he announced sending it and also that the second fascicle was not yet ready: *le second cahier sera orné par vos propres recherches sur les Rhamnées et vos découvertes sur la génération des végétaux*. I did not trace this further.

FRIES, Elias Magnus

Biogr. Born 1794 Aug. 15, Femsjö, Småland, Sweden.

Died 1878 Feb. 8, Upsala, Sweden.

E.M. Fries studied in Lund from 1811, received the degree of Ph.D. in 1814 and became lecturer in botany there. In 1819 he was nominated "adjunct botanist" and in 1824 royal professor. In 1834 he was called to Upsala as professor in agricultural economics (*oeconomica practica*), to which botany was added in 1851, and the direction of the botanical garden, which he improved. He retired as professor in 1859, and as director of the garden in 1863.

His publications form a long list, and his most outstanding work was on *Fungi*. This was recognized by the acceptance of his work *Systema mycologicum* 1821-1828 as the starting-point for the nomenclature of the majority of the *Fungi*. The phanerogams of his herbarium were bought by the Botanical Museum of the University at Upsala; the mosses and algae were presented to the same institution and the lichens came to his son, Thore Magnus Fries.

The following generic names were proposed in honor of E.M. Fries: *Friesia* Sprengel 1818, now considered a synonym of *Crotonopsis* Michaux (*Euphorbiaceae*), *Friesia* A.P. de Candolle 1824, *nom. rej.* versus *Aristotelia* L'Héritier *nom. cons.* (*Tiliaceae* or *Elaeocarpaceae*), *Friesia* P. Wieselgren 1846, considered a synonym of *Epipogium* R. Brown, *Friesites* P.A. Karsten 1880 (*Fungi*, *Hydnaceae*) and *Friesula* Spegazzini 1881, now a synonym of *Skepperia* Berkeley 1857 (*Fungi*, *Telephoraceae*), and possibly also *Frisea* (Endlicher) Spach 1841, for *Thesium* L. sect. *Frisea* Endlicher (*Thesiaceae*).

Refs.: *Lefnadsteckn.Svenska Vetensk.Akad.* 2: 212-226. 1878-85 (with bibliogr.).

Elfving, S.: *Finsk Tidskr.* 4: 324-326. 1878.

Upsala Universitet 1872-1897 Anh. 64-68 (with bibliogr.).

Lloyd, C.G.: *Mycol.Notes* 32: 413-427. 1909; 33: 480-482. 1910.

Krok, T.O.B.N.: *Biblioth.Bot.Suec.* 199-216. 1925 (with bibliogr.).

1 *Stirpes agri Femsionensis* ...

7 parts [used as different theses]. Lund, 1825-1826.

Titles: part 1: "STIRPES | AGRI FEMSIONENSIS, | QUARUM INDICEM | CONS. AMPLISS. PHIL. ORD. LUI.DENS. | PRÆSIDE | ELIA MAGNO FRIES, | PROF. REG. ET BOT. ADJ. ORD. | REG. ACAD. SCIENT. HOLM. ETC. MEMBRO, | P. P. | MAGNUS G. WINDING, | GOTHOBURGENSIS. | IN ACAD. CAROL. D. XXV. MAJI MDCCCXXV. | [long thick rule] | LONDINI GOTHORUM, | EX OFFICINA BERLINGIANA; | MDCCCXXV."; part 2 (continuation 1): same except part: "P. P. | J. G. ARRHENIUS, | VERMELANDUS. | IN ACAD. CAROL. D. XI. JUNII MDCCCXXV. | [medium long thick rule] | CONTINUATIO I. | [long thick rule] | LONDINI GOTHORUM, | EX OFFICINA BERLINGIANA; | MDCCCXXV.";

part 3 (cont. 2): same except lines: "P. P. | NICOLAUS HEMMES, | SCANUS. | IN ACAD. CAROL. D. XI JUNII MDCCCXXV. | [medium long thick rule] | CONTINUATIO II.";

part 4 (cont. 3): same except lines: "P. P. | SVENO LUDOV. LOVÉN, | SCANUS. | IN ACAD. CAROL. D. XVI JUNII MDCCCXXV. | [medium long thick rule] | CONTINUATIO III.";

part 5 (cont. 4): same except part: "P. P. | J. P. HJELM, | SCANUS. | IN ACAD. CAROL. D. XIX MAJI MDCCCXXVII. | [medium long thick rule] | CONTINUATIO IV. | [long swelled rule] | LONDINI GOTHORUM. | EX OFFICINA BERLINGIANA, | MDCCCXXVII.";

part 6 (cont. 5): same except lines: "P. P. | C. P. SNÖBERG, | SCANUS. | IN ACAD. CAROL. D. II JUNII MDCCCXXVII. | [medium long thick rule] | CONTINUATIO V.";

part 7 (cont. 6): same except lines: "P. P. | C. N. AHNFEIT, | SCANUS. | IN ACAD. CAROL. D. VIII DEC. MDCCCXXVII. | [long thin rule] | CONTINUATIO VI. | [fancy swelled rule]".

Collation: 8°: part 1: 7⁸ 7-3 4-16;
 part 2 (cont.1): 2-3⁴ (2, unsigned, 2₂ as '2'); i-ii 17-30;
 part 3 (cont.2): 4-5⁴ (4, unsigned, 4₂ as '4'); i-ii 31-44;
 part 4 (cont.3): 6-7⁴ (6, unsigned, 6₂ as '6'); i-ii 45-58;
 part 5 (cont.4): 8-9⁴ (8, unsigned, 8₂ as '8'); i-ii 59-72;
 part 6 (cont.5): 10-11⁴ (10, unsigned) i-ii 73-86;
 part 7 (cont.6): 12²⁺⁶ (12, unsigned, 12₂ as '12'); i-ii 87-100.

Contents: part 1: 7 title; 8 dedication to Magnus Christian Winding and Maria Winding née Liedberg, parents of M.G. Winding; 3-10 introduction; 11-16 text, *Diandria - Polyandria, Thaliotrum*, with 26 footnotes (numbered 1-26);

part 2 (cont.1): i title; ii dedication to Carolus Magnus Arrhenius "Phil. mag., suprem. in expeditione reg. secretario" and Petrus Arrhenius "camerar. aulic."; 1/-30 text, [*Polyandria*] *Calla-Hepatici Foliosi*, with 99 footnotes (numbered 27-100, 1-21, and 28^b, 33^b, 6^b, 19^b);

part 3 (cont.2): i title; ii dedication to Anders Peter Ståhle, "Troman, Lagmannen och Riddaren af Kongl. Majts Nordstjerne- och Vasa-orden"; 31-44 text, [*Hepatici*] *Fronodosi - Hydrophyces Nostocinæ, Pulmella hyalina?* [sic] with 97 footnotes (numbered 22-100, 1-16, and 29^b, 43^b);

part 4 (cont.3): i title; ii dedication to Christianus Lovén, "Urbis Holmiæ consuli, equiti aurato de regio ordino Wasa", father of S.L. Lovén; 45-58 text, *Chlorococcum - Fungi, Polyporus giganteus*, with 109 footnotes (numbered 17-100, 1-24, and 13^b);

part 5 (cont.4): i title; ii □; 59-72 text, [*Polyporus*] *Sulphureus - Sphaeria nivea*, with 92 footnotes (numbered 25-100, 1-7, 11-17, and 62^b; 8-10 together one footnote);

part 6 (cont.5): i title; ii □; 73-86 text, *Fungi* continued, [*Sphaeria*] *diatrypa - Isaria terrestris*, with 88 footnotes (numbered 18-26, 28-100, 1-6);

part 7 (cont.6): i title; ii □; 87-92 text, list concluded, with 64 footnotes (numbered 7-70); 93 observation; 93-99 "PLANTÆ CULTÆ | agri Femsionensis"; 100 additional note: the opinion of "Greville" [=R.K.Greville] on the new moss species *Gymnostomum Ahnfeltii*. No RT. Language: Latin.

Paper: leaf height 180 mm. (BMNH copy, cut); laid, chains vertical; no wm.

Printer: Berling, Lund, Sweden.

Dates: on or shortly before the dates of the theses:

part 1:	1825 May 25;	
part 2 (cont.1):	1825 Jun. 11;	part 5 (cont.4): 1827 May 19;
part 3 (cont.2):	1825 Jun. 11;	part 6 (cont.5): 1827 Jun. 2;
part 4 (cont.3):	1825 Jun. 16;	part 7 (cont.6): 1827 Dec. 8.

Reviews: parts 1-4: *Årsberättelser K. Vet. Acad.* 1825, 6: 98. 1826;
Svea 1826¹⁰ (2): 223-224. 1826.

Refs.: BMNH 622 | Krok 201 | Wikstr. 77-78.
 Brndl. 1: 353a | Pr.ed.1 n.3391 (in note)

Bibl.notes. According to the custom of the period, the praeses wrote the whole book and gave parts to different students for their doctor's theses. Consequently each part had a different title-page, with a separate dedication at the verso (g. The folding of part 7 is inferred from Fries n.2 (the separate edition under Fries' name only); I did not check conjugacy here.

Bot.notes. Regional flora, with lists of Latin plant names without author's citations, only with indications of frequency. *Musci* were treated on p.24-29 and some other pages, e.g. *Sphagnum* p.7, *Eypnum* species p.7. The importance lies in the critical footnotes, containing new descriptions, e.g. of taxa in the genus *Lepigonum*, possibly in *Fungi*, and of the new moss species *Gymnostomum ahnfeltii*, p.28. The additional remark by Greville (p.100) that this species belongs to the genus *Hymenostomum* has no nomenclatural consequence.

2 *Stirpium agri Femsionensis index* ...

t

1 vol. Lund, 1825-1826 [1827] [re-issue].

Title: "STIRPIUM | AGRI FEMSIONENSIS | INDEX, | OBSERVATIONIBUS ILLUSTRATA, | AB
 EL. FRIES, | [long swelled rule] | LUNDÆ | A TYPOGRAPHIA ACADEMICA, |
 1825, 1826."

Collation: 8°: 7⁸(+7₁) 2-11⁴(-2₁ -4₁ -6₁ -8₁ -10₁) 12⁸(-12₈) (2₂, 4₂, 6₂, 8₂,
 10₂, 12₂ signed \$1; 5₁ unsigned); 7-3 4-100.

Contents: 1 title; 2 □; 3-10 introduction; 11-92 text, list of local plants with 575 footnotes, phanerogams and extensive list of cryptogams; 93 observation; 93-99 "PLANTÆ CULTÆ | agri Femsionensis"; 100 additional note concerning the opinion of "Greville" [=R.K. Greville] on the new species *Gymnostomum ahnfeltii*: it should be placed in the genus *Hymenostomum*.
 No RT. Language: Latin.

Paper: leaf height 181 mm. (WU copy, cut); laid, chains vertical; no wm.

Printer: printer of the Academy [Berling], Lund, Sweden.

Date: 1825-26 (t.-p.); probably after 8 Dec. 1827 (date last thesis, see *Notes*).

Reviews: *Bull.Univ.Sci.Nat.* (Férussac) 14(5): 85. 1828 May;
Linnaea Lit.Ber. 4(3): 70. 1829.

Refs.: Krok 201 Pr.ed.1 n.3391, ed.2 n.3071 Wikstr. 78.

Bibl.notes. From Wikström (see *Refs.*) I derive that the title-leaf is a cancellans; if correct I overlooked this in the copy studied (WU). I regret I did not yet have an opportunity to recheck this and the conjugacy of the middle parts too. Wikström also states that some corrections were made in this issue. This is remarkable, since the two issues certainly were printed from the same type-setting, without re-imposition. The possibility that the type-formes were left standing till the days of the doctor's promotions seems very remote since the Lund University printer was so busy that arrangements for printing of theses usually had to be made a couple of months ahead of time. The only plausible explanation for corrections, therefore, is by stop-press alterations. I take it for granted that the complete issue was published later than the parts as doctor's theses. If so, the dates on the title-page do not give the actual year of publication of this reissue.

FRÖHLICH, Josef Alois

Biogr. Born 1766 Mar. 19, Oberstdorf, Bavaria, Germany.

Died 1841 Mar. 11, Ellwangen, Bavaria, Germany.

Fröhlich was a physician at Ellwangen, with a strong interest in botany, especially in cryptogams, and more particularly in mosses, making regularly collecting trips to the Alps. In 1825 he was indicated as "Medizinalrath" at Ellwangen.

He was commemorated in the generic names *Frœlichia* Vahl 1796 = *Frœhlichia* D. Dietrich 1839, now considered a synonym of *Coussarea* Aublet (*Rosaceae*), *Frœlichia* Moench 1794 (*Amaranthaceae*), and *Frœlichella* R.E. Fries 1920 (*Amaranthaceae*).

Refs.: Familler, I.: *Denkschr. Bayer. Bot. Ges.* 11: 12. 1913.

Dalla Torre & Sarnth.: *Fl. Tirol* 1: 79. 1900.

1 [Pflanzen in den an die Kuratie Stech im Lechthale angrenzenden Gebirgen.]

Bothe von und für Tirol und Vorarlberg 1825(89): 356. 1825 Nov. 7.

Collation: 2°; each fascicle one gathering.

Paper: laid, chains vertical (copy Universitäts-Bibliothek Innsbruck, Austria).

Date: fascicle dated 1825 Nov. 7.

Note. Short communication under the general heading "Naturkunde", of a list of Latin names of rare or important plants collected by Fröhlich, from four localities in the mountains near the upper Lech valley. One moss is mentioned from "Unter der Wand": *Splachnum angustatum*, and two lichens. The other plants are phanerogams.

FUNCK, Heinrich Christian

Biogr. Born 1771 Nov. 22, Wunsiedel, Bavaria, Germany.

Died 1839 Apr. 14, Gefrees near Bayreuth, Oberfranken, Germany.

When Funck was very young, his mother moved to Gefrees for a second marriage with a pharmacist. After elementary school at the nearby place Hof, he learned pharmacy in Regensburg, where his botanical interest was stimulated by Hoppe. When the latter founded the Regensburger Botanische Gesellschaft in 1790, Funck joined as "eleve". In 1793 he was in a job at Salzburg, and learned to know the flora of the Alps, where he later repeatedly botanized. In 1794 he worked at Erlangen for the court-pharmacist prof. Martius, followed for a short time courses at the University of Jena, and returned to Gefrees. In 1808 he took over his mother's pharmacy which he headed until 1834, selling it to devote his time to science, and to his community where he became Bürgermeister.

He was commemorated in the generic names *Funckia* Willdenow 1808, a rejected synonym of *Astelia* R. Brown 1810, *nom. cons.* (*Liliaceae*), *Funckia* Sprengel 1817, the well-known name for a genus now named *Hosta* Trattinick 1812, *nom. cons.* (*Liliaceae*), and *Funckia* Dennstedt 1818, now a synonym of *Lumnitzera* Willdenow (*Combretaceae*).

Refs.: Ascherson: *Allg. Deutsche Biogr.* 8: 196-197. 1878.

Flora 62: 97-103. 1879.

Dalla Torre & Sarnth.: *Fl. Tirol* 6(4): 17-19. 1904.

1 Cryptogamische Gewächse [besonders] des Fichtelgebirg's.

42 fascicles. Leipzig or Hof, 1801-1838 [exsiccata].

Titles: fasc.1: "Cryptogamische Gewächse | des | Fichtelgebirg's. | [rule of spiral ending in arrows at both ends] | Gesammelt | von | Heinrich Christian Funck, | verschiedener naturforschenden Gesellschaften Mitglied. | [rule of thick spiral ending in arrows at both ends] | Erstes Heft | [long swelled rule] | Leipzig, 1801. | In Commission bey Johann Ambrosius Barth."; fasc.2: "Cryptogamische Gewächse | des | Fichtelgebirg's | [short thin swelled rule] | Gesammelt | von | Heinrich Christian Funck. | [short thin swelled rule] | Zweites Heft | [long rule] | Hof, | in Commission bey Gottfried Adolph Grau | 1801.";

- fasc.3: same as fasc.2 except: " | Drittes Heft. | " and "1802.";
- fasc.4: "Cryptogamische Gewächse | des | Fichtelgebirg's. | [short thin swelled rule] | Gesammelt | von | Heinrich Christian Funck. | Viertes Heft | [long wavy rule with arrows at both ends] | 1804.";
- fasc.5: "Cryptogamische Gewächse | des | Fichtelgebirg's. | [rule of spiral ending in arrows at both ends] | Gesammelt | von | Heinrich Christian Funck, | verschiedener naturforschenden Gesellschaften Mitglied. | [short rule with double spiral in the middle] | Fünftes Heft. | [long swelled rule] | Leipzig, 1805 | In Commission bey Iohann Ambrosius Barth.";
- fasc.6: "Cryptogamische Gewächse | des | Fichtelgebirg's | nebst | einigen beygefügten seltenen Arten aus andern | Gegenden | von | Heinrich Christian Funck, | verschiedener naturforschenden Gesellschaften Mitglied. | [short rule] | Sechstes Heft. | [long swelled rule] | Leipzig, 1806. | In Commission bey Iohann Ambrosius Barth.";
- fasc.7: same as fasc.6 except: "einigen beygefügten Arten aus | andern Gegenden | " and "Mitglied. | [short double spiral between two arrows] | Siebentes Heft. | [long swelled rule] | Leipzig, 1806. | In Commission bey Iohann Ambrosius Barth.";
- fasc.8: "Cryptogamische Gewächse | besonders | des | Fichtelgebirg's. | [short double spiral between two arrows] | Gesammelt | von | Heinrich Christian Funck, | verschiedener naturforschenden Gesellschaften Mitglied. | [short double spiral between two arrows] | Achtes Heft. | [long swelled rule] | Leipzig, 1807. | In Commission bey Iohann Ambrosius Barth.";
- fasc.9: same as fasc.8 except: "Neuntes Heft | [short rule] | Leipzig, 1807.";
- fasc.10-19: same as fasc.9, except for the lines:
- fasc.10: "Zehntes Heft." . . . "Leipzig, 1808.";
- fasc.11: "Eilftes[sic] Heft." . . . "Leipzig, 1808.";
- fasc.12: "Zwölftes Heft" . . . "Leipzig, 1808.";
- fasc.13: "Dreizehntes Heft." . . . "Leipzig, 1808.";
- fasc.14: "Vierzehntes Heft" . . . "Leipzig, 1809.";
- fasc.15: "Funfzehntes Heft." . . . "Leipzig, 1809.";
- fasc.16: "Sechzehntes Heft." . . . "Leipzig, 1810.";
- fasc.17: "Siebenzehntes Heft." . . . "Leipzig, 1810.";
- fasc.18: "Achtzehntes Heft." . . . "Leipzig, 1811.";
- fasc.19: "Neunzehntes Heft. | [full rule of alternating thick and thin spiral ending in arrows] | Leipzig, 1811.";
- fasc.20-26: same as fasc.19, except for the lines:
- fasc.20: "Zwanzigstes Heft." . . . "Leipzig, 1814.";
- fasc.21: "Ein und zwanzigstes Heft." . . . "Leipzig, 1815.";
- fasc.22: "Zwei und zwanzigstes Heft." . . . "Leipzig, 1815.";
- fasc.23: "Drei und zwanzigstes Heft." . . . "Leipzig, 1816.";
- fasc.24: "Vier und zwanzigstes Heft." . . . "Leipzig, 1817.";
- fasc.25: "Fünf und zwanzigstes Heft." . . . "Leipzig, 1818.";
- fasc.26: "Sechs und zwanzigstes Heft. | [wavy rule] | Leipzig, 1819.";
- fasc.27-42: same as fasc.26, except for the lines:
- fasc.27: "Sieben und zwanzigstes Heft." . . . "Leipzig, 1819.";
- fasc.28: "Acht und zwanzigstes Heft." . . . "Leipzig, 1822.";
- fasc.29: "Neun und zwanzigstes Heft." . . . "Leipzig, 1823.";
- fasc.30: "Dreissigtes[sic] Heft." . . . "Leipzig, 1824.";
- fasc.31: "Ein und dreissigtes[sic] Heft." . . . "Leipzig, 1825.";
- fasc.32: "Zwey und dreissigtes[sic] Heft." . . . "Leipzig, 1826.";
- fasc.33: "Drei und dreissigtes[sic] Heft." . . . "Leipzig, 1827.";
- fasc.34: "Vier und dreissigtes[sic] Heft." . . . "Leipzig, 1828.";
- fasc.35: "Fünf und dreissigtes[sic] Heft." . . . "Leipzig, 1829.";
- fasc.36: "Sechs und dreissigtes[sic] Heft." . . . "Leipzig, 1831.";
- fasc.37: "Sieben und dreissigstes Heft." . . . "Leipzig, 1832.";
- fasc.38: "Acht und dreissigstes Heft." . . . "Leipzig, 1835.";
- fasc.39: "Neun und dreissigstes Heft." . . . "Leipzig, 1836.";
- fasc.40: "Vierzigstes Heft." . . . "Leipzig, 1837.";
- fasc.41: "Ein und vierzigstes Heft. | (Nr.826-845) | Leipzig, 1838.";
- fasc.42: "Zwei und vierzigstes Heft." . . . "Leipzig, 1838."

Collation: 4°: fasc.1: $\pi^2(-\pi_2)$ 12; 1-6; fasc.2: π^4 ; 1-8; fasc.3-4: $\pi^4(-\pi_4)$; 1-6; fasc.5-28: $\pi^4(-\pi_4)$; 1-11 1 2-4; fasc.29-42: $\pi^4(-\pi_4)$; 1-3 4-6.

Contents: fasc.1-4: 1 title; 2 □; 3-8 list of species, with particulars: numbers, "phrases", references, habitats and localities, and month of sporulation; [fasc.2 in addition:] 7 □; 8 numerical list of plants of fasc.2; fasc.5-28: 1 title; 11 □ [except fasc.6: notice concerning the extension of the series to include rare species from other regions (compare the additions in its title), those species marked with asterisks; signed: "Febr. 1806 | Funck."]; 1-4 list of species as in fasc.1; [fasc.14, 20, 21, 25 in addition:] 4 corrections to foregoing fascicles; fasc.29-42: 1 title; 2 □; 3-6 list of species as in fasc.1.

Specimens: fasc.1-5: 25 specimens per fascicle; fasc.6-42: 20 specimens per fasc.; one per leaf, with printed label (number and name only); versos □.

Wrappers: green thin paper covers without information.

Paper (text): leaf height 189 mm. (NYBG copy, cut); laid, chains horizontal; wm.: "[stylized eagle, B on breast] = I G RAHM [outline]": fasc.1 (PC copy); "[eagle] | HOF [outline]": fasc.7-10; "[eagle] | IAA [or reverse]": fasc.12-16; "[eagle] | IHS": fasc.18; "[coat of arms?]" (top only seen): fasc.20; "[crowned shield with fleur-de-lis]": fasc.24; "[structure with parallel top and bottom, slightly concave sides opening in one flat part, small circle outside opposite side, in double outline]": fasc.25; "C [outline]": fasc.27, 39, 42?; "JOC[?]": fasc.30; none seen: fasc.6, 11, 19, 26, 28, 29, 31-38, 41 (NYBG copy); not studied: fasc.2-5, specimen-part 1-42.

Printer: no imprint.

Publisher: Funck, H.C., the author; in consignment with: Barth, J.A. (see Bridel n.4): fasc.1 [variant?], 5-42; and with: Grau, G.A., Hof, Germany: fasc.1 [?], 2-3.

Dates, announcements and reviews: see table next page.

Bibliogr. studies: Sayre, G.: *Dates of publ.* 71-73, 1959; Stafleu, F.A.: *Taxonomic literature* n.386, 1967.

Refs.: BMNH 631b	Graesse 2: 647 ^a	Milt. 277	Pr.ed.1 n.3447
Brun.2: 1424	Linn.Soc. 278		Pr.ed.2 n.3158.

Bibl. notes. The collation of the printed part is remarkably uniform throughout the series, except for the first two fascicles; page numbers were introduced in fasc.5, and changed to include the title-page in fasc.29. Fasc.1 (NYBG copy) definitely has the title on another leaf than the text. This may point to a cancellans, especially since Funck in an "Ankündigung", *Bot. Taschenbuch* (Hoppe) 1800: 249-252, 1800, announced that fasc.1 was to be had from G.A. Grau in Hof, who had the collection in consignment ("Commission"). This announcement was dated Feb. 1800. Fasc.2 was indicated as to appear at the Michaelmas Fair, and lists of species in both fascicles were given. From this might be inferred that a title-page with the year 1800 and Grau's name was originally published, and that Barth, taking it in consignment, wanted another title, which received the date of 1801. More information is needed to decide this question; if a re-issue of 1801 really exists, its precise date is not known.

Concerning the title-pages of fasc.3-42 the consistent removal of π_4 is strange. Possibly these leaves contained the printed labels. I have not seen an indication that title-pages of different fascicles were printed from the same type-setting. I pondered over the possibility that two different title-pages were printed conjugately, in which case some of the collations would have to be corrected, but I was not able to recheck this point thoroughly, because I no longer had the copies at hand; it would explain some discrepancies between title-page date and publication date.

Dates, announcements and reviews:

fasc.	specimen numbers	date t.-p.	publication date	Sayre*	sources**
1	1- 25{	1800	[Hof] Feb.1800	9,71	<i>Bot.Taschenb.</i> (Hoppe) 1800: 250.
2	26- 50	1801	[Leipzig] 1801?	9,71	reissue
3	51- 75	1802	bef.12 Oct.1801	9	<i>J.Gén.Litt.Etr.</i>
4	76-100	1802	bef.22 Apr.1802	12,71	<i>Bot.Zeit.Regensb.</i>
5	101-125	1804	bef.30 Jun.1805	19,71	<i>N.J.Bot.</i> (Schräd.) 3: 289. 1809.
6	126-145	1805	bef.20 Apr.1806	27,71	Hinrichs <i>Vers.N.Büch.</i> ; bef. fasc.6.
7	146-165	1806	{in or aft.Feb.1806		pref. p.ii.
8	166-185	1806	20 Apr.1806	27,72	AVB
9	186-205	1807	bef.20 Mar.1807	31,72	<i>J.Gén.Litt.Etr.</i>
10	206-225	1807	bef.20 Mar.1807	31,72	<i>J.Gén.Litt.Etr.</i>
11	226-245	1808	1 May 1808	33,72	AVB
12	246-265	1808	1 May 1808	33,72	AVB
13	266-285	1808	1 May 1808	33,72	AVB
14	286-305	1809	16 Apr.1809	35,72	AVB
15	306-325	1809	16 Apr.1809	35,72	AVB; <i>N.J.Bot.</i> (Schräd.) 3: 289. 1809.
16	326-345	1810	6 May 1810	36,72	AVB
17	346-365	1810	6 May 1810	36,72	AVB
18	366-385	1811	sem.2 1810	36,72	Hinrichs <i>Vers.N.Büch.</i>
19	386-405	1811	May-Jun.1811	39,72	<i>Bot.Taschenb.</i> (Hoppe)
20	406-425	1812	24 Apr.1814	48,72	AVB
21	426-445	1814	9 Apr.1815	50,72	AVB
22	446-465	1815	bef. 1 Nov.1815	51,72	<i>Leips.Lit.Zeit.</i>
23	466-485	1815	28 Apr.1816	51,73	AVB
24	486-505	1816	20 Apr.1817	54,73	AVB; <i>Isis</i> (Oken) 1: 1037. 1817.
25	506-525	1817	5 Mar.1818	55,73	<i>Flora</i> 1 (8): 130. 1818. (recd.)
26	526-545	1818	7 May 1818	55,73	<i>Flora</i> 1(15): 256. 1818.
27	546-565	1819	30 Apr.1819	61,73	<i>Flora</i> 2(16): 247. 1819.
28	566-585	1819	{16 Apr.1820		AVB
29	586-605	1822	21 Apr.1820	63,73	<i>Flora</i> 3(15): 239-240. 1820.
30	606-625	1822	Jun.1822	73	<i>Flora</i> 5 ¹ <i>Beil.</i> 3: 107. 1822.
31	626-645	1823	{bef.29 Sep.1822		AVB
32	646-665	1823	sem.1 1823		<i>Flora</i> 6(26): 415. 1823 (recd.)
33	666-685	1824	bef. Aug.1824		<i>Flora</i> 7(29): 463. 1824.
34	686-705	1825	bef. Jul.1825		<i>Flora</i> 8 ¹ <i>Beil.</i> 5: 145-146. 1825 (recd.)
35	706-725	1826	bef.14 Oct.1826		<i>Flora</i> 9(38): 605-606. 1826.
36	726-745	1827	bef.14 Dec.1827		<i>Flora</i> 10(46): 734-736. 1827.
37	746-765	1828	sem.2 1828		<i>Flora</i> 11 ² <i>Erg.Bl.</i> : 61-63. 1828.
38	766-785	1829	bef.21 Dec.1829		<i>Flora</i> 12(47): 743. 1829 (recd.)
39	786-805	1831	sem.1 1831		<i>Flora</i> 14 <i>Lit.Ber.</i> 1(9): 143-144. 1831.
40	806-825	1832	Jan.1833		<i>Flora</i> 16(7): 110. 1833 (recd.)
41	826-845	1835	bef.28 Dec.1835		<i>Flora</i> 18 <i>Lit.Ber.</i> 6(8): 191-192. 1835.
42	846-865	1836	18 May 1836		<i>Flora</i> 19(27): 428. 1826 (on exh.)
		1837	Mar.1837		<i>Flora</i> 20(24): 373. 1837 (recd.)
		1838	{betw.3 Dec.1838		<i>Flora</i> 22(10): 151. 1839 (recd.)
		1838	and 7 Jan.1839		

Notes:

* Sayre, G.: *Dates of publications describing Musci, 1801-1821.*
102 p., Troy, N.Y., 1959.

** The sources without page numbers are derived from Dr. Sayre's list.

AVB = *Allgemeines Verzeichniss der Bücher ... in der Frankfurter und Leipziger ... Ostermesse [... Michaelmesse].* Leipzig.

Hinrichs *Vers.N.Büch.* = Hinrichs, J.C.: *Verzeichniss neuer Bücher die vom Januar bis Juli [or other half year] ... [title varies].* Leipzig, 1798-1844.

N.J.Bot.(Schräd.) = *Neues Journal für die Botanik* (Schrader).

Bot.notes. This important series of exsiccata began as a series of local plants, and was developed to cover a wider area, expressed first in a change in the title of fasc.6, 1806.

Because of the start about 1801 the moss names published have become of extra importance by the change of the starting-point of the nomenclature of mosses (*Sphagnum* excepted). Especially the dates of the first fascicles became critical, since the validity and priority of some names depend on it. If e.g. fasc.1 was really published in 1801, as the title implies, the name *Bryum rugosum* (n.10) would compete with the name *Dicranum polysetum* Swartz for a species widely spread in the Northern hemisphere, often known under the now very confusing name of *Dicranum undulatum*. The name *Bryum rugosum*, however, is invalid if we accept the publication date as 1800.

Apart from this problem created later, Funck proposed a number of new species and new combinations.

2 Cryptogamische Gewächse des Fichtelgebirg's.

Ed.2. 5 fascicles. Leipzig, 1806 [exsiccata].

Titles: "Cryptogamische Gewächse | des | Fichtelgebirg's | gesammelt von Heinrich Christian Funck, | verschiedener naturforschenden Gesellschaften Mitglied. | Erstes Heft [Zweytes Heft] [Drittes Heft] [Viertes Heft] [Fünftes Heft] | [swelled rule] | Zweyte Ausgabe | [full swelled rule] | Leipzig, 1806. | In Commission bey Iohann Ambrosius Barth."

Collation: 4°: fasc.1-5: $\pi^4(-\pi_4)$; i-ii 1 2-4.

Contents: fasc.1-5: i title; ii □; 1-4 text, descriptions and habitat, occasionally localities, of 25 species of cryptogams.

Specimens: 25 specimens on 25 leaves, numbered:

fasc.1: 1-25;	fasc.3: 51- 75;	fasc.5: 101-125.
fasc.2: 26-50;	fasc.4: 76-100;	

Paper: leaf height 189 mm. (NYBG copy, cut); laid, chains horizontal; wm.: "[double-headed eagle, perhaps as top of coat of arms?]" : fasc.1-2; "[crowned eagle]" : fasc.3-5.

Printer: no imprint.

Publisher: Funck, H.C., the author;
in consignment with: Barth, J.A. (see Bridel n.4).

Dates: 1806 (t.-p.), 20 Apr. (Sayre 72; *Allg.Vers.Büch.*).

Bibliogr.studies: Sayre, G.: *Dates of publ.* 72. 1959;
Staflau, F.A.: *Taxonomia literature* n.386. 1967.

Refs.: Brun.2: 1424 Linn.Soc. 278.

Notes. A reprint from the first edition, this being exhausted; specimens not checked, not necessarily from the same locality. According to Dr.Sayre some nomenclatural changes were included.
The NYBG copy did not have specimens with the text.

3 Deutschlands Moose.

Bayreuth, 1820 [including exsiccata]

Title: "Deutschlands Moose. | [short rule] | Ein | Taschenherbarium | zum Gebrauch | auf botanischen Excursionen, | herausgegeben | von | Heinrich Christian Funck, | mehrerer naturforschenden Gesellschaften Mitglied. | [very long swelled rule] | Baireuth, 1820. | Gedruckt in der Zeitungs-Druckerei und | lithographirt bei F. C. Birner."

Collation: 4°: π^4 1-9⁴; I-III IV-VI VII-VIII 1 2-70 71-72.

Contents: I title; II quotation, a four-line poem by "Baron von der Lhe."; III-VI preface, unheaded, dated: "1 Juni 1820."; VII half-title; VIII ; 7-70 text, descriptions of genera and species, with synonyms, habitat (occasionally with a locality), and time of capsules; 71 index of generic names with two columns: page- and plate-numbers; 72 .

Specimen part: 60 lithographs, including a title: "[thick-thin rectangle] | *Deutschlands* | Laub-Moose. [lines in script] | [swelled rule]"; the 59 other leaves with lithographed rectangles for 422 species, and narrow rectangles for the generic names above those of the species concerned; lithographed specific namen in the bottom of the spaces for the species, except on leaf 59 (4 spare spaces for *Hypnum* species); one rectangle provided for a variety; specimens consisting of a few stems, usually with at least one sporophyte, pasted to the paper in the rectangles concerned; about 10 species not provided (in the specimen part of the copy examined, of Mr. J. Frencken, Hilversum, Netherlands).

Paper: leaf height 195 mm. (NYBG copy, cut); laid, chains horizontal; wm.: "[post-horn in crowned shield] | W A I = [maid with harp in crowned double circle with decorations between]": 1-7, 9 (NYBG copy); "W A J [outline]": 8;

text of specimen part: wove; no wm.

Printers: Zeitungs-Druckerei, Bayreuth, Germany (text); Birner, F.C., Bayreuth? (lithographs).

Publisher: Funck, H.C., the author; in consignment with: Barth, J.A. (see Bridel n.4).

Date: 1820 (t.-p.); after 1 Jun. (preface), bef. 21 Dec. (*Flora* 3(47): 750. 1820: "Moostaschenherbarium" ... "eben erschienen").

Reviews: *Allg.Repert.Neuest.In- Ausl.Lit.* 1821²(4): 250-251. 1821 (57 Taf.); *Flora* 5(22): 349-350. 1822 Jun. 14 (about 360-370 specimens); *Bull.Gn.Univ.Annouces Nouv.Sci.* (Frussac) 4(10): 54-55. 1823; *Flora* 6(18): 273-281, 6(19): 289-297. 1823 (59 lith.); *Isis* (Oken) 13(7): 713. 1823 (about 360 pasted specimens); *J.Bot.* (Hooker) 1: 158. 1834.

Bibliogr.study: Sayre, G.: *Dates of publ.* 72. 1959.

Refs.: BMNH 631 ^b	Kew 215	Pr.ed.1 n.3448
Brun.1: 1424	Linn.Soc. 278	Pr.ed.2 n.3157
Graesse 2: 647a	Milt. 277	Stafl. TL n.385.

Bibl.notes. The complete copy I studied was preserved in a green case, containing also the specimen part within a similar green oblong cover. Possibly the first copies did not have the specimens as complete as later copies had, since a different number of specimens is stated in different reviews. *Flora* 5(22): 349-350. 1822 stated that copies would be ready again about the end of June, with about 360-370 species, including *Cinoldium*, and that material for supplements was in stock.

Bot.notes. Funck prepared this work as a handy field-guide to have all German mosses together; apparently he was unable to provide the rare species from the beginning. I did not find new names.

4 Moose aus der Umgebung von Bayreuth.

Flora 8(41): 61-62. 1825 Jan. 28.

Collation etc.: see *Flora*.

Note. Notes on the moss flora of Bayreuth.

5 Correspondenz.

Flora 8(20): 313-315. 1825 May 28.

Collation etc.: see *Flora*.

Note. Discussion of a few rare mosses and new localities in connection with the preparation of fasc.31 of the *Crypt. Gew. Fichtelgebirg's*.

6 Correspondenz.

Flora 10(11): 173-175. 1827 Mar. 21.

Collation etc.: see *Flora*.

Note. Contains indications for the preparation of mosses for herbaria.

FÜRNROHR, August Emanuel

Biogr. Born 1804 Jul.27, Regensburg, Bavaria, Germany.

Died 1861 May 6, Regensburg.

Fürnrrohr received elementary education in Regensburg and also studied pharmacy there. He worked for some time in a pharmacy in München and afterwards in that of the bryologist F. Bruch in Zweibrücken. Finally he studied at the University of Erlangen, 1824-26, where he passed the examination. He stayed in Erlangen until 1833, in which year he received the degree Ph.D. honoris causa from the University mentioned.

In the same year he became teacher of natural history, chemistry and technology at the newly founded "Kreis-Landwirthschafts- und Gewerbeschule" at Regensburg. In 1834 he became lecturer ("Docent") and in 1839 professor at the Lyceum there. After Hoppe's death, 1846, he became director of the botanical society of Regensburg, for which society he had been co-editor of *Flora* since 1830 and sole editor since 1842.

Besides the many botanical papers he wrote a handbook of technological chemistry, 1842, which went through several editions, and in collaboration with others a *Naturhistorische Topographie von Regensburg* (3 vols., 1838-40).

He was commemorated in the generic name *Fuernrohria* C. Koch 1842, an uncertain genus (*Umbelliferae*).

Refs.: v. Martius: *Akad.Denkreden. Sitzungsber.Akad.München* 1861(182): 448-450.

Flora 44: 289-297. 1861 (with list of publ.).

1861 (birthday as 27 Jun.).

Ascherson: *Allg.Deutsche Biogr.* 8: 208. 1878.

1 Versuch einer näheren Beleuchtung der Disposition methodique ... Arnott.

Flora 10² (Beil.1): 22-86. 1827 [1828?].

Head-title: "Versuch einer näheren Beleuchtung der Disposition methodique[sic] des espèces de mousses par G. | A. Walker-Arnott, M., Membre des sociétés royale et Wernerienne d'Edimbourg etc. Paris. | 1825 (4. 72 Seiten)."

Collation: 8°: 2₃v-6₃; 22-86.

Contents: 22 head-title; 22-86 critical review of Arnott's *Disposition* ...

Date: probably Jan.1828: p.108 of *Beil.1* has date 28 Dec. 1827.

Bot.notes. Very thorough and critical review of the article of Arnott (see Arnott n.5), with many independent judgments on the value and delimitations of genera and species of mosses, differing from the opinions of Arnott. The review includes the description of a new genus *Brachyodontium* (p.37) for *Weissia trichodes*, corrected to *Brachyodon*, probably in the same fascicle, p.112. (If this *Beilage* was really issued as one fascicle, the name *Brachyodontium* is invalid, not being accepted by the author at the time of publication.)

GAUDICHAUD-Beaupré, Charles

Biogr. Born 1789 Sep. 4, Angoulême (now dép. Charente), France.

Died 1854 Jan. 16, Paris, France.

Gaudichaud lost his parents in 1798, was then raised by his maternal grandfather. He became interested in natural history, especially insects, birds, and taxidermy, through a neighbor, Mérillon. When he was 12, his grandfather died and an uncle took care of him. After elementary studies at Angoulême he went to a brother-in-law at Cognac to study pharmacy. Two years later he was called back to Angoulême by Mr. Chauvin-Desroches, pharmacist, who taught him, besides pharmacy, botany and the meticulous preparation of good herbarium specimens. 5.

After military service, Gaudichaud went to Paris in 1808 to finish his studies under able pharmacists such as J.P. Robiquet (1780-1840), who advised him to follow a scientific career. He studied at the Collège de France, the École de Pharmacie, the Muséum d'Histoire Naturelle, and the École de Médecine. He studied botany especially under L.C. Richard (1754-1821), and took part in the famous "herborisations" of A.L. de Jussieu (1748-1836).

He was also interested in arms and in exploration, and through friends he was able to receive an appointment as "pharmacien auxiliaire" with the French navy at Brest, 2 Apr. 1810. However, it was soon ruled that for this rank an examination was necessary, so he went back to Paris in September for further study. In Jul. 1811 service brought him to Antwerp where he took part in a "concours" for "pharmacien troisième classe" which he obtained 15 Jul. 1813. In 1814 he was posted at Rochefort. 1

After the restoration the royal government planned large expeditions in the interest of science, and Gaudichaud was chosen as pharmacist-botanist of the voyage around the world on the corvette "L'Uranie". The preparations, in Toulon, took nearly a year, and as part of these Gaudichaud studied the natural history of Provence.

L'Uranie sailed 17 Sep. 1817, visited Ténériffe, Rio de Janeiro, Cape of Good Hope, Réunion and Mauritius, West Australia, Timor, islands near New Guinea, the Marianas and Sandwich Islands, and N.E. Australia, where a group traversed the Blue Mountains. The Pacific Ocean was crossed and the Cape Horn region was visited, but a long stay was impossible. Finally the ship hit unknown rocks in the Falkland Islands on 14 Feb. 1820 and was lost 12 hours later on the beach. Part of the collections (herbarium specimens) was lost, and the remaining part was completely soaked in salt water. This was carefully treated in fresh water and dried again by Gaudichaud during the four months of camping at that place, where he also studied the local botany. The voyage was continued on the ship "La Physicienne", bought for this purpose, via Montevideo, Rio de Janeiro, and back to France, Dec. 1820. Gaudichaud was charged to work out and publish the botanical results of the expedition.

On 22 Dec. 1828 he was elected "correspondant" of the "Académie". 3 Dec. 1830 he obtained authorisation for participating in a voyage to South America on the frigate "L'Herminie", which sailed 10 Feb. 1831. In Brasil Rio de Janeiro was visited, in Chile Valparaíso and Coquimbo, and in Peru Lima. The ship sailed back round Cape Horn; Rio de Janeiro was visited again, and the island St. Catherine. When the frigate was ordered back to France in 1832, Gaudichaud remained in Brasil to continue his botanical work (including anatomy), and finally he returned to France on "La Bonite", embarking 21 Jun. 1833.

The same year, 23 Dec., he was nominated professor of pharmacy at Paris. He prepared a treatise on organography and physiology of plants and submitted this to the Académie to compete for a prize on experimental physiology founded by Monthyon. He shared it with another, 20 Dec. 1835.

On the same day he left Paris for Toulon, to sail with "La Bonite" around the world, this time to bring consular service men to different parts of the world. Sailing 6 Feb. 1836, the ship stayed not too long at the different ports: Rio de Janeiro, Montevideo, Valparaíso, Cobija, Lima and Payta, Puna and Guayaquil (Ecuador), Owyhée and Owahau, Philippines, Macao, Canton, Tourane, Singapore, Penang and Malacca, Calcutta, Pondichéry, Mauritius, Réunion, and finally St. Helena.

In the meantime he was nominated "Membre titulaire" of the Académie, 16 Jan. 1837, in the place of A.L. de Jussieu. The rest of his life he used mainly in preparing the results of his travels for publication, and in anatomical physiological studies. He was commemorated in the generic name *Gaudichaudia* Humboldt, Bonpland et Kunth 1821 (*Malpighiaceae*).

Ref: Pascallet, E.: *Notice biographique sur M. Gaudichaud-Beaupré, membre de l'Institut*. Ed.2. 31 p. Paris, 1844. (Extr. de la *Revue générale biographique, politique et littéraire*, livr. d'Avril 1844).

1 Voyage autour du monde ... sur les corvettes ... l'Uranie et la Physicienne ...

Botanique.

1 vol. text 4°, 1 vol. plates 2°. Paris, 1826 [-1830].

Title (text-volume): "VOYAGE | AUTOUR DU MONDE, | Entrepris par Ordre du Roi, [line in gothic] | SOUS LE MINISTÈRE ET CONFORMÉMENT AUX INSTRUCTIONS DE S. EXC. M. LE VICOMTE DU BOUCHAGE, | SECRÉTAIRE D'ÉTAT AU DÉPARTEMENT DE LA MARINE, | *Exécuté sur les corvettes de S. M. l'Uranie et la Physicienne, | pendant les années 1817, 1818, 1819 et 1820* [these two lines in flowing script except "l'Uranie" and "la Physicienne" which are in erect script, the "U" resembling an "O"] | Publié sous les Auspices [line in gothic] | DE S. E. M. LE COMTE CORBIÈRE, SECRÉTAIRE D'ÉTAT DE L'INTÉRIEUR, | Pour la partie Historique et les Sciences naturelles, [line in erect script] | ET DE S. E. M. LE COMTE CHABROL DE CROUZOL, SECRÉTAIRE D'ÉTAT DE LA MARINE ET DES COLONIES, | Pour la partie Nautique; [line in erect script] | PAR M. LOUIS DE FREYCINET, | Capitaine de vaisseau, Chevalier de Saint-Louis et Officier de la Légion d'honneur, Membre de | l'Académie royale des sciences de l'Institut de France, &c.; Commandant de l'expédition. | [swelled rule] | Botanique [in gothic] | PAR M. CHARLES GAUDICHAUD, PHARMACIEN DE LA MARINE. | [swelled rule] | [two sides of a medal, each indicated by three concentric circles and connected by two thick-thin lines; in left circles head of Louis XVIII and border inscription, top: "LOUIS XVIII ROI DE FRANCE ET DE NAVARRE.", bottom: "GALLE F."; at right circles border inscription, top: "HEMISPHERE AUSTRAL.", bottom: "PHYSIQUE ASTRONOMIE.", and straight lines: "LA CORVETTE L'URANIE." | M^{LE} DE FREYCINET COMMAND^T | [very short swelled rule] | S.A.R.M^{TE} LE DUC D'ANGOULEME | AMIRAL DE FRANCE. | [very short swelled rule] | M^{LE} VT^E DU BOUCHAGE | MINISTRE DE LA MARINE. | [very short swelled rule] | 1817." | PARIS, | CHEZ PILLET AÎNÉ, IMPRIMEUR-LIBRAIRE, RUE DES GRANDS-AUGUSTINS, N.º 7. | [short rule] | 1826."

Engraved title of atlas (plate-volume): "VOYAGE | AUTOUR DU MONDE | Fait par ordre du Roi, [line in fancy gothic] | *sur les corvettes de S^{te} M^{te} l'Uranie et la Physicienne,* [script except names of ships] | *pendant les années 1817, 1818, 1819 et 1820.* | [long swelled rule] | HISTOIRE NATURELLE: BOTANIQUE. | *PLANCHES | Dessinées et gravées par A. Poiret, fils.* | [short swelled rule] | PARIS, | CHEZ PILLET, AÎNÉ, IMPRIMEUR-LIBRAIRE, RUE DES GRANDS AUGUSTINS N^º 7. | 1826. [all lines in capitals are in fancy letters, except the last one; the year in fancy numerals.]" Plate-mark: 324 × 239 mm.

Collation: text vol.: 4°: w^a 1-65^h 66²(-66₁) (\$2 signed \$*); i-v vi-vii viii 7 2-522 (575, 286 as '826'); plate-vol.: 2°: v²(engraved title) 1-6²; i-ii 1 2-22 23-24.

Contents: text-vol.: i half-title; ii imprint; iii title; iv list of the six divisions of the complete "Voyage..."; v-vii preface, dated Mai 1826; viii □; 1-514 text, divided into two "libres": 1-146: general observations on the nature and the plants of each locality visited during the expedition, 147-514 classification of the herbarium (list of plants preserved); 575 contents; 516-522 index of names of genera and higher taxa. RT: book title, and in index: "TABLE DES MATIÈRES." Language: French, with Latin descriptions of new species and indications of habitat; plate-vol.: i engraved title; ii □; 7-22 explanation of the plates, with references to text-pages; 23-24 □. RT: chapter headings. Language: French.

Plates: 120 copper-engravings of plants, usually with details, numbered 1-120; plate-mark: 331 × 236 mm. (pl.1).

Artist and engraver: Poiret (fils), A., Paris, son of the well-known naturalist and botanist Jean Louis Marie Poiret (1755-1834): all plates (t.-p. pl.-vol.).

Paper: text-vol.: leaf height 298 mm. (HBL copy, cut); laid, chains horizontal; wm: "grapes" = J H [in script monogram] " [or without grapes]: w 1-15 27-33 36-37; "J H [erect script at middle of lower sheet border]": 16-27 34-35 38-58; "8 [perpendicular to chain-line near middle of short sheet side]": 59 61-64; none seen: 60 65 66 (apparently of the same provenance as the foregoing); (*Bibliogr. France* gives 2 other paper states: wove paper and "papier de Chine");
plate-vol.: table of contents: leaf height 483 mm. (HBL copy, cut); laid; no wm; engraved title and plates: wove; no wm.

Printer: Imprimerie royale, Paris.

Publisher: Pillet aîné, Paris.

Collaborators: Néraud, Jules (1794 Oct. 10, "19 Vendém. an IV", La Châtre, dép. Indre, France - early spring or late winter 1855, La Châtre), botanist and horticulturist who for a number of years stayed at Mauritius (Île de France); contributed: *Nouveaux renseignements sur la végétation spontanée de l'Île-de-France*, p. 21-30, a list of genera in natural families of plants of Mauritius, including a number of new genera, mostly unnamed; the new names, however, were not accompanied with a description and are, therefore, invalid (see the example *Egeria* Néraud in the ICBN, art. 32);

Dumont d'Urville, Jules Sébastien César (1790-1842): lists of plant names (*Phanerogamia*) from the Falkland Islands, 36 species and 1 variety with Latin descriptions in footnotes, p. 121-128;

Bory de Saint-Vincent, Jean Baptiste George Maria (1780-1846): list of plant names (*Cryptogamia*) from the same region, with Latin descriptions for 18 species;

Schwaegrichen, Christian Friedrich (which see): supplied Latin descriptions of new species of *Hepaticae*, p. 217-218, and of *Musci*, p. 223-230;

Arnott, George Arnott Walker (which see): reviewed the *Musci*, determined by Schwaegrichen, but he did not add valid new species; the names given by him in *Disposition méthodique des mousses* ... (1825) were cited by Gaudichaud in the synonymy;

Gay, Jacques Étienne (1786-1864), French botanist (born in Switzerland): description of species *Erysimum maoloiranum*, p. 136, from the Falkland Islands.

Dates and announcements:

fasc.	gath.	pages	plates	Bibliogr. France	Bull. Sci. Nat.
1	1-5	1-40	frontisp.	15 (76): 809. 1826 Sep. 23	9(10): 176. 1826 Oct.
2	6-10	41-80	11-20	15(103): 1101. 1826 Dec. 27	
3	11-15	81-120	21-30	16 (16): 176. 1827 Feb. 24	10((3): 356. 1827 Mar.
4	16-20	121-160	31-40	16 (47): 487. 1827 Jun. 13	12(10): 233-234. 1827 Oct.
5	21-26	161-208	41-50	16 (73): 757. 1827 Sep. 12	13 (1): 74-76. 1828 Jan.
6	27-32	209-256	51-60	17 (8): 146. 1828 Feb. 23	13 (4): 418-420. 1828 Apr.
7	33-38	257-304	61-70	17 (33): 620. 1828 Aug. 16	
8	39-44	305-352	71-80	17 (52): 934. 1828 Dec. 27	} 20 (1): 97-99. 1830 Jan.
9	45-50	353-400	81-90	18 (29): 500. 1829 Jul. 18	
10	51-54	401-432	91-100	18 (37): 619. 1829 Sep. 12	} 23(10): 73-74. 1830 Oct. explanations of the plates
11	55-58	433-464	101-110	18 (48): 805. 1829 Nov. 28	
12	59-66	465-522	111-120	19 (10): 156. 1830 Mar. 6	
	1-6	1-22-24		19 (11): 172. 1830 Mar. 13	

Reviews: see *Bull. Sci. Nat.* in table; mostly by R[aspail];
Isis (Oken) 25(4): 362-382. 1832.

Bibliogr. studies:

Sherborn, C.D. & Woodward, B.B.: *Ann. Mag. Nat. Hist.* ser. 8, 7: 392. 1901 (dates), and *J. Bot.* 39: 206. 1901. (fasc. 11 erroneously as from 28 Sep.);
van Steenis-Kruseman, M.J.: *Fl. Males.* ser. 1 vol. 4(5): CLXXXIII. 1954;
Stafleu, F.A.: *Taxonomia literature* n. 396. 1967.

<i>Refs.</i> : Arn.Arb.1: 271	Cat.Juss. n.1418	Linn.Soc. 274	Hiss. n.C89
BMH 606, 644	Graesse 3: 35a	Mass.HS-H 111	Pr.ed.1 n.3527
Bradl.1: 302 ^b	Jacks. 223	Mass.HS-II 1: 690b	Pr.ed.2 n.3234
Brun.2: 1392	Kew 220, 723	2: 108b	Teyl. 585.

Bibl.notes. The publication in parts is fully borne out by the contemporaneous announcements. Fasc.5 and 6 were reported to have 10 plates each in the announcement in *Bull.Sci.Nat.* (Férussac); I take it for granted that all fascicles contained 10 plates. The fascicles must have been published before the dates of the *Bibliogr.France*, mentioned above. Undoubtedly the fascicles were issued in wrappers, bearing at least the year of publication, as is evident from the announcements, but I have not seen any. The breaks between the text fascicles are in some cases confirmed by changes in the watermark. For a remark on the date of pl.85 see F.A. Stafleu: *Taxonomia Literature* n.396. 1967.

Bot.notes. Gaudichaud sent plants of several groups to specialists, as mentioned under *Collaborators*, or they studied the herbarium specimens in Paris (as was the case with Arnott during his stay there). Statements elsewhere that Agarius worked up the *Algae* and Persoon the *Fungi*, are not confirmed in the actual text; Gaudichaud simply said to follow their arrangements of the groups in question. Of course it is quite possible that these botanists were consulted during the course of the work, but Gaudichaud certainly took the responsibility of describing the new species himself.

Some new genera in phanerogams were published by him before this work, in: *Ann.Sci.Nat.* 3: 507-510. 1824 Dec. The text apparently was not finished, as the plates contain drawings of plants of a number of families which were not represented in the text (primarily dicotyledons). Most likely this was caused by Gaudichaud's appointment for the next voyage. The names on the plates published before the description, or for which no description followed, nevertheless are valid in nomenclature when they give analytical details.

GREVILLE, Robert Kaye

Biogr. Born 1794 Dec. 13, Bishop Auckland, Durham, Great-Britain.

Died 1866 Jun. 4, Murrayfield near Edinburgh, Scotland.

Greville was early interested in plants and had carefully drawn nearly 200 British plants by the age of 18. He was intended for the medical profession and studied four years in London and Edinburgh. Having become of independent means, he did not proceed to a degree.

In 1816 he married the daughter of Sir John Eden, of Windlestone, Durham, and settled in Edinburgh to study anatomy under Dr. Barclay. In 1819 he joined the Wernerian Natural History Society and from time to time he lectured and contributed articles for its journal. He made frequent botanical excursions to the Highlands with W.J. Hooker, Robert Graham and other botanists.

Later he published, besides the *Scottish cryptogamia flora* (which see), with W.J. Hooker: *Icones Filicum* [1827-1832]. He gave popular lectures on botany in Edinburgh, and once he hoped to be appointed to the Glasgow chair of botany.

Apart from his botanical interest he was an active opponent of slavery and an advocate of temperance, publishing tracts against drunkenness. He compiled also, with Rev. T.K. Drummond, a Hymn-book (1838). He was elected Member of Parliament for Edinburgh in 1856. In his later years his private means had diminished and he executed many drawings and paintings of the Scottish Highlands for sale.

He was survived by a son and three daughters.

The herbarium he amassed was especially rich in lower *Fungi*; he also collected other natural history objects, of which the molluscs were said to be noteworthy. His herbarium of phanerogams came to the University of Glasgow, and was recently transferred to Edinburgh. Apparently his cryptogams are kept there too.

He was commemorated in the generic names *Grevillea* R. Brown 1809, *nom. cons.* (*Proteaceae*) and *Kayea* Wallich 1831 (*Clusiaceae*).

Refs.: Balfour, J.H.: *Trans.Bot.Soc.Edinb.* 8: 464-476. 1866.

Boulger, G.S.: *Dict.Natl.Biogr.* 23: 164-166. 1890.

1 An account of some of the cryptogamous plants of Devonshire.

Mem. Wernerian Nat. Hist. Soc. 3: 351-370. pls. 15-16. 1821.

Head-title: "XXIV.—An account of some of the Crypto-|gamous Plants of Devonshire.
| By ROBERT KAYE GREVILLE, Esq. M. W. S. | (Read 5th August 1820.)"

Collation: 8°: Y₈r-2A₁v; 351-370 (354 as '345').

Contents: 351 head-title; 351-355 introduction, including 7 interesting phanero-
gamous species from the region; 355-362 list of Latin names, with localities,
of *Musci* (355-359), *Musci Hepatici* (359), *Filices* (359), *Fuci* (360-362),
Ulvae (362); 362-370 "NOTES AND OBSERVATIONS.", discussions on a few species
including the description of a variety *Gymnostomum truncoatulum* var. *ramosum*
(see *Bot.notes*).

Plates: 2 color-printed copper-engravings of red algae, numbered: "Plate XV." and
"Plate XVI."; plate-mark cut off (HBL copy).

Artist: Greville, R.K., the author.

Engraver: Mitchell, E.: 2 pls.

Date: 1821 (t.-p. vol.), May (see *Mem. Wernerian Nat. Hist. Soc.*).

Bot.notes. List of cryptogams of Devonshire, *Fungi* excepted, observed during a
three months stay, completed with observations from others, esp. from Mrs.
Griffiths, algologist. The variety *Gymnostomum truncoatulum* var. *ramosum*
was named "for distinction's sake"; since Greville meant a growth-form only,
it should be ranked as a modification, in modern standards.

2 Description of a new species of *Potentilla*, from the West coast of Greenland;
with some account of the Arctic flora.

Mem. Wernerian Nat. Hist. Soc. 3: 416-436. pl.20. 1821.

Head-title: "XXIX.—Description of a New Species of *Poten-|tilla*, from the West
Coast of Greenland; with | some Account of the Arctic Flora. | By ROBERT KAYE
GREVILLE, Esq. M. W. S. | (Read 18th November 1820.)"

Collation: 8°: 2C₈v-2E₂v; 416-436.

Contents: 416 head-title; 416-417 introduction; 417-419 description and dis-
cussion of a new species, *Potentilla jamesoniana*; 419-436 discussion of
arctic plants, mainly lists of plants determined by Robert Brown, from
collections of William Jameson and Captain Scoresby, to which Greville added
other localities from literature, to illustrate the geographical distribution.

Plate: 1 copper-engraving, of *Potentilla jamesoniana*, "Pl.XX."; plate-mark:
198 x 113 mm.

Artist: Greville, R.K., the author.

Engraver: Mitchell, E.

Date: 1821 (t.-p. vol.); May (see *Mem. Wernerian Nat. Hist. Soc.*).

Bot.notes. Mosses are mentioned (det. Robert Brown): p.425 from Spitzbergen, coll.
by Scoresby, p.432 from the West coast of Greenland, coll. by W. Jameson,
and p.436 from Baffin's Bay region, coll. by Captain Ross.

3 On the leaves, capsule and root of *Buxbaumia aphylla*.

Mem. Wernerian Nat. Hist. Soc. 3: 442-449. pl.21. 1821.

Head-title: "XXXI.—On the Leaves, Capsule and Root of | *Buxbaumia aphylla*. | By
ROBERT KAYE GREVILLE, Esq. M. W. S. &c. | (Read 2d December 1820.)"

Collation: 8°: 2E₅v-2F₁r; 442-449.

Contents: 442 head-title; . 442-448 text; 449 explanation of pl.21.

Plate: 1 copper-engraving of *Buxbaumia aphylla* with details, some parts magnified, numbered: "PLATE XXI", name at the top, details 1-11; plate mark cut off (HBL copy).

Artist: Greville, R.K. the author.

Engraver: Lizars, William Home (1788-1859); biogr.: Bryan, *Biogr.Diot.Paint.*
Engr. [ed.3]: 236. 1910; Bénézit 5: 604. 1956.

Date: 1821 (t.-p. vol.); May (see *Mem. Wernerian Nat. Hist. Soc.*)

Bot.notes. Detailed description of *Buxbaumia aphylla*, confirming the presence of microscopical leaves, discovered by J. Stewart (died 1820 Nov.3); describing moreover a second kind of leaves, which now would be considered modified rhizoids. The "rooting" of the sporophyte is also described and figured.

4 A description of a new species of *Grimmia*, found in Scotland.

Mem. Wernerian Nat. Hist. Soc. 4(1): 87-90. pl.6. 1822.

Head-title: "VII.—A Description of a New Species of Grim-|mia, found in Scotland. |
By ROBERT KAYE GREVILLE, Esq. F. R. S. E. | M. W. S. &c. | (Read 12th January
1822.) | [very short thick-thin rule]"

Collation: 8°: F₄r-F₅v; 87-90.

Contents: 87 head-title; 87-90 text, Description of *Grimmia leucophaea*, with discussion; 90 explanation of pl.6.

Plate: 1 copper-engraving of *Grimmia leucophaea* with details, "PLATE VI.", binomial at bottom. Plate-mark cut off (HBL copy).

Artist: Greville, R.K., the author.

Engraver: Lizars, William Home (see Greville n.3).

Date: 1822 (t.-p. fasc.), after 18 May, bef. or in Aug. (see *Mem. Wernerian Nat. Hist. Soc.*)..

Bot.note. One new moss species, *Grimmia leucophaea*, described, illustrated and discussed, from Kings Park, Edinburgh.

5 *Scottish Cryptogamic Flora.*

6 vols.[72 fasc.] Edinburgh, [1822-]1828.

Title: "SCOTTISH | CRYPTOAMIC FLORA, | OR | COLOURED FIGURES AND DESCRIPTIONS OF CRYPTOAMIC | PLANTS, BELONGING CHIEFLY TO THE ORDER *FUNGI*; | AND | INTENDED TO SERVE AS A CONTINUATION | OF | ENGLISH BOTANY. | BY | ROBERT KAYE GREVILLE, F.R.S. & F.A.S.E. [2-4: ROBERT K. GREVILLE, LL.D. F.R.S. & F.A.S.E.] [5-6: ROBERT KAYE GREVILLE, | LL.D. F.L.S. & F.A.S.E.] | [tapering set of five lines:] CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF PARIS; | MEMBER OF THE IMPERIAL ACADEMY NATURAE CURIOSORUM; OF | THE WERNERIAN NATURAL HISTORY SOCIETY; HONORARY | MEMBER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY, | *do. do.* [instead of this tapering set in the other volumes sets of one long line and the remaining lines indented:] [2: MEMBER OF THE WERNERIAN NATURAL HISTORY SOCIETY OF EDINBURGH; OF THE | IMPERIAL ACADEMY NATURAE CURIOSORUM; OF THE NATURAL HISTORY SO-|CIETY OF LEIPSIC; CORRESPONDING MEMBER OF THE NATURAL HISTORY SO-|CIETY OF PARIS; OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA; | HONORARY MEMBER OF THE LYCEUM OF NATURAL HISTORY AT NEW YORK; | OF THE YORKSHIRE PHILOSOPHICAL SOCIETY; AND OF THE LIVERPOOL INSTI-|TUTION, *do.*] [3: MEMBER OF THE WERNERIAN NATURAL HISTORY SOCIETY OF EDINBURGH; OF THE | IMPERIAL ACADEMY NATURAE CURIOSORUM; OF THE NATURAL HISTORY SO-|CIETY OF LEIPSIC; OF THE PHYSIOGRAPHICAL SOCIETY OF LUND; CORRES-|PONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF PARIS; OF THE | ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA; HONORARY MEMBER OF | THE LYCEUM OF NATURAL HISTORY AT NEW YORK; OF THE YORKSHIRE PHI-|LOSOPHICAL SOCIETY; AND OF THE LIVERPOOL INSTITUTION, *do.*] [4-5: HONORARY MEMBER OF THE ROYAL IRISH ACADEMY; OF THE LYCEUM OF NATURAL | HISTORY AT NEW YORK; OF THE YORKSHIRE PHILOSOPHICAL SOCIETY; AND | OF THE LIVERPOOL INSTITUTION; MEMBER OF THE WERNERIAN NATURAL | HISTORY SOCIETY OF EDINBURGH; OF THE IMPERIAL ACADEMY NATURAE CU-|RIOSORUM; OF THE NATURAL HISTORY SOCIETY OF LEIPSIC; OF THE PHY-|SIOGRAPHICAL SOCIETY OF LUND; CORRESPONDING MEMBER OF THE NATURAL | HISTORY SOCIETY OF PARIS; OF THE ACADEMY OF NATURAL SCIENCES OF PHI-|ADELPHIA, *do.*] [6: HONORARY MEMBER OF THE ROYAL IRISH ACADEMY; OF THE CAMBRIDGE[*sic*] AND | YORKSHIRE PHILOSOPHICAL SOCIETIES; OF THE LYCEUM OF NATURAL HISTORY | AT NEW YORK; OF THE NATURAL HISTORY SOCIETY OF MONTREAL; AND OF THE | LIVERPOOL INSTITUTION; MEMBER OF THE WERNERIAN NATURAL HISTORY SO-|CIETY OF EDINBURGH; OF THE IMPERIAL ACADEMY NATURAE CURIOSORUM; OF | THE NATURAL HISTORY SOCIETY OF LEIPSIC; OF THE PHYSIOGRAPHICAL SOCIETY | OF LUND; CORRESPONDING MEMBER OF THE NATURAL HISTORY SOCIETY OF | PARIS; OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA; OF THE | MEDICO-BOTANICAL SOCIETY OF LONDON, *do. do.*] [end of sets] | [very long rule] | Cui bono haec omnia?—Ut cognoscamus sapientiam CREATORIS, quae in | minimis non minus elucet, quam in magnis plantis.—DILL. | [very long rule] [rules and quotation absent in vol.4-5] | VOL. I. [2: VOL. II.] [3: VOL. III.] [4: VOL. IV.] [5: [short rule] | VOL. V. | [short rule]] [6: VOL. VI.] | EDINBURGH: | PRINTED FOR MACLACHLAN & STEWART, EDINBURGH; [5-6: MACLACHLAN & STEWART, EDINBURGH;] | AND BALDWIN, CRADOCK & JOY, LONDON. | [very short rule] | 1823. [2: 1824] [3: 1825.] [4: 1826.] [5: 1827.] [6: 1828.]"

Collation: 8° in 4s: vol.1: π^4 2 π^4 λ 1-60 (λ -leaves signed: 1:'A' 5:'C' 6:'C' 8:'A' 10:'D' 11:'E' 15:'F' 16:'F' 17:'F' 21:'I' 25:'K' 26:'M' 30:'M' 31:'N' 35:'O' 36:'P' 40:'Q' 41:'R' 45:'S'); *i-xvi*, 60 leaves: λ 1-60; vol.2: π^2 2 π^4 λ 61-120; *I-IV i ii-iii iv-v vi-viii*, 60 leaves: λ 61-120; vol.3: π^2 2 π^4 3 π^2 λ 121-144 λ 145² λ 146-180 (λ 124 as '123'); *i-xvi*, 61 leaves: λ 121-145 λ 145+1 λ 146-180; vol.4: π^2 λ 181-212 λ (213/214)² λ 215-230 λ 231⁴ π^4 π^2 (- π_2) λ 232-239 λ 240⁴ 2 π^4 ; *i-iv*, 50 leaves: λ 181-212 λ 213/214 λ 213/214+1 λ 215-230, 7(= λ 231) 2-17 78, 9 leaves: λ 232-240, *I-XIV*; vol.5: π^4 λ 241-300; *I-II i ii-vi*, 60 leaves: λ 241-300; vol.6: π^1 λ 301-306 λ 306+1 λ 307-360 π^4 b-k⁴ 1²(- λ_2 = π_7) (b-1 signed in italics); *i-ii*, 61 leaves: λ 301-306 λ 306+1 λ 307-360, 7 2-82 (57 53, 65 as '75').

Note. For conjugacy of λ -leaves see table under *Dates*.

Contents: vol.1: *i-iv* □; *v* half-title; *vi* □; *vii* title; *viii* □; *ix* dedication to William Jackson Hooker (1785-1865); *x* □; *xi* preface, headed: "ADVERTISEMENT.", dated: "May 1823."; *xii* □; *xiii-xiv* systematic index of Latin binomials of plants figured, in natural orders; *xv* alphabetical index of same, both lists with the new name *Clavaria setifolia* Grev. for the plant figured as *Clavaria trichopus* Grev. non Pers.; *xvi* alphabetical list of English plant names of plants figured; *xvii-60* text, explanations of plates, existing of: Latin binomial, English name, indication of class and order, generic character in Latin and in English, specific character in both languages, synonyms and earlier citations especially of British literature, habitat and frequency, or, for rare species, localities and collectors, elaborate description in English, discussion, explanation of details, and, only on left side of recto bottom, plate number as single identifier of text (verso □: *xvii*, *xi*, *xi*, *xi*, *xi*, *xi*, *xi*, *xi*, *xi*, *xi*);
 vol.2: *i* half-title; *ii* □; *iii* title; *iv* imprint; *i-iii* systematic index to vols. 1 & 2; *iv* □; *v-viii* alphabetical indexes of Latin and English names; *xvi*-*xvii* text, descriptions as in vol.1 (verso □: *xvi*);
 vol.3: *i* half-title; *ii* □; *iii* title; *iv* imprint; *v-xii* alphabetical index of Latin binomials in vols.1-3, with occasional new information added between parentheses; *xiii-xvi* systematic index to vols.1-3, with footnotes to additional information in the alphabetical index; *xvii*-*xviii* text, descriptions as in vol.1 (verso □: *xvii*);
 vol.4: *i* half-title; *ii* □; *iii* title; *iv* imprint; *xvii*-*xviii* text, descriptions as in vol.1 (verso □: *xvii*, *xviii*); *i-x* alphabetical index to Latin binomials in vols.1-4; *xix-xiv* systematic index to vols.1-4;
 vol.5: *i* title; *ii* imprint; *i-iv* alphabetical list to binomials of plants figured in vol.5; *v-vi* systematic index of same; *xvii*-*xviii* text, descriptions as in vol.1 (verso □: *xvii*, *xviii*);
 vol.6: *i* title; *ii* imprint; *xvii*-*xviii* text, descriptions as in vol.1 (verso □: *xvii*, *xviii*, *xviii*, *xviii*); *7-50* synopsis of names with short descriptions of genera and species and some varieties in natural orders, all in Latin, of all plants figured; *51-52* systematic index of the binomials of plants figured in vol.6; *53-82* general alphabetical index to the whole work, including page numbers of the synopsis, excluding names (even of an occasional new genus) mentioned in the text, and not referring to plants figured. RT only in indexes and synopsis. Language: English, with descriptions of characters (phrases) in Latin, as well as the Synopsis. Fascicle-titles: see *Bibl. notes*.

Plates: 360 copper-engravings, uncolored, or (more expensive state) hand-colored with a few plates, especially of red algae, printed in one color and other colors added by hand; numbered in lower left corner: "1"-360; picturing species and rarely varieties of cryptogams, especially *Fungi*, with microscopical details; details again numbered with arabic numerals, except when two species are figured on the same plate, only of the same genus, in which case the two species are indicated by arabic numerals and the details by italic letters; no names on the plates; plate-marks much varying according to the size of the drawing: pl.2: 183 × 127 mm., pl.270: 232 × 146(+x) mm., pl.325: 79 × 70 mm.; some plates placed oblong, the top towards the outer edge: pl.336: 223 × 136 mm.

Artist: Greville, Robert Kaye, the author; pl.171 signed: "R. K. Greville omnes delin?"; certainly all plates.

Engraver: Miller, William (1796-1882); pl.171 signed: "W. Miller omnes sculpsit"; presumably all the later plates too.

Paper: leaf height 239 mm. (copy Dublin, Trinity College Library); wove; wm.: "A.C. | 1821 [outline, over 2 leaves]": vol.1 occasionally, vol.2 more frequent, vol.3 in leaves up to the pair *xviii*, *xviii*;
 "1823 [outline, over 2 leaves]": vol.3 in *xvii*, *xviii* to *xviii*, occasionally;
 "1822 [outline, in one leaf]": vol.3 *xv*-*xv*, possibly in some high numbered leaves too; vol.4 occasionally; vol.5 very few leaves with this mark; no wm. in vol.6; (these marks in the Dublin copy; highest leaf number first indicates the direction of the mark); no wm. at all in HBL copy;

plate paper: wove; wm. (copy Dublin, Trinity College Library):
 "A C | 1821 [outline, over 2 plates]": vol.1 in 6 plates, vol.2 in 9 plates;
 fragments: "1 [rather long cipher, outline]": vol.1, pl.60;
 not determined: vol.2, pl.79;
 no wm. at all in HBL copy.

Printer: Neill, Patrick (1776-1851), Edinburgh; later partner of the firm Neill & Co (printers and type-founders); naturalist, secretary of the Wernerian Natural History Society, and member of many other societies; author of travelogues, zoological and horticultural papers; Greville mentioned him a number of times in this work as a collector of interesting plants; he was commemorated in the generic name *Neillia* D. Don 1825 (*Rosaceae*). Biogr.: J[ackson], B.D.; *Diet.Watl.Biogr.* 40: 178-179, 1894.

Publishers: MacLachlan & Stewart, Edinburgh;
 Baldwin, Cradock & Joy, London.

Dates of fascicles with their plates and gatherings of text leaves:

vol.	fasc.	plates	gath.	fasc.date	vol.	fasc.	plates	gath.	fasc.date
1	1	1- 5	2+2+1	Jul.1822	4	37	181-185	4+1	Jul.1825
	2	6- 10	2+2+1	Aug.1822		38	186-190	4+1	Aug.1825
	3	11- 15	4+1	Sep.1822		39	191-195	4+1	Sep.1825
	4	16- 20	4+1	Oct.1822		40	196-200	4+1	Oct.1825
	5	21- 25	4+1	Nov.1822		41	201-205	4+1	Nov.1825
	6	26- 30	4+1	Dec.1822		42	206-210	4+1	Dec.1825
	7	31- 35	4+1	Jan.1823		43	211-215	4+1	Jan.1826
	8	36- 40	4+1	Feb.1823		44	216-220	4+1	Feb.1826
	9	41- 45	4+1	Mar.1823		45	221-225	4+1	Mar.1826
	10	46- 50	4+1	Apr.1823		46	226-230	4+1	Apr.1826
	11	51- 55	4+1	May 1823		47	231-235	4+4+1	May 1826
	12	56- 60	4+1	Jun.1823		48	236-240	4+4+1	Jun.1826
	π		4+4	1823		π		2+4	1826
2	13	61- 65	4+1	Jul.1823	5	49	241-245	4+1	Jul.1826
	14	66- 70	4+1	Aug.1823		50	246-250	4+1	Aug.1826
	15	71- 75	4+1	Sep.1823		51	251-255	4+1	Sep.1826
	16	76- 80	4+1	Oct.1823		52	256-260	4+1	Oct.1826
	17	81- 85	4+1	Nov.1823		53	261-265	4+1	Nov.1826
	18	86- 90	4+1	Dec.1823		54	266-270	4+1	Dec.1826
	19	91- 95	4+1	Jan.1824		55	271-275	4+1	Jan.1827
	20	96-100	4+1	Feb.1824		56	276-280	4+1	Feb.1827
	21	101-105	4+1	Mar.1824		57	281-285	4+1	Mar.1827
	22	106-110	4+1	Apr.1824		58	286-290	4+1	Apr.1827
	23	111-115	4+1	May 1824		59	291-295	4+1	May 1827
	24	116-120	4+1	Jun.1824		60	296-300	4+1	Jun.1827
	π		2+4	1824		π		4	1827
3	25	121-125	4+1	Jul.1824	6	61	301-305	4+1	Jul.1827
	26	126-130	4+1	Aug.1824		62	306-310	4+2	Aug.1827
	27	131-135	4+1	Sep.1824		63	311-315	4+1	Sep.1827
	28	136-140	4+1	Oct.1824		64	316-320	4+1	Oct.1827
	29	141-145	4+2	Nov.1824		65	321-325	4+1	Nov.1827
	30	146-150	4+1	Dec.1824		66	326-330	4+1	Dec.1827
	31	151-155	4+1	Jan.1825		67	331-335	4+1	Jan.1828
	32	156-160	4+1	Feb.1825		68	336-340	4+1	Feb.1828
	33	161-165	4+1	Mar.1825		69	341-345	4+1	Mar.1828
	34	166-170	4+1	Apr.1825		70	346-350	4+1	Apr.1828
	35	171-175	4+1	May 1825		71	351-355	4+1	May 1828
	36	176-180	4+1	Jun.1825		72	356-360	4+1	Jun.1828
	π		2+4+2	1825		π		1+4+4+1	1828

Reviews and announcements:

- fasc. 1: *Blackwood's Edinb. Mag.* 11(65): 762. 1822 Jun.;
Ann. Philos. n.ser. 4(1): 78. 1822 Jul. (just published);
fasc. 1-3: *Philos. Mag. & J.* 60: 227-229. 1822 Sep.;
fasc. 4: *Blackwood's Edinb. Mag.* 12(69): 508. 1822;
fasc. 1-6: *Flora* 6(24): 371-375. 1823 Jun. 28;
fasc. 1-10: *Allg. Repert. Neuest. In- Auel. Lit.* 1823²(1): 14-16. 1823 Apr. 15;
fasc. 7-16: *Flora* 7(6): 89. 1824 Feb. 14;
fasc. 11-24: *Allg. Repert. Neuest. In- Auel. Lit.* 1823²(2): 34-35. 1824 Apr. 30;
fasc. 27-29: *Edinb. J. Sci.* 2(1): 166-169. 1825 Jan.;
fasc. 17-30: *Flora* 8(36): 565-569. 1825 Sep. 28;
fasc. 30: *Edinb. J. Sci.* 2(2): 355. 1825 Apr.;
fasc. 25-36: *Allg. Repert. Neuest. In- Auel. Lit.* 1825⁴(1-2): 105-106. 1825 Oct.;
Gard. Mag. (London) 1(1): 74. 1826;
fasc. 1-36: *Linnaea* 1(1): 155. 1826 (Jan.); issued each month without breaks;
10 fasc. 1826: *Allg. Repert. Neuest. In- Auel. Lit.* 1827²(5): 330-332. 1827;
fasc. 49-72
(=vols. 5 & 6): *Allg. Repert. Neuest. In- Auel. Lit.* 1829²(2): 92-94. 1829.

Refs.: BMNH 733	Jacks. 246	Lownd. 943	Pr.ed.1 n.3869
Brun.2: 1736	Kew 243	Mass.HS-H 124	Pr.ed.2 n.3550
Cat.Juss. n.2242	Krüg. 210	Mass.HS-M 2: 172 ^c	Stafl. TL n.442
Graesse 3: 154	Lindl.Libr. 180	Milt. 473	Teyl. 409
	Linn.Soc. 314	Niss. n.757	Un.Edinb.2: 162b.

Variant: the paper without watermarks of the HBL copy may represent a better quality paper state; I do not know of a confirmation in contemporaneous announcements.

Bibl. notes. The collation is following the lambda-method proposed by Stevenson and discussed in the introduction. For purposes of references this is the best way to collate. However, the draw-back is that it does not show the conjugacy of the leaves in the gatherings, which is important for the determination of the contents of the fascicles. Therefore I added these in a short notation in the table of the dates, 4+1 being the regular make-up of a fascicle, meaning one gathering in fours and a single leaf, containing the descriptions to 5 plates. The number of 5 plates per gathering is consistent throughout the 6 volumes. The number of the text-leaves, however, varies; in a few cases two or more leaves of text are devoted to one species, and in one case the text refers to two plates of the same species.

I am convinced that the text was printed in half-sheet imposition, and the preliminaries also; even where a gathering of 8 might have been possible, the checking of conjugate leaves proved that all gatherings were folded as half-sheets or smaller parts.

The fascicle titles form a peculiar problem. Though I have only seen off-sets, as in Hooker's *Exotia flora*, I suppose that these formed with the fifth leaf a wrap-around to protect the complete fascicle. It would be unusual to print the wrapper on the same paper as the text, but the off-sets of Hooker's book lead me to consider this as a possible situation there, and Greville's book was printed by the same printer and in a similar way and on similar paper. Differing from Hooker's *Exotia flora* the name of the month was added to the date on the fascicle titles.

Another problem is the place of the indexes. In vol.4 the first three leaves of the indexes formed one gathering with the text to plate 240. This is indicated in the collation as 240⁴, which is not the consistent lambda-method. In some copies these three index-leaves (together with the following gathering ².) have been removed to the front of the book, directly after the title-page. In one copy the half-title had been removed, which of course is not shown in the collation of the ideal copy.

The same copy (HBL copy) does not have any watermark in the text- or plate-paper, and I think this is a better quality of paper. Moreover it has guard-leaves between plates and text of a good glossy quality.

The fascicle dates have partly been derived from contemporaneous references. They were completed with the assumption of regular months throughout the year. From analogy with the work of Hooker, *Nusci exotici*, I presume that the publication of the fascicles was scheduled for the first of each month. The earlier fascicles probably followed this pattern, since they were reviewed soon. For fasc.47 I found evidence pointing to the contrary. The 18 pages of text concerning the red snow, *Protooococcus nivalis*, of plate 231, were issued with a separate title-page. Greville sent copies of this to Ad.Brongniart on 28 May 1826 and to A.P. de Candolle on 30 May 1826, as was announced in letters of these dates. This makes it very likely that this fascicle 47 of the *Scottish cryptogamic flora* had been published late in May 1826, the month for this fascicle. In such long series delays can easily creep in, especially in the later parts, but I have up to now no indication of delay beyond the months scheduled for the fascicles.

Bot.notes. Greville beautifully illustrated this work, and the treatment is also of high quality. New species were described, and a number of new combinations proposed, which are easily traced in the indexes, except for some combinations which were made in the text and did not refer to the plates.

In the preface it was announced that the species treated would include British plants outside Scotland in "a small number only of supplementary fasciculi". This was not realized, but English plants were occasionally included (*Bryum tozeri* Grev., pl.285). Nor was the project, announced in the same preface, of "a synoptical Arrangement of all British Cryptogamic vegetables" realized. It may be regretted that no more volumes were produced.

For the nomenclature of bryophytes the dates of some fascicles are important since some names compete with those in other publications, especially in Greville's own *Flora Edinensis* (which see, n.6).

6 Flora Edinensis.

Edinburgh, 1824.

Title: "FLORA EDINENSIS: | OR | A DESCRIPTION OF PLANTS GROWING | NEAR EDINBURGH, | ARRANGED ACCORDING TO THE LINNEAN SYSTEM. | WITH | A CONCISE INTRODUCTION TO THE NATURAL ORDERS | OF THE | CLASS CRYPTOGRAMIA. | AND ILLUSTRATIVE PLATES. | [medium short rule] | BY | ROBERT KAYE GREVILLE, F. R. S. & F. A. S. E. | MEMBER OF THE WERNERIAN NATURAL HISTORY SOCIETY OF EDINBURGH; | OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM; OF THE NATURAL | HISTORY SOCIETY OF LEIPZIG; CORRESPONDING MEMBER OF THE NA-TURAL HISTORY SOCIETY OF PARIS; HONORARY MEMBER OF THE YORK-SHIRE PHILOSOPHICAL SOCIETY, OF THE LIVERPOOL BOTANICAL INSTI-TUTION, AND OF THE LYCEUM OF NATURAL HISTORY AT NEW YORK, &c. | [medium short rule] | EDINBURGH: | PRINTED FOR WILLIAM BLACKWOOD, EDINBURGH; | AND T. CADELL, STRAND, LONDON. | [short rule] | MDCCCXXIV."

Collation: 8°: a⁴ b-e⁸ f⁴ g²(-g₂) A-2G⁸(-2G₈); i-v vi-lxxxi lxxxii 1 2-478 (viii-ix xxvi 472-473).

Contents: i title; ii quotation from Linnaeus, *Crit. Bot.*, and imprint; iii dedication to Robert Graham (1786-1845), professor of botany at the University of Edinburgh; iv □; v-vii preface, dated 7 Jan. 1824; viii □; ix-xxv introduction to cryptogams; xxvi □; xxvii-xxx explanations of the plates; xxxi-lxxxi arrangement of the genera in the Linnaean classification for phanerogams and in natural classes, mainly the method of A.L. de Jussieu, for cryptogams, with descriptions of the genera; lxxxii □; 1-471 text, descriptions of the species; 472 □; 473-478 index of Latin generic names, stating the number of species per genus, the page number of the specific descriptions and (in italics) the page numbers of the generic descriptions; 478 imprint. RT: preliminaries: chapter headings; text: names of classes and of the first genus on the page; index: "INDEX." Language: English.

Plates: 4 uncolored copper-engravings illustrating different groups of cryptogams with details, numbered: "PLATE I." - "PLATE IV", species numbered on each plate, details with italic letters; no plant names on the plates; plate-mark: 211 x 131 mm. (pl.1).

Artist: Greville, Robert Kaye, the author: all plates signed.

Engraver: Lizars, William Home (see Greville n.3).

Paper: leaf height 222 mm. (HBL copy, cut); wove; wm.: occasionally "1822" (HBL copy: gath. Y), mostly unmarked; plate paper: wove; unmarked.

Printer: Neill, Patrick, Edinburgh (see Greville n.5).

Publishers: Blackwood, William, Edinburgh; Cadell, T., London.

Date: 1824 (t.-p.); after 7 Jan. (preface), bef. or on 22 Mar. (letter from Greville to A.P. de Candolle, accompanying the book).

Reviews: *Blackwood's Edinb. Mag.* 15(87): 482. 1824 Apr.;
Edinb. J. Sci. 1: 171. 1824 Jul.

Refs.: Arn.Arb.1: 300	Brun.2: 1736	Kew 243	Pr.ed.2 n.3551
BMNH 733	Graesse 3: 154	Linn.Soc. 314	Soulsby Add. n.829a
Bradl.1: 397a	Jacks. 252	Lownd. 943	Stafl. TL n.443
		Pr.ed.1 n.3870	Un.Edinb.2: 162.

Bibl.notes. Most likely the single leaf of gathering g had been part of 2G during printing, but I could not find definite proof for this. The watermarked gathering Y in the HBL copy is also in another respect different from other gatherings, since it shows deckle-edges at the bottom and the sides of the leaves. This may be chance, but it also could indicate a reset gathering.

Bot.notes. Local flora of the plants growing within 10 miles of Edinburgh, after the Linnaean classification for phanerogams and a modification of the natural classification for the cryptogams, which are moreover explained by an able introduction and four plates. Varieties are rarely mentioned, and then only by descriptions preceded by Greek letters, without varietal epithets (see e.g. *Luzula campestris*, p.81). Some names also appeared also in Greville's *Scottish cryptogamia flora*; e.g. *Grimmia trichophylla* (pl.100) has priority from the latter work if this was really published in February 1824, and *Flora Edinensis* in March 1824, as is likely. In *Scottish cryptogamia flora* a reference was given to *Flora Edinensis*, and not the reverse, for which reason *Index Muscorum* cited the former. However, the proofs of this part of *Flora Edinensis* were ready before fascicle 20 of the other work was prepared. The last part of *Flora Edinensis* was set about that time, for *Ascidium berberidis* (p.446) has mutual cross-references (*Scott. crypt. fl.* pl.97) and even from the March fascicle two species are mutually and correctly cited (*Fusidium griseum* and *F. flavo-virens*, pl.102 and p.464).

7 Descriptions of two new species of Musci ...

Mem. Wernerian Nat. Hist. Soc. 5(2): 481-484. pl. 14. 1826 [Jan].

Head-title: "XXVIII.—*Descriptions of Two New Species of* | Musci, belonging to the Genera Neckera and | Hypnum. By ROBERT KAYE GREVILLE, LL.S. F.R.S.E. &c. | (Read 30th April 1825) | [short swelled rule]".

Collation and contents: 8°: 2H₁-2H₂; 481-484; text, descriptions of the new species *Neckera americana* (p.481, pl.14) and *Hypnum remotifolium*, dated: "May 5. 1825."

Ref.: RSC 3: 12.

Date: 1826 (t.-p. fasc.), bef. or on 2 Jan. (see Mem. Wernerian Nat.Hist.Soc.)

Note. *Neckera americana* was proposed here as a new species, but was reduced to a synonym of *N. minor* Schwaegr. in the same fascicle (see n.8), and therefore the name here is invalid, unless published in a pre-publication separate, of which I have no evidence.

8 Addendum to Dr. Greville's article, p.483.

Mem. Wernerian Nat. Hist. Soc. 5(2): 564. 1826 [Jan.].

Head-title: "Addendum to Dr GREVILLE's Article, p. 483. | [short swelled rule]".

Collation and contents: 8°: 2N₂r; 564; head-title and text, correction to fore-going paper, reducing *Neckera americana* to a synonym of *N. minor* Schwaegr.

Ref.: RSC 3: 12.

Date and note: see n.7.

9 Some account of a collection of cryptogamic plants from the Ionian Islands.

Trans. Linn. Soc. London 15(2): 335-348. pl. 3. 1827.

Head-title: "XI. Some Account of a Collection of Cryptogamic Plants from | the Ionian Islands. By Robert Kaye Greville, LL. D. F.L.S. | F.R.S.E. | Read February 7, 1826."

Collation and contents: 4°: 2X₁-2Y₃; 335-348; short introduction, list of plants collected in the Ionian Islands by the Earl of Guilford (Frederick North, philhellenic, 1766-1827), with an "EXPLANATION OF TAB. III.", p.348.

Plate: 1 copper-engraving of different new species of cryptogams; in upper right corner: "Trans.Linn.Soc.Vol.XV.Tab.3.p.348."; plate-mark: 268 x 211 mm.

Artist: Greville, Robert Kaye, the author.

Engraver: Fox, C.

Paper: leaf height 274 mm. (HBL copy, cut); wove; no wm. (machine-made, seam mark seen elsewhere in the copy);

plate paper: wove; no wm. (other plates in the same copy have wm.:

"J. WHATMAN | TURKEY MILLS | 1827 [outline]" (pl.4, 7), or:

"J. WHATMAN | 1827 [outline]" (p.15)).

Printer: Taylor, Richard, London.

Date: 1827 (t.-p. vol.), after 6 Nov. (last date in vol., p.501).

Note. Descriptions of the two new *Fungi* are included (though the genera actually were excluded from a restricted order of *Fungi* as understood by Greville at the moment of writing), one new species of *Algae*, and four new species of *Musci*: *Tortula northiana*, p.342, *Bryum elegans*, p.344, *Bryum donianum*, p.345 and *Hypnum leskea*, p.347, with carefully executed drawings, as usual with Greville.

10 Description of some new mosses discovered in South America by Dr. Gillies.

Edinb. J. Nat. Geogr. Sci. 2(1): 1-4. pl. 1. 1830 Apr.

Collation etc.: not studied.

Notes. Included for the sake of completeness; the article contains four new species of *Musci*, in some lists referred to as from *Cheek's Journal*, after one of the editors (William Ainsworth and Henry H. Cheek).

GREVILLE, Robert Kaye & ARNOTT, George Arnott Walker

- 1 *Tentamen methodi muscorum; or, a new arrangement of the genera of mosses ...*
 3 memoirs. Edinburgh, 1822-1826 [prepublication separate].

Title: Tentamen methodi Muscorum; or, A New Arrangement of the Genera of Mosses, with Characters, and Observations on their Distribution, History, and Structure.

Collation: 8°: memoir 1: π^1 A² B-C⁸ D-E²(-E₂); i-iv 1 2-42;
 memoir 2: F⁴ G⁵(-G₅) H-L⁴(-H₄) M²(-M₂); 43-45 46-92;
 memoir 3: π^1 N⁸ O¹⁰(-O₁₀); 93-95 96-127 128 [courtesy of Mr. D.S. Kalk].

Printer: Neill, Patrick (see Greville n.5).

Dates: mem.1: 1822, on or shortly bef. Apr. 22 (letter from Arnott to Ad.Brongniart);
 mem.2: 1823, on or shortly bef. Dec. 18 (letter from Arnott to Ad.Brongniart);
 mem.3: 1826, presumably in January (earliest date for fasc. of periodical).

Ref.: Cat.Juss. n.2289.

Bibl.notes. Only after having departed from London I realized the interesting problem connected with this article. I had made superficial notes of the BMNH copy, including the title of memoir 1 (π^1), and later asked my colleague Mr. D.S. Kalk to prepare the collation, and especially to describe the pagination, since a copy in the library of the Linnean Society, London, has the last two parts only, and these with the original pagination of the journal.

Moreover, this library has a letter from Greville to J.E. Smith, dated 19 Jan. 1824, accompanying the second memoir. Greville wrote that he had entrusted a certain person with bringing Smith a copy of the first memoir, but he feared this person had forgotten to do so; this explains the absence of this first memoir. [Information: courtesy Miss S. Raphael, Librarian Linnean Society, London.]

Apparently Greville was responsible for the separate with unchanged pagination, and it is reasonable to assume that the more expensive issue with the continuous pagination was ordered by the impulsive Arnott.

I could have made a complete new entry for Greville's separates, but I have not done so because of the lack of sufficient data. It is interesting to check the first part of Greville's separate; I presume the NYBG copy represents this. When seeing it I did not prepare a complete treatment of it, so now I cannot say whether a special title is present or not, nor did I check Arnott's separate in BMNH on traces of conjugacy of the title (I pondered on the possibility that the title was added with a later part; however, the chance of a positive answer is small).

The printing of the different separates will not have differed considerably, since they were printed from the same type, except for the page numbers.

I have to doubt the pre-publication of Arnott's form of Memoir 3, since he was in Paris in Dec. 1825 and Jan. 1826; therefore he was probably unable to distribute copies before the publication of the fascicle of the periodical.

Bot.notes. Critical discussion of the structure of mosses in general, and descriptions of a number of genera and species in particular, including the new genus *Dissodon*, 3: 114, and the new specific names *Voitia hyperborea*, 1: 42, *Dissodon splashnoides*, 3: 121, *D. hornschoekii*, 3: 121, *D. froelichianum*, 3: 122, and *D. soabrisetum*, 3: 122.

Hedwig's ideas on the sexual reproduction of mosses were accepted in general. However, the authors hesitated to use the words pistils and anthers for the organs in this group.

2 A new arrangement of the genera of mosses ... 1.

Mem. Wernerian Nat. Hist. Soc. 4(1): 109-150. pl. 7. 1822 [Aug.].

Head-title: "IX.—A New Arrangement of the Genera of | Mosses, with Characters, and Observations on | their Distribution, History, and Structure. | By R. K. GREVILLE, Esq. F.R.S.E. M.W.S. &c., | AND | G. A. WALKER ARNOTT, Esq. A.M. F.R.S.E. | (Read 23d February 1822.) | [very short swelled rule] | MEMOIR I."

Collation: 8°: G₇-K₃; 109-150.

Contents: 109 head-title; 109-123 introduction, discussion of organs of mosses, especially of the theca; 124-150 descriptions of genera and higher groups of mosses: 124 *Musci*, 125 *Andreaea* (spelled *Andræa*), 130 *Sphagnum*, 139 *Phascoidæ*, 140 *Phascum*, 145 *Voittia*, and 149 the new species *V. hyperborea*.

Plate: 1 copper-engraving of the thecae and other details of the four genera, numbered: "PLATE VII.", with the generic names at the top (spelling of *Andrea* differing from the text); plate-mark cut off (HBL copy).

Artist: Greville, Robert Kaye, the first author.

Engraver: Lizars, William Home (see Greville n.3).

Ref.: RSC 3: 13.

Date: 1822 (t.-p. fasc.); Aug. (see *Mem. Wernerian Nat. Hist. Soc.*).

Bibl. notes. The first of an apparently unfinished series of three articles. The different separates ordered by Greville and Arnott are discussed under n.1; they were both published earlier than the fascicle of the periodical.

3 Tentamen methodi muscorum; or, a new arrangement of the genera of mosses ... 2.

Mem. Wernerian Nat. Hist. Soc. 5(1): 42-89. pls. 2-3. 1824 [May].

Head-title: "IV.—TENTAMEN METHODI MUSCORUM; | OR, | A New Arrangement of the Genera of Mosses, | with Characters, and Observations on their | Distribution, History, and Structure. | BY R. K. GREVILLE, Esq. F.R.S.E. M.W.S. &c. | AND | G. A. WALKER ARNOTT, Esq. A.M. F.R.S.E. M.W.S. | (Continued from Vol. IV. p. 150.) | (Read 26th April 1823.) | [very short swelled rule] | MEMOIR II."

Collation: 8°: C_{5v}-F_{5r}; 42-89.

Contents: 42 head-title; 42-89 descriptions of genera and higher groups of mosses: 42 *Gymnostomoidæ*, 43 *Gymnostomum*, 55 *Schistostega*, 61 *Aniotangium*, 72 *Buxbaumioideæ*, 73 *Diphyscium*, 79 *Buxbaumia*.

Plates: 2 copper-engravings of the genera treated, numbered: "PLATE II" and "PLATE III."; plate-mark cut off (HBL copy).

Artist: Greville, Robert Kaye, the first author.

Engraver: Lizars, William Home (see Greville n.3).

Date: 1824 (t.-p. fasc.); betw. 21 Mar. and 20 May (see *Mem. Wernerian Nat. Hist. Soc.*).

Ref.: RSC 3: 13.

Note. Continuation of descriptions of moss genera with ample critical discussions.

4 Tentamen methodi muscorum; or, a new arrangement of the genera of mosses ... 3.

Mem. Wernerian Nat. Hist. Soc. 5(2): 442-474. pl. 13. 1826 [Jan.].

Head-title: "XXVI.—[same as n.3, except after Greville:] LL.D. F.R.S.E. M.W.S. &c., [and after Arnott:] Esq. A.M. F.R.S.E. | (Continued from p. 89) | (Read 22d January 1825.) | [very short swelled rule] | MEMOIR III."

Collation: 8°: 2E_{5r}-2G₄; 442-474.

Contents: 442 head-title; 442-474 descriptions of genera and higher groups of mosses: 442 *Splachnoideæ*, 448 *Splachnum*, 461 the new genus *Dissodon* with four species, and 470 *Tayloria*.

Date: 1826 (t.-p. fasc.); betw. 17 Dec. 1825 and 2 Jan. 1826 (see *Mem. Wernerian Nat. Hist. Soc.*).

Note. Third and last article in the unfinished series. Possibly the separate prepared for Greville, with unchanged pagination, was published earlier, but I do not have any proof. Arnott's separate with the pagination continuing that of the other separates of his probably was distributed later (see n.1).

HALL, Hermanus Christiaan van

Biogr. Born 1801 Aug. 18, Amsterdam, Netherlands.

Died 1874 Jan. 12, Berg en Dal, Guelderland, Netherlands.

H.C. van Hall studied at the Athenaeum of Amsterdam, and at the University of Utrecht with J. Kops. Prizes were awarded at Leiden and Utrecht for botanical papers of his. He made a scientific tour in Germany and France.

Afterwards he received the degree of D.M., Utrecht, 11 Jun. 1823, and settled, as a physician in Amsterdam. He published on botany; e.g. for some time he was a collaborator of the *Flora Batava* begun by J. Kops. In 1826 he was appointed professor of botany and agronomy of the Groningen University, from which he retired in 1871.

Through his *Flora Belgii septentrionalis* he had a good influence on the development of botany in the Netherlands, but when the Dutch Botanical Society was founded in Leiden, 1845, he had not been invited, and for a long time there was no connection until van Hall finally became a member at an advanced age, in 1873. His herbarium then came to this society, and is now kept at the Rijksherbarium, Leiden.

He was commemorated in the generic names *Hallia* Dumortier 1826, based on *Honkenya* Willdenow (*Tiliaceae*), replaced by *Clappertonia* Meissner, *Vanhallia* L. Marchand 1828 (*Fungi*), now considered a synonym of *Chaetomium* Kunze, and *Vanhallia* J.A. & J.H. Schultes 1829, replaced by *Munniokia* Reichenbach (*Aristolochiaceae*).

Refs.: *Ned. Kruidk. Aroh.* ser. 2, 2: 1, 17-19, 21. 1877.

Academia Groningana MDCXIV-MCMXIV: 392-398. 1914.

Jansen, P. & Wachter, W.H.: *Ned. Kruidk. Aroh.* 49: 443. 1939; 50: 191. 1940; 51: 352. 1941; 53: 241. 1943.

1 *Flora Belgii septentrionalis*...

2 vols. in 5 parts. Amsterdam, 1825-1840[1841].

Title: vol.1: "FLORA | BELGII SEPTENTRIONALIS, | SIVE | INDEX PLANTARUM INDIGENARUM, QUAE HUCUSQUE | IN VII PROVINCIIIS FOEDERATIS REPERTAE SUNT. | VOL. I. | *Plantas Phanerogamas continens.* | [medium fancy swelled rule] | FLORA | VAN | NOORD-NEDERLAND, | OF | KORTE AANWIJZING DER IN HET WILD WASSENDE | PLANTEN, | WELKE TOT NU TOE IN DE VOOR-MALIGE VII VEREENIGDE GEWESTEN | GEVONDEN ZIJN. | I. DEEL. | *Zigtbaar bloeiende Planten.* | DOOR | H. C. VAN HALL, | Lid van de Maatschappij van Landbouw te Amsterdam, Correspondent van de Societ. d'Hist. natur. te Parijs; | Med. Doct. te Amsterdam. | [medium fancy swelled rule] | Te AMSTERDAM, bij | J. C. SEPP EN ZOON. | 1825.";

vol.1(1): "FLORA | BELGII SEPTENTRIONALIS. | VOL. I. PARS I. | [short rule] | FLORA | VAN | NOORD-NEDERLAND. | I. DEEL. I. STUK.";

vol.1(2): "FLORA | BELGII SEPTENTRIONALIS. | VOL. I. PARS II. | [short rule] | FLORA | VAN | NOORD-NEDERLAND. | I. DEEL. II. STUK.";

vol.1(3): "FLORA | BELGII SEPTENTRIONALIS, | SIVE | FLORAE BATAVAE COMPENDIUM. | VOL. I, PARS 3, | CONTINENS | PLANTAS PHANEROGAMICAS IN BATAVO SOLO REPERTAS POST PRIMI VOLUMINIS EDITIONEM ANNI 1825; | AUCTORE | H. C. VAN HALL, | *Instituti Regii Batavi Socio, Botanices et Oeconomiae Ruralis | Professore in Academia Groningana.* | [short swelled rule] | FLORA VAN NOORD-NEDERLAND, | OF | KORT BEGRIP | DER | NEDERLANDSCHE FLORA. | DEEL I, STUK 3, | BEHELZENDE | DE ZIGTBAARBLOEIENDE PLANTEN, WELKE IN NEDERLAND GEVONDEN ZIJN, NA DE UITGAVE IN | 1825, VAN HET 1^e DEEL, 1^e EN 2^e STUK. | [very short rule] | TE AMSTERDAM BIJ | J. C. SEPP EN ZOON. | 1836.";

vol.2(1): "FLORA | BELGII SEPTENTRIONALIS, | SIVE | FLORAE BATAVAE COMPENDIUM. | VOL. II, | PLANTAS CRYPTOGAMICAS CONTINENS. | PARS I. | *Equisetaceae, Filices, Marsiliaceae, Lycopodiaceae, | Musci et Hepaticae,* | ELABORATAE STUDIO | FRIDⁱ. ANTIⁱ. GUILⁱ. MIQUEL, *Math. et Phil. nat. et med. Cand.,* | et | MIS. DASSEN, *Med. Stud.* | EDIDIT EHENDAVIT ATQUE PRAEFATUS EST | H. C. VAN HALL, | *Instituti Regii Batavi socius, Botanices et Oeconomiae | ruralis Professor in Academia Groningana.* | [short swelled rule] | FLORA | VAN | NOORD-NEDERLAND, | OF | KORT BEGRIP DER BATAAFSCHE FLORA. | DEEL II, STUK I. | *BEDEKTBLOEIENDE PLANTEN, | (Paardestaartigen, Varen, Wortelsadigen, | Wolfeklaauwaachtigen, Bladmossen en | Levermossen).* | [medium fancy swelled rule] | Te AMSTERDAM, bij | J. C. SEPP EN ZOON. | 1832.";

vol.2(2): "FLORA | BELGII SEPTENTRIONALIS, | SIVE | FLORAE BATAVAE
COMPENDIUM. | VOL. II, PARS II. | CONTINENS | LICHENES, | QUOS ELABORAVIT |
H. C. VAN HALL, | ET | ALGAS, | QUAS ELABORAVIT | F. A. G. MIQUEL. | [long
swelled rule] | FLORA | VAN | WOORD-NEDERLAND, | OF | KORT BEGRIP DER
BATAAFSCHE FLORA. | DEEL II, STUK II. | BEVATTENDE DE | KORSTMOSEN en
WIJEREN. | [medium fancy swelled rule] | Te AMSTERDAM, bij | J. C. SEPP EN
ZOOON. | 1840."

Collation: 8°: vol.1(1): π^2 *2(-*2) 2*8 A-Y⁸(-A₁) Z⁶ (\$1-5 signed, 2*₁-2*₄
signed '*2'-'*5', unsigned: P₅ Z₅); I-V VI-XX 1 2-363 364 (XVIII);
vol.1(2): 2A-3A⁸; 365 366-746 i-ii (712-713 728 733 741);
vol.1(3): π^6 1-7⁸ 8² (\$2 signed \$*, unsigned: 8₂); i-ii I-V VI-IX X
747 748-861 862;
vol.2(1): π^8 1-14⁸ 15⁴ (unsigned: 15₂); I-VII VIII-XVI 1 2-227
228-232 (XIV);
vol.2(2): π^6 16⁸ 17-31⁸ (unsigned: 17₂); I-VII VIII-XI XII 233-235
236-477 478-488 (352-353).

Contents: vol.1(1): I title; II \square ; III quotation from "S. J. BRUGMANS |
Orat. de accur. plant. indig. notitia p. 9."; IV-XVII preface, headed:
IV "PRAEFATIO." and V "VOORREDE.", dated 25 Mar. 1825 (preface, as well as
main text of the book printed in Latin on the left pages and in Dutch on
the right pages facing the equivalent Latin version); XVIII-XX explanation
of abbreviations of sources, collector's names and signs: "INDEX NOTARUM, |
in hoc opere, brevitatis causa, adhibitum."; 1 part-title; 2-3 key to
the modified Linnaean classes: "CLAVIS CLASSIUM." "SLEUTEL DER KLASSEN."
4-363 text, descriptions of Dutch plants, Linnaean classes Monandria -
Decandria; 364 index of classes in vol.1(1);
vol.1(2): 365 part-title; 366-711 text, Dodecandria - Dioscia; 712-727
appendix; 728-132 conspectus of Dutch plant genera arranged in de Candolle's
natural orders in *Flore Française*, 1815; 733-740 index of Latin generic
names in vol.1(1)-(2); 741-746 index of Dutch generic names in vol.1(1-2);
i errata; ii index to classes in vol.1(2), and imprint;
vol.1(3): i-ii \square ; I title; II \square ; III quotation from vol.1(1) p.XVI;
IV-IX preface, dated 24 Dec. 1835, no catchwords; X additional abbrevi-
ations explained; 747 part-title of vol.1(3): "FLORAE BATAVAE |
COMPENDIUM. | VOL. I, PARS III. | [short swelled rule] | KORT BEGRIP |
DER | NEDERLANDSCHE FLORA. | I^e DEEL, III^e STUK."; 748-859 text additions
to vol.1; 860-861 addenda (in Dutch text unheaded); 862 index of classes
in vol.1(1)-(3);
vol.2(1): I half-title; II \square ; III title; IV \square ; V quotation from Brug-
mans as in vol.1(1); VI-XIII preface, dated 20 Jun. 1832, signed H.C. van
Hall, no catchwords; XIV-XVI explanation of abbreviations and signs;
1 part-title; 2-227 text, *Equisetaceae* - *Hepaticae*, prepared by M. Dassen
and F.A.W. Miquel and edited by van Hall; 228 index of orders; 229-230
index of Latin generic names; 231 index of Dutch generic names; 232 \square ;
vol.2(2): I half-title; II \square ; III title; IV \square ; V quotation from Brug-
mans as in vol.1(1); VI-XI preface, dated 1 Aug. 1840, signed: "H. C. VAN
HALL. | F. A. W. MIQUEL.", no catchwords; XII explanation of additional
abbreviations; 233 part-title; 234 \square ; 235 chapter-title *Lichenes* in Latin
and Dutch, a quotation from [E.M.] Fries, *Lichenogr. Eur. Ref.* in between;
236-351 text, *Lichenes*; 352 \square ; 353 chapter-title *Algae* by F.A.W. Miquel,
in Latin and Dutch, separated by a long swelled rule; 354-475 text, *Algae*;
476-477 addendum; 478 \square ; 479-481 index of Latin generic names in vol.2(2);
482 \square ; 483-484 index of Dutch generic names in vol.2(2); 485-486 advertise-
ment of botanical and zoological books published by J.C. Sepp & Zoon; 487
text for 6 spine labels (vol.1(1)-(3), vol.2(1)-(3)); 488 \square . RT: prefaces:
subject heading; vol.2(2): name of class (left) and genus (right). Languages:
Latin and Dutch on opposite pages (except lists; see *Bot. notes*).

Paper: leaf height 232 mm. (copy Stafleu library, uncut); white or slightly bluish: vol.1(2): 2B-2Z; laid, chains vertical; wm. only in about half of the sheets of vol.1(1): "[grapes with leaves. = S.....MAN. [partly outline]".

Printer: Barteling, B., Amsterdam: vol.1(1)-(2); no imprint in other parts, other shop? (see method of signing).

Publisher: firm J.C. Sepp & Zoon, Amsterdam, founded by Jan Christiaan Sepp (1739-1811), continued by his son Jan Sepp (1778-1853); biographies: Zuidema: *Nieuw Nederl.Biogr.Woordenb.* 5: 725, 724. 1921.

Collaborators: Dassen, Michiel (1809 Apr.12, Zwolle, Netherlands - 1852 Oct.10, Zwolle), physician successively at Groningen, Hoozeveen and Zwolle (biogr.: Molhuysen: *Nieuw Nederl.Biogr.Woordenb.* 4: 495. 1918): part of vol.2(1);

Miquel, Friedrich Anton Wilhelm (1811 Oct.24, Neuenhaus near Bentheim, Germany - 1871 Jan.23, Utrecht, Netherlands), professor of botany at Amsterdam, later at Utrecht, and director of the Rijksherbarium, Leiden (biogr.: Zuidema: *Nieuw Nederl.Biogr.Woordenb.* 4: 986-987. 1918; Stafleu: *Wentia* 16: 1-95. portr.1966): part of vol.2(1) (see *Bot.notes*), vol.2(2):353-477(*Algae*).

Dates: vol.1(1): 1825 (t.-p.), after 25 Mar. (pref.), on or about 5 April (letter from van Hall to Ad. Brongniart of this date announcing that this part would reach him in about 10 days, in PMusBC);
vol.1(2): 1826 bef. or on 24 Jan. (letter from van Hall to Ad. Brongniart announcing that this part was ordered to be sent);
vol.1(3): 1836 (t.-p.), after 24 Dec. 1835 (pref.), 10 Jan.1836 (Stafl.TL);
vol.2(1): 1832 (t.-p.), after 20 Jun. (pref.);
vol.2(2): 1840 (t.-p.), after 1 Aug. (pref.), 14 Feb.1841 (Stafl.TL).

Reviews: vol.1(1): *Linnaea* 1(1): 133.1826 [Jan.] (in list of books of trim.1-3,1825);
Mess.Sci.Arts 1826(3/5):46-49.1826 Mar-May (D[umortier]. proposed *Hallia*);
vol.1(2): E. M[eyer]: *Gött.Gel.Ans.* 1827²(113): 1125-1127.1827.

Bibliogr.studies: Stafleu, F.A.: *Wentia* 16: 49-50. 1966, *Tax.Lit.* n.469. 1967.

Refs.: Arn.Arb.1: 311b	Bradl.1: 390 ^b ,	Pr.ed.1 n.4058
Backer, Verkl.Woordenb. 252a	5: xx ^a	Pr.ed.2 n.3079
BMNH 771a	Kew 251	Teyl. 431
	Milt. 174	Utr. 88.

Bibl.notes. The plans for vol.1 probably were changed after the printing of gatherings * and A, shifting from one volume in one part to one volume in two parts; this would explain the removal of leaf *2 (or possibly even more leaves of the original gathering *) with the text of the preface, as well as the removal of leaf A1. This was replaced by a cancellans leaf, which I treat in the collation as 2*8, since the chain-lines match those of 2*1. Though I was not able to check the conjugacy completely, I am sure of the conjugacies of the other pairs of this gathering, and also of the places of the removed leaves (broad stubs in the U copy). I did not see originals of the removed leaves.

Leaf 31_g of vol.2(2) had to be cut up for spine labels of all parts.

Bot.notes. Van Hall's purpose was to give a flora of the Northern Netherlands (consisting of the State of the Netherlands with the present-day boundaries minus the provinces Noord-Brabant and Limburg) according up-to-date concepts of species. Localities were given in the Dutch text only.

Van Hall only proposed a few new species, e.g. *Draba boerhaavii*, and a number of signed new varieties; unsigned varieties have to be checked.

Some original Dutch names for cryptogamic genera were proposed.

The part with the non-vascular cryptogams is in a way the first thorough list of the Netherlands. Dassen's mosses were studied and revised by W.H. Wachter: *Nederl. Kruidk. Arch.* 51: 419-430. 1941. The year before Wachter had stated that the division of the work in vol.2(1) by Dassen and Miquel was: Miquel: *Hepaticae* and the genera *Hypnum*, *Bryum*, *Dicranum*, *Didymodon*, *Fissidens* and *Lewodon* of *Musci*, and Dassen: the remaining genera of *Musci* and the vascular cryptogams (*Nederl. Kruidk. Arch.* 50: 366. 1940). According to Stafleu Miquel also prepared the *Equisetaceae*.

HEDWIG, Johann

Biogr. Born 1730 Dec. 8, Kronstadt or Brassó in Transylvania (Siebenbürgen).

Died 1799 Feb. 7, Leipzig, Germany.

There is some uncertainty about the exact date of birth of Johann Hedwig. Schwaegrichen, who had known him personally, stated 8 Oct. 1730; other sources mentioned 8 Dec. 1730. Györfy found the registration of Hedwig's baptism, which was dated 10 Dec. 1730. He also quoted a spokesman who said that in that time it was a custom to baptize children the very same day of their birth, and this was Györfy's reason to take the date of baptism as the day of birth (Györfy, István: *Rev. Bryol.* 57: 161. 1930). This is open to doubt; in my opinion it is more likely that the previous statements of the 8th day of the month were correct and that baptism took place some days later. Indeed Györfy's find makes it more likely that the real month of birth was December rather than October. Schwaegrichen's statement needs an explanation. It is possible that this was a misreading of the abbreviation "Xbris" (standing for Decembris) as Octobris, being now the tenth month. However, this would be more a present-day mistake than one to be expected in 1800. Possibly other documents still exist somewhere which may give a final decision.

Hedwig spent his youth in his native town, bringing plants into his father's garden, not only those with showy flowers, but also those with tiny flowers. After his father's death, he went to Pressburg, where he continued his studies at the lyceum (1747), finishing at Zittau (1749-52).

He entered the University at Leipzig in 1752 for the study of medicine; here he heard among others Hebenstreit (1702-1757), Ludwig (1709-1773) and Boehmer (1723-1803), names well-known in botany. They were able to help him financially by giving him jobs such as classifying and labeling plants in the botanical garden, cataloguing books of one of their libraries and making anatomical preparations. He received his bachelor's degree in 1756 and his doctor's degree in 1759. However, he was unable to settle as a practising physician in his native town Kronstadt since a law allowed only physicians with a degree from Vienna to practise there.

He then chose Chemnitz (1762), where he married Sophia Teller. His practice thrived, and in free hours he botanized and studied the plants brought home. He began to include cryptogams in his researches, especially the mosses. As a help he received from Schreber (1739-1810) several books and from J.G. Koehler (1745-1801, inspector of instruments in Dresden) a microscope. He became interested in reproduction of cryptogams, and carefully analyzed the tiny structures now called antheridia and archegonia. He supposed their functions, until he observed 17 Jan. 1770 the bursting of an antheridium of *Grimmia pulvinata* and the appearance of the spermatozoids, which he compared with the pollen of higher plants.

To record his observations correctly he learned to draw at the age of 40, and also to engrave. The plates in his books bear witness that he learned it quite well. His observations were epoch-making, but for several reasons he only began to publish them in 1779, one of these being the death of his wife, 1776, leaving him with a family of 6 children.

He married Clara Benedicta Sulzberger in 1777. At her instigation, for the sake of the education of the children, they moved to Leipzig in 1781, where he published his important book *Fundamentum historiae naturalis muscorum* in two volumes.

In 1786 Hedwig was nominated extraordinary professor of medicine and in 1789 professor of botany. His main work is the folio work in four volumes: *Descriptio et adumbratio microscopico-analytica muscorum frondosorum*, 1787-1797, which was started in 1784 under the title *Stirpes cryptogamicae novae aut dubiae iconibus adumbratae, additaque historia analytica*. Besides his very important bryological works he also published articles on the anatomy of higher plants, which did not have lasting importance. He also translated works of the Swiss philosopher Charles Bonnet.

He was commemorated in the generic names *Hedwigia* [Ehrhart] Palisot de Beauvois 1804, *nom. cons.* (*Musci*, *Hedwigiaceae*), *Hedwigia* Swartz 1788, *nom. rej.* (*Burseraeae*, = *Tetragastris* Gaertner), *Hedwigia* Medikus 1790 (*Comelinaceae*, = *Commelina* L.), *Hedwigidium* Bruch, Schimper & Gumbel 1846 (*Musci*, *Hedwigiaceae*), and the family name *Hedwigiaceae* Schimper (*Musci*).

The periodicals *Hedwigia* and *Nova Hedwigia*, devoted to cryptogamic botany, are named in his honor.

Refs.: Schwaegrichen, C.F.: *Hedwigii vita*. In: Hedwig, J.: *Species Muscorum frondosorum*. 301-317. 1801.
Reichardt: *Allg. Deutsche Biogr.* 11: 230-231. 1880.
Florschütz, P.A.: *Johannes Hedwig 1730-1799*. In: Hedwig, J.: *Species Muscorum frondosorum*. Facsimile ed. V-XII. Weinheim (Germany), 1960.

1 *Species muscorum frondosorum* ...

Leipzig, 1801.

Title: "JOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTAN. EXTRAORD. IN ACAD. LIPSIENSI, ACADEM. | IMPERIAL. NATVRAE CVRIOSORVM, REGIAE SCIENT. HOLM. SOCIETATISQVE | LONDIN. MEMBRI, PHYSIOPHILOR. BEROL. TVRICENS., MEDICO-CHIRVRG. | TVRIC., OECONOM. LIPS. ET MARCHICO-POTSDAMENSIS, MATHEMATICO-|PHYSICAE ERFORTENSIS SODALIS | SPECIES | MUSCORUM FRONDOSORUM | DESCRIPTAE ET TABULIS AENEIS LXXVII COLORATIS ILLUSTRATAE. | [swelled rule] | OPUS POSTHUMUM | EDITVM | A | FRIDERICO SCHWAEGRICHEN | MED. ET PHIL. D. SOC. BOT. RATISB. MEMB. HON. ET LINNEAN. LIPS. SOD. | [copper-engraving of mountainous landscape with 2 kneeling botanizing boys, a third one standing looking through a microscope and a young lady making notations] | [very long swollen rule] | LIPSIAE, | SUMTU JOANNIS AMBROSII BARTHII | MDCCCI. | PARISIIS, APUD AMAND KOENIG, QUAI DES AUGUSTINS NO. 13."

Collation: 4*: $\pi^4(-\pi_4)$ A-B⁴(*B₄) x¹ C-2U⁴(*M₃) 2X²(-2X₂) 2x⁴(-2x₄) 3x¹;
I-III IV-VI 7 2-17 18 i-ii 19-353 354.

Contents: I title; II \square ; III-VI preface of the editor: "PROOEMIUM EDITORIS."; 7-17 terminology: "TERMINORUM BOTANICORUM AD MUSCOS | applicatio."; 18 \square ; i folded typographical table, key of genera of mosses: "GENERA MUSCORUM FRONDOSORUM.", in Hedwig's classification; ii \square ; 19-300 text, descriptions of 35 genera of mosses, 362 species and 3 varieties, moreover citing 4 species from other authors not sufficiently known to be grouped in the new Hedwigian genera; 301-346 appendix, containing a biography of Hedwig, a list, and an evaluation of his works, written by Schwaegrichen, the editor, consisting of: 301-317 "SECTIO I. | HEDWIGII VITA.", 318-327 "SECTIO II. | OPERA HEDWIGII.", 328-338 "SECTIO III. | UNIVERSA QUAEDAM DE VEGETABILIIUM STRUCTURA INTERNA HEDWIGII | PLACITA."; 339-346 "SECTIO IV. | CLASSIS CRYPTOGRAMICAE PLANTARUM NOTIONES HEDWIGIANAE."; 347-350 index of specific names, including 3 synonyms; 351 magnifications on the plates "Lentium vitrearum efficacia."; 352 errata; 353 text addition with description of *Hypnum abietinum*; 354 \square .

Plates: 77 hand-colored copper-engravings of moss species, with details of capsules, peristome, leaves, (magnified), numbered: "Tab. I" - "LXXVII", (indexed in *Index Muscorum*); plate-marks: 169 x 106 mm. (pl.2) 181 x 152 mm. (pl.27).

Artist: Hedwig, Johann: all plates, unsigned.

Engraver(s): not ascertained, all plates unsigned.

Paper: text: large paper state: leaf height 290 mm. (Teyl. copy); wove; no wm.; normal paper state: leaf height 235 mm., sheet size different: 500 x 396 mm. (gath.A), 482 x 383 mm. (gath.H), 519 x 391 mm. (gath.2S) (M copy, uncut); laid, chains horizontal; wm. (mainly CM copy):
"[fleur-de-lis] | P = G": π 2 π A-G M N 2A 2B 2E-2I 2L-2R 2X₁ x;
"[crowned shield with fleur-de-lis] = C C GREPEL": H-K O-R U-Z 2C 2D 2x, cancellans M₃;
"I D H [in cartouche, H inferred]": S T 2K;
"[crowned shield with post-horn] | SCHÖNST = IOSEF FÖERTSCH": 2S-2U 3x;
plate paper: laid, chains horizontal; wm.: large paper state:
"[fleur-de-lis] | [coat of arms of Strasburg] | C & I HONIG [outline]";
normal paper state: "[crowned shield with fleur-de-lis] | PDV & Cg [= Pieter de Vries & Co.] or "PIETER DE VRIES": 1-40 49 51;
"X [very large]": 30 64 72-74;
"[figure on globe] | V D L = VAN DER LEE [fragments on each leaf]": 41-48 53 58 61 62 67 70;
"B [with appendix]": 63 75.

Printer: no imprint.

Publisher: Barth, J.A., Leipzig (see Bridel n.4).

Editor: Schwaegrichen, Christian Friedrich (1775-1853), botanist (which see).

Date: 1801 (t.-p.), 19 Apr. (Sayre, *Dates of publ.* 9-10); first part of the plates would be ready at the "Jubilatemesse (fair on the 3rd Sunday after Easter) and the second part at the "Michaelis[-messe]" (29 Sep.); break possibly betw. plates 1-40 and 41-70, because of the watermark of the maker Pieter de Vries in the first set, which mark is only exceptionally found after pl.40; arbitrary date for purposes of nomenclature: 1 Jan. 1801.

Reviews and announcements:

J.Bot.(Schrader) 1800, 1(2): 433, 436. 1801;
Allg.Lit.Zeit. 4 Mar. 1801 (both announc. for Easter-fair);
 11 Jul. 1801 (rev.);
J.Gén.Litt.Étr. 20 Oct. 1801;
Monthly Mag. 1 Jan. 1802;
Allg.Bot.Biblioth. (*Bot.Zeit.*) 1802¹(5): 65-80. 1802 Mar. 8;
 1802¹(6): 81-82. 1802 Mar. 22 (critical rev.).

Bibliogr.stud.: Sayre, G.: *Dates of publ.* 9-10. 1959;
 v.d.Wijk, R.: *Trans.Brit.Bryol.Soc.* 2: 82. 1952 (post-publ. insert 3x);
 Florschütz, P.A.: *Introduction to Hedwig's Species Muscorum*, in Hedwig, J.: *Species Muscorum* ... fasc. ed. p.V-XXII, Weinheim, 1960.

Refs.: BMNH 810	Jacks. 153	Linn.Soc. 346	Pr.ed.1 n.4262
Brun.3: 77	Kew 264	Milt. 484	Pr.ed.2 n.3885
Cat.Juss. n.2299	Krüg. 241	Niss. n.830	Stafl. TL n.491
Heins.2: 304			Teyl. 411.

Variants. From the small number of copies printed on wove paper (see *J.Bot.*(Schrader) 1800¹(2): 433. 1801) I saw a copy in Teyler, Haarlem; the text paper is wove and the plate paper laid, however, of a different quality and size than the normal paper state. The additional leaf 3x (p.353) was not available at the time of the original publication of the book: its species was mentioned as missing in the reviews in *Allg.Lit.Zeit.* 1801(3): 188. 1801 Jul. 23 and in *Allg.Bot.Biblioth.* (*Bot.Zeit.*) 1802¹(6): 81-82. 1802 Mar. 22. Therefore, this leaf is a post-publication state; it is not present in every copy, but certainly belongs to the ideal copy. I have not seen the original cancellanda and I have no indication for their reason.

Bibl.notes. The printed table x is included in the collation, since it is an integral part of the text. Indeed the binders took some freedom to insert this folded table before or after p.17, to which it belonged as indicated in print, and either with the printed side towards the back or towards the front of the book. The printing must have proceeded slowly, especially of the later part, since at least three paper supplies were used, differing in size or watermark.

Bot.notes. Hedwig's work was proposed as the starting-point for the nomenclature of *Musci* (*Sphagnum* excepted) by a group of 18 European bryologists for the International Botanical Congress to be held at Brussels, 1910. This proposal was duly accepted by the Congress. However, the American botanists in general did not approve of the decisions of this Congress, and the American bryologists did not accept this particular decision. When Dr. A.J. Grout went to the next Congress, Cambridge 1930, he had the positive opinion that Linnaeus 1753 and not Hedwig should be the starting-point for mosses. Nevertheless, the European bryologists were able to convince him of the advantages they saw in accepting Hedwig's work as the starting-point, and he supported this in the Congress. After this decision, confirmed in the Amsterdam Congress, 1935, most bryologists accepted the new starting-point. The American bryologist A. LeRoy Andrews (1878-1961), however, did not agree and used the Linnaean starting-point throughout his bryological work.

The consequences of the change of starting-point, together with those of the type-method, introduced into the International Code at the Cambridge Congress, were only very slowly worked out, first in a paper by Dixon (*Rev. Bryol. Lich.* 6: 93-115, 1934), later by several workers, including L.F. Koch, and lately by the compilers of *Index Muscorum* for the nomenclatural changes in the period following Hedwig's publication.

Still, when other books in this period are checked or rechecked, new points come to light, which have a bearing on the status of some names. This is rather unfortunate, since the nomenclatural rules should fix the nomenclature instead of causing changes.

It is not the place here to discuss all consequences of the change of the starting-point, but I agree with the view-point of Dr. Donk, insofar that it would have been much better to give only the later starting-point names a legitimate status and to retain valid names from Linnaeus, or, in other words, to let the typification begin with Linnaeus. When Hedwig or any revalidating author clearly misapplied the older name and described another plant, this usually is taken as the type under the current Code, and this is a reason for many unfortunate changes in nomenclature.

The date arbitrarily set for Hedwig's posthumous work is somewhat complicated. The Stockholm Congress, 1950, accepted a general proposal concerning the later starting-point works. Their dates should be arbitrarily fixed either as from 1 Jan., or as from 31 Dec. of the year concerned, this to be decided by the special committee for the group. The Special Committee for Musci decided for 31 Dec. 1801. This raised opposition from American bryologists, especially L.F. Koch, with the sound argument that all lists using Hedwig as starting-point had included other works from 1821 and with the statement that it had been an undemocratic decision. This, of course, should have been expressed at the Stockholm Congress, which set the procedure. The committee, in any case, was fair enough to reconsider the problem, and, after asking the opinion of all bryologists, reversed its decision to 1 Jan. 1801.

In this connection Dr. Sayre investigated the real date of publication, and her conclusion was that Hedwig's book was published early enough in 1801 to precede all other important publications with names of *Musci*, so that this later decision of the committee was nearer to the real situation than the former one.

Hedwig's posthumous book was edited by Schwaegrichen, and a number of descriptions, especially in the later part, are signed "S.", meaning that Schwaegrichen added something to the description he found in Hedwig's papers, or former books, a circumstance apparently necessitated by the addition of species in the meantime. A number of new species from Jamaica were included, probably received from Swartz, others from the South Sea Islands, which could include New Zealand and even Australia.

The descriptions were carefully made, and the figures were, just as Hedwig's figures in his former books, very fine, including a number of magnified details.

The typification of Hedwig's taxonomic groups has become important. It is self-evident, in my opinion, that a satisfying typification has to go back to other works of Hedwig. *Bartramia*, in *Species Muscorum* comprising three species, goes back to Hedwig's *Descriptio*, where only one species was included: *Bartramia halleriana*. This species, therefore, clearly is the historical type species for the genus *Bartramia*. Of course another type could have been chosen at the conservation of the name, but this was done for another reason and this species is maintained as the type.

In other cases the choice is not so obvious, since a number of elements were included that are now regarded as different. *Fissidens*, e.g., as published for the first time by Hedwig, *Desor.* 2(4): 85. pl.31 and 91. pl.32, 1789, included two species long since excluded from the genus. The first species, *F. polycarpus*, is even treated as the conserved type of *Cynodontium* Bruch & Schimper, *nom. cons.*

Two different lectotypes for *Fissidens* have been proposed in this century: *F. bryoides* Hedw. by Mrs. Britton in 1916, and *F. exilis* Hedw. by Grout in 1936. According to the Code the first choice of a lectotype must be followed unless this does not agree with the description. The first species certainly does; it could be questioned for the second species. This concerned the explicit choices of lectotypes, and is unambiguous. A difficulty would arise if indications of an uncertain nature were to be taken into account, as the treatments of subgenera with the name *Eu-Fissidens*, which include some other species of the genus, but exclude the two lectotypes mentioned. This has not been considered a lectotypification in *Index Muscorum*, since no definite species was indicated.

A difficult problem is the case where Hedwig described an element which is not in accordance with his citations and with the usual concept of the group based on these citations. *Hypnum illecebrum* is an example. Hedwig cited *H. illecebrum* L., *Spec. Pl.* [ed.2]: 1594. 1763, Dillenius, *Hist. Musc.* 311 t.40 f. 46 and Vaillant, *Botan. Paris*, 137 t. 25 f.7. These citations all refer to European material, usually named *Scleropodium illecebrum*. However, in Hedwig's *Species Muscorum* other specimens were explicitly described and figured: from Lancaster, Pennsylvania. These were later reckoned to be a separate species: *Hypnum bosci* Schwaegrichen, *Suppl. Spec. Musc.* 1(2): 223. 1816, which is now treated as a member of a different genus: *Cirriphyllum*.

In accordance with the idea that Hedwig's specimens should be regarded as the types of the names, L.F. Koch coined the new combinations: *Scleropodium touretii* (Bridel) L.F. Koch to include the *H. illecebrum* of Linnaeus, based on the earliest synonym included in its present-day concept, and *Cirriphyllum illecebrum* (Hedw.) L.F. Koch for the American specimens of Hedwig and the later *Hypnum bosci*. I consider this sort of name-change very unfortunate for bryology since it does not serve any purpose except as far-fetched consequences of a change in the rules which was never meant to have such results. Had Donk's idea of later starting-points of legitimate names only and not of valid names been applied from the beginning, this sort of changes would have been avoided; on the other hand some other changes would have had to be introduced, in connection with the consequences of the typification of Linnaean names. The chances that some stability of names at the specific level could be achieved by conservation seems remote, however useful it might be.

Another case where the established usage of all bryologists could be maintained by careful lectotypification is *Hypnum plumosum*. Hedwig again cited Linnaeus and Dillenius. A plate in his earlier *Descriptio* was cited too. This plate had already been considered to picture a different species, by Hoffmann (*Deutschl. Fl.* 1791): *Hypnum salebrosum*. In *Index Muscorum* Hedwig's name *Hypnum plumosum* was typified by his reference to Linnaeus, and not to his earlier plate. His description, it was assumed, included both, since he did not recognize Hoffmann's species as different, but this should not warrant a change of the type from Linnaeus to a later plate.

Still another case is *Bryum annotinum*, for which Hedwig gave a picture in *Species Muscorum* which has been identified with one of the modern segregates of this group of bulbiliferous mosses, characterized by the different forms of bulbils or gemmae. Of course it is rather a matter of chance, which of these segregates has been preserved in Linnaeus' or in Hedwig's herbaria, and it is no wonder that their "types" differ. Later, Lindberg, the first author to treat this taxon under the genus *Pohlia* and to make the combination, only cited Linnaeus and not Hedwig. For this reason L.F. Koch made a new combination again, disturbing the nomenclature in use, and creating a homonym for the already difficult problem of *Pohlia annotina*. Here the reasoning is: since Lindberg did not cite Hedwig, he did not include his type in the concept of the species and it must automatically be excluded. This reasoning is open to doubt; it depends on the interpretation of the rules, and it can be reasoned that Lindberg cited Linnaeus only for brevity and that Hedwig would have been included, had he given a full list, in which case Hedwig's type would have been included under *Pohlia annotina* too. Apparently this is the interpretation of Crum, Steere & Anderson in their recent *List of North American Musci* (*Bryologist* 68: 377-432. 1965 [1966]).

Supplements and facsimile. Schwaegrichen published a long series of supplements to Hedwig's *Species Muscorum*, which are, botanically, complete new works, mentioning all species anew, though, of course, referring to Hedwig. The fact that Hedwig's name is the first one on the title-page is the reason that many catalogues file the supplements under his name, but since Hedwig did not contribute a word and Schwaegrichen was the sole author, the works are treated under the latter in this thesis.

A facsimile of the *Species Muscorum* proper was published in 1960 by: H.R. Engelman (J. Cramer), Weinheim, Germany, and Wheldon & Wesley, Ltd., Codicote, England, and Hafner Publ. Co., New York, U.S.A. This facsimile edition has an introduction by P.A. Florschütz, Utrecht.

HOCHSTETTER, Christian Ferdinand

Biogr. Born 1787 Feb. 16, Stuttgart, Württemberg, Germany.

Died 1860 Feb. 20, Reutlingen (Württemberg?), Germany.

Hochstetter was a town clergyman, and professor at Esslingen. He studied the Bohemian flora, wrote on the flora of Africa, and was mainly interested in phanerogamous plants, though he collected also cryptogams.

He was commemorated in the generic name *Hochstettera* A.P. de Candolle 1838 (as *Hochstetteria*, spelling changed by Spach 1841), (*Compositae*).

Refs.: *Verh. Zool. Bot. Ges. Wien* 6(*Abh.*): 364-365. 1856.

Ascherson & Graebner: *Syn. Mitteleur. Fl.* 2(2): 465 (Christian name: Christian Friedrich, not Christian Ferdinand).

Dalla Torre & Sarnth.: *Fl. Tirol* 6(4): 19, 153. 1913.

1 Enumeratio plantarum Germaniae Helvetiaeque indigenarum ... 1826.

(See Steudel & Hochstetter n.1.)

2 Nachtrag zu den Bemerkungen über Hrn Fleischer's botanische Reise nach Tyrol im Sommer 1825, nebst einigen Worten über den botanischen Reise-Verein und die bereits angetretene Reise nach Istrien, Krain und Kärnthen.

Flora 9(18): 273-278. 1826 May 14.

Collation etc.: see *Flora*.

Date: issue dated; article signed: "11 März 1826".

Ref.: RSC 3: 370b.

Notes. Supplement to the remarks on a collecting trip of the pharmacist Fleischer, for a travel-society paying collectors for collecting in different regions and sharing the specimens proportionately to the contributions. In this article the *Musci* had been determined by Philipp Bruch (Zweibrücken), p.275-276, of whom remarks from letters are included, with a description of the new moss species *Pohlia oucellata* Bruch (p.276).

3 Ueber die Leistungen des botanischen Reisevereins.

Flora 10(6): 81-92. 1827 Feb. 14.

Collation etc.: see *Flora*.

Date: issue dated; see *Flora*.

Ref.: RSC 3: 370b.

Note. Similar to foregoing paper, now including the description by Bruch of the new species *Weissia flexuosa* Bruch (p.81).

HOOKER, William Jackson

Biogr. Born 1785 Jul. 6, Norwich, Norfolk, England.

Died 1865 Aug. 12, Kew, Surrey, England.

W.J. Hooker was "mainly a self-educated man". He was early interested in natural history: ornithology, entomology, and botany. His first notable botanical discovery was *Buxbaumia aphylla*, a moss new to the British Isles, in 1805. This find brought him into contact with J.E. Smith, Dawson Turner, and L.W. Dillwyn. He was an excellent draughtsman, beginning with illustrations for Dillwyn's *British Confervae* (1802-1814), and Turner's *Fungi* (1808-1819); later he illustrated many of his own works, occasionally engraving the copper-plates too.

In 1806 he was elected a fellow of the Linnean Society, and he visited London, where he was introduced to Sir Joseph Banks, Robert Brown and other botanists. In 1812 he was nominated a member of the Royal Society.

He made several tours to the Scottish Highlands, finding interesting mosses, e.g. the new *Andreaea nivalis*, and a voyage to Iceland (1809), which was an adventurous one. The results were published in his *Journal of a tour in Iceland*, in two editions, 1811 and 1813. He hoped to be able to visit the tropics, but a planned visit to Ceylon was canceled because of a rebellion there.

In the meantime Turner offered him a partnership in and the management of a brewery at Halesworth (Suffolk), which he accepted, and he settled in Halesworth.

He continued his botanical trips in England and Scotland, visited Paris in 1814, and traveled to the South of France, Switzerland, and northern Italy. Returning through Paris in 1815 he was introduced to Alexander von Humboldt, who asked him to prepare the cryptogams of his South American travels, which led to an independent publication of Hooker, beginning with the mosses. This proved a financial failure and was abandoned; the remaining *Musci* and *Hepaticae* were included in *Musci exotici*.

Hooker married Maria Sarah Turner, the oldest daughter of Dawson Turner, on 12 June 1815; they made a long wedding tour to the Lake District, Ireland, and Scotland. The brewery business brought Hooker neither satisfaction nor support for his family and his expensive, though scientifically important, publications. Through recommendation of Sir Joseph Banks, Hooker was nominated regius professor of botany in Glasgow, Feb. 1820, where he began his lectures in May. He received the degree LL.D. from Glasgow that same year. His teaching aroused enthusiasm, and the yearly excursion to the Highlands was eagerly awaited.

His life in Glasgow was full of activity; many visitors were received and correspondence was kept up with many of them, leading to enrichments of the Glasgow botanical garden and to many new species for Hooker's publications, a number of which were prepared in collaboration with other botanists.

He was knighted in 1836.

The fruitful Glasgow period ended in March 1841 when he was appointed director of the Royal Botanic Gardens at Kew, which establishment had been neglected by officials for some time. Hooker energetically developed the garden to a botanical establishment of the first order, a fact which does not need to be discussed here. From 1855 on he was helped by his son Joseph Dalton Hooker (1817-1911), a botanist in his own right, who became Assistant Director.

W.J. Hooker was commemorated in the generic names *Hookeria* J.E. Smith 1808, *nom. cons.* (*Musci*, *Hookeriaceae*), *Hookeria* Schwaegrichen 1816 (*Musci*, a homotypic synonym of *Tayloria* Hooker), *Hookeriopsis* (Bescherelle) Jaeger 1877 (*Musci*, *Hookeriaceae*), and the family name *Hookeriaceae* C. Müll. 1848.

Refs.: de Candolle, Alph.: *La vie et les écrits de W. Hooker*. Genève, 1866. 8°, 19 p. (not seen).

B[oulger], G.S.: *Dict. Natl. Biogr.* 27: 296-299. 1891.

Hooker, J.D.: A sketch of the life and labours of Sir William Jackson Hooker. *Ann. Bot.* 16(64): ix-cxxi. 1902 Dec. (portrait, list of works, correspondents, etc.).

Britten & Boulger: *BIBIB* ed.2: 153. 1931.

1 British Jungermanniae ...

1 vol. [in 22 fasc.] London, [1812-]1816.

Title: "BRITISH | JUNGERMANNIAE: | BEING | A HISTORY AND DESCRIPTION, | WITH | COLORED[sic] FIGURES, OF EACH SPECIES OF THE GENUS, | AND | Microscopical Analyses of the Parts. [line in gothic] | [short swelled rule]; | BY WILLIAM JACKSON HOOKER, ESQ., | FELLOW OF | THE ROYAL, ANTIQUARIAN, AND LINNAEAN SOCIETIES, AND MEMBER OF THE | WERNERIAN SOCIETY OF EDINBURGH. | [thin-thick rule] | LONDON: | PUBLISHED BY LONGMAN, HURST, REES, ORME, AND BROWN; | SHERWOOD, NEELY, AND JONES: AND J. HARDING. | [short thin-thick rule] | 1816."

Collation: 4° in 2s (or, in a small number of copies: 2°):

π^2 A-B² C-K² L² $\lambda 1-4^2$ $\lambda 5^2+1$ $\lambda 6-15^2$ $\lambda 16^1$ $\lambda 17-23^2$ $\lambda 24^1$ $\lambda 25^2+1$
 $\lambda 26-39^2$ $\lambda 40^2+1$ $\lambda 41-46^2$ $\lambda 47^2+1$ $\lambda 48-54^2$ $\lambda 55/56^2+1$ $\lambda 57-58^2$ $\lambda 59^1$ $\lambda 60-62^2$
 $\lambda 63-64^1$ $\lambda 65^2$ $\lambda 66-68^1$ $\lambda 69-70^2$ $\lambda 71-74^1$ $\lambda 75-79^2$ $\lambda 80^1$ $\lambda 81^2$ $\lambda 82/84^2+3$;
i-xxviii 1 2-20, 157 λ -leaves.

Contents: *i* half-title; *ii* □; *iii* title; *iv* □; *v* dedication to Dawson Turner (1775-1858), banker and botanist; *vi* □; *vii-viii* index; *ix-xxviii* introduction; 1-6 analytical key to the British species of the genus *Jungermannia* L., including *Blastia* L. (*Hepaticae*); 7-20 synopsis of the species, with discussions; $\lambda 1-82/84$; text, descriptions of *Jungermannia* species, with synonyms, ample discussions and explanations of plates. RT: book title in capitals, with above text the name of the species in italics between parentheses. Language: English, with Latin "phrases".

Plates: 88 hand-colored or uncolored copper-engravings of *Jungermannia* species, numbered: "Tab. I" - "Tab. LXXXIX" and "Suppt. & I" - "Suppt. & IX" with binomials; plate-marks: 200 × 151 mm. (pl.1), 236 × 185 mm. (pls. 78 and 79).

Artist: Hooker, W.J., the author: all pls.; pl.1 signed: "W.J.H. omnis[sic] delineavit".

Engraver: Edwards, William H. Camden (1777-1855), Bungay, Suffolk: all pls.; pl.1 signed: "W. H. C. Edwards omnes | sculpsit."

Paper: leaf height 294 mm. (GH copy, cut); wove; wm. (all outline):

"1810": $\lambda 1-37$;
 "RYE MILL | 1812": $\lambda 41-58$;
 "5 | W BALSTON | 1811": $\lambda 52-53$;
 "1812": $\lambda 60-61$;
 "W BALSTON | 1813": $\lambda 65$, $\lambda 67$;
 "RYE MILL | 1813": $\lambda 69-81$, A-B C-K L, π (part of the edition);
 "RYE MILL | 1815": π (other part of the edition);

plate paper: wove; in the original edition presumably without watermarks, in later pulls with different wm.:

"RUSE & TURNERS | TURKEY MILLS | 1815": parts 2-10;
 "J WHATMAN | TURKEY MILLS | 1825": parts 1, 14-15;
 "TURKEY MILLS | J WHATMAN | 1817": part 12;
 "TURKEY MILLS | J WHATMAN | 1819": parts 18, 20;
 "TURKEY MILLS | J WHATMAN | 1820": parts 20-21;
 "J GREEN": parts 16-17 in NYBG copy;
 "J WHATMAN | TURKEY MILLS | 1819 [or 1820]": pls.69 and up, including the suppl.pls., in GH copy;
 "J WHATMAN | 1837": G copy (courtesy of Dr. C.E.B. Bonner, Geneva).

Printer: Keymer, J., Yarmouth, England.

Publishers: Longman, Hurst, Rees, Orme & Brown, London;
 Sherwood, Neeley & Jones, London;
 J. Harding, London.

Dates: issued in 22 parts, for which Gepp published the dates on which the firm of Longman etc. received the printed material from the printer (represented in table, see next page); it is assumed that in most cases the real publication date was the first of the month following within a few days, or possibly the fifteenth in some cases..

Dates
(continued);

part	plates	text-leaves	date Gepp	probable publ. date
1	1-4	8	21 Apr. 1812	1 May 1812
2	5-8	9	26 May 1812	1 Jun. 1812
3	9-12	8	29 Jun. 1812	1 Jul. 1812
4	13-16	7	29 Jul. 1812	1 Aug. 1812
5	17-20	8	29 Aug. 1812	1 Sep. 1812
6	21-24	7	29 Sep. 1812	1 Oct. 1812
7	25-28	9	30 Oct. 1812	1 Nov. 1812
8	29-32	8	30 Nov. 1812	1 Dec. 1812
9	33-36	8	1 Jan. 1813	1 Jan. 1813
10	37-40	9	1 Feb. 1813	1 Feb. 1813
11	41-44	8	1 Mar. 1813	1 Mar. 1813
12	45-48	9	14 Apr. 1813	15 Apr. 1813
13	49-52	8	13 Aug. 1813	15 Aug. 1813
14	53-56	7	2 Oct. 1813	2 Oct. 1813
15	57-60	7	18 Dec. 1813	18? Dec. 1813
16	61-64	6	26 May 1814	1 Jun. 1814
17	65-68	5	13 Jul. 1814	15 Jul. 1814
18	69-72	6	6 Jul. 1815	15? Jul. 1815
19	73-76	6	4 Dec. 1815	4? Dec. 1815
20	77-80	7	27 Mar. 1816	1 Apr. 1816
21	81-84	7	1 May 1816	1 May 1816
22	S. 1-4	24	14 Jun. 1816	15 Jun. 1816

Announcement:

Neues J. Bot. (Schrader)
3(1/2): 251. 1809 (in preparation).

Refs.: BMNH 870

Brun. 3: 300
Cat. Juss. n. 2279
Graesse 3: 344
Jacks. 241
Kew 286
Krüg. 239
Lindl. Libr. 209
Linn. Soc. 370
Lownd. 1108
Mass. HS-H 145
Mass. HS-M 2: 249a
Milt. 485
Niss. n. 916
Plesch 105
Pr. ed. 1 n. 4646
Pr. ed. 2 n. 4208
Teyl. 412
Un. Edinb. 2: 413 (2° copy).

Bibliogr. studies: Pley: *Biblioth. Arpad Plesch* 105. 1954 [2° copy?];
Gepp, A.: *J. Bot. Brit. For.* 44: 175-176. 1906;
Stafleu, F. A.: *Taxonomic literature* n. 527. 1967.

Variants: a small number of copies were prepared on better and larger paper with folio imposition, the only difference being the width of the margins; uncolored copies were also available (title not checked).

Bibl. notes. Hooker's first book already was beautifully executed, on the pattern of Dillwyn's *British Confervae* and Turner's *Fuci*, but with the plate-numbers added to the text as identifiers.

The production took a long time; preparations began already in 1808 by borrowing specimens from Linnaeus' herbarium. Publication started in 1812 and was regularly continued in monthly fascicles, promptly available on the first day of each month, until April 1813. In this month the first delay occurred, followed by more irregularities. Gepp's dates are extraordinarily welcome, as they were derived from the files of the publisher firm, which files do not exist any more. I assume that the real date of publication of each fascicle was the first of the month concerned, except for the irregularities as noted in the table.

The watermarks in the plates represent several later pulls of the plates of parts 2-10; apparently a rather small number were printed for these fascicles at publication.

Each fascicle contained four plates with the corresponding text. I could not check the conjugacy of the text leaves as thoroughly as I wished since I had no opportunity to see a loosely bound copy.

Bot. notes. This book may be called a classical treatment of the *Hepaticeae* of Great-Britain, though restricted to one genus, which however included all leafy and a number of thallose *Hepaticeae*, now in the genera *Pellia*, *Blasia* and *Moerokia*. A number of new taxa were described here for the first time. This book is included in this thesis, although it is outside the strict scope of it, because the dates are known so well and it set a standard for Hooker's later works, showing clearly the tendency to publish the fascicles on the first day of each month. Moreover it is Hooker's first important bryological work.

2 Muscologia Britannica ...

London, 1818 (and ed.2, 1827) - See Hooker & Taylor n.1, n.2.

3 Musci Exotici ...

2 vols. [23 fascicles] London, 1818-1820.

Title: "Musci Exotici; | CONTAINING | FIGURES AND DESCRIPTIONS | OF | NEW OR LITTLE KNOWN | FOREIGN MOSSES | AND OTHER | CRYPTOGRAMIC SUBJECTS. | BY | WILLIAM JACKSON HOOKER, F.R.A. AND L.S. &c. | [2: REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW. |] VOL. I. [2: VOL. II.] | [short thick-thin rule] | "Quis autem tale studium, quo ad æternam omnium rerum causam | evelimur, tamquam inutile ac contemnendum detractare ac deprimere | ausit?"—BRIDEL. | [short thin-thick rule] | LONDON: | PRINTED BY RICHARD AND ARTHUR TAYLOR, SHOE LANE: | FOR LONGMAN, HURST, REES, ORME, AND BROWN, | PATERNOSTER-ROW. | [very short rule] | 1818. [2: 1820.]"

Collation: 8° state: vol.1: π^4 11-96; i-vi vii-viii, 96 leaves; vol.2: A² 197-176 B-C⁸; i-iv, 80 leaves, 1 2-31 32 (28-29);

4° state: same, except vol.2: A² 197-176 B-E⁴.

Contents: vol.1: i half-title; ii □; iii title; iv □; v dedication to James Brodie (1744-1824), Brodie, Elgin, Scotland; vi □; vii-viii index of binomials in vol.1; 11-96 text, descriptions of bryophytes foreign to Great Britain, versos □ (see *Bibl.notes*); vol.2: i half-title; ii □; iii title; iv □; 197-176 text, concluded, versos □; 1-27 appendix, systematically arranged short descriptions of all species, with corrections and additional remarks; 28 □; 29-31 index of accepted binomials in vols.1-2; 32 errata. RT: book title in small capitals followed by the collector's name (adjectival form) in italics (this name omitted in a number of pages). Language: English with short Latin descriptions.

Plates: 176 copper-engravings, hand-colored or uncolored, of bryophytes, numbered: "Tab. I" - "Tab. CLXXVI."; binomials at the bottom, details with arabic numerals; plate-marks: 165 × 119 mm. (pl.24), 215 × 114 mm. (pl.173).

Artist: Hooker, William Jackson, the author.

Engravers: Edwards [possibly Sydenham Teast, 1769-1819 Feb. 8, though former engravings for Hooker were done by W.H.C. Edwards]: 146 plates, signed;

Hooker, William Jackson, the author, possibly engraved the remaining 30 unsigned plates, though his wife could have collaborated (different styles of letters are present);

unsigned: 30 plates: 137-152 154-156 158-159 168-176.

Fascicle wrappers: thin green paper wrappers: front wrapper recto with wrapper title; 4° state: apparently one wrapper (or a few) printed for all fascicles, having only the year (no month nor day) and a space for the fascicle number which had to be filled in by hand (according to Dixon); 8° state: different for each fascicle, with printed fascicle number and day and month before the year (see table); verso of the back wrapper with advertisements, e.g. on fasc.1 an announcement of Hooker & Taylor, *Muscologia Britannica* (which see), and an evaluation of the present work, including the following statement: "This work is intended to comprise such Exotic Cryptogamic subjects, exclusive of the Ferns, as have not been noticed, or are imperfectly described, by preceding Naturalists. In those cases where the Author has been favoured by collections of considerable extent made by any individual Botanist, they will be distinguished from the miscellaneous collections by an additional running title, as 'Humboldtiani,' 'Menziesiani,' and with a distinct Index; so that they may be bound separately, or incorporated with the rest of the work, according to the option of the possessor."

Spine labels: spine labels with a modified title are present on HBL copy 2 (George Stabler's copy): "[thick-thin rule] | HOOKER'S | MUSCOLOGIA | EXOTICA | *Figures and Descriptions* | OF | FOREIGN | MOSSES. | [very short rule] | 176 Plates | [very short rule] | TWO VOLUMES. | VOL. I. [2: VOL. II.] | [very short rule] | Price £ 4. 4s. | [thin-thick rule]"; possibly copies with colored plates had other price indications.

Paper: 4° state: text: leaf height 292 mm. (U copy, cut); wove; wm. (U & FH copy):
 "1816": up to 130;
 "1817" and the variant "18 7": 133-103;
 "1818": 1105-176, B-E;
 "1819": 1137 (FH copy);
 plate paper: wove; wm.:
 "RUSE & TURNERS | 1815": fasc.3-10, 13-17 (with exceptions);
 "RUSE & TURNERS | 1817": fasc.11;
 "TURKEY MILLS | J WHATMAN | 1817": fasc.4 (U copy), fasc.5 (FH copy);
 "J WHATMAN | 1818": fasc.12, fasc.19 (U copy);
 "J WHATMAN | TURKEY MILLS | 1819": fasc.18, fasc.14-16, 19-21 (FH copy),
 pl.175 (U copy);
 "J WHATMAN | TURKEY MILLS | 1821": pl.171 (U copy);
 "J GREEN": fasc.20-21 (partly);
 8° state: text: leaf height 221 mm. (HBL copy 2, trimmed); wove; no wm.;
 plate paper: wove; wm. (HBL copy 1, presentation copy of Dawson Turner):
 "1808": fasc.1;
 "J GREEN | 1814": fasc.2-5, fasc.6(partly);
 "J GREEN": fasc.17-19 (partly);
 "RUSE & TURNERS | 1814": fasc.6, pl.46;
 "RUSE & TURNERS | 1815": fasc.10, 12-13;
 "RUSE & TURNERS | 1817": fasc.11;
 "RUSE & TURNERS | 1818": fasc.20;
 "W TURNERS | 1815": fasc.10 (partly);
 "W TURNERS": fasc.16, 17(partly).
 Note. All watermarks are in outline symbols, and in lower half-sheet.

Printers: Taylor, Richard, and Taylor, Arthur, London.

Publishers: Longman, Hurst, Rees, Orme, and Brown, London.

Dates: vol.1, 1818:

fasc.	text leaves	plates	wrapper dates	date Gepp
1	4	1-4	1 Jan.	1 Jan.
2	8	5-12	1 Feb.	29 Jan.
3	12	13-24	1 Mar.	28 Feb.
4	8	25-32	1 Apr.	31 Mar.
5	8	33-40	1 May	30 Apr.
6	8	41-48	1 Jun.	30 May
7	8	49-56	1 Jul.	29 Jun.
8	8	57-64	1 Aug.	30 Jul.
9	8	65-72	1 Sep.	29 Aug.
10	8	73-80	1 Oct.	26 Sep.
11	8	81-88	1 Nov.	31 Oct.
12	7 8	89-96	1 Dec.	28 Nov.

vol.2, 1819 & 1820:

fasc.	text leaves	plates	wrapper dates	date Gepp
13	8	97-104	1 Jan.	1 Jan. 1819
14	8	105-112	1 Feb.	1 Feb. 1819
15	8	113-120	1 Mar.	27 Feb. 1819
16	8	121-128	1 Apr.	31 Mar. 1819
17	8	129-136	1 May	1 May 1819
18	8	137-144	1 Jul.	29 Jun. 1819
19	8	145-152	[1 Sep.]	31 Aug. 1819
20	8	153-160	1 Nov.	26 Oct. 1819
21	8	161-168	1 Dec.	30 Nov. 1819
22	8	169-176	1820	
[23]	A-C[E]		1 May	29 Apr. 1820
			[1 May?]	1 May 1820

Wrapper dates here clearly represent exact publication-dates, except, perhaps, for fasc.23, which might not have a special wrapper.

Reviews: vol.1: *Blackwood's Edinb. Mag.* 2(10): 454. 1818 Jan. (anncd.);
 Brongniart, Ad.: *Bull. Gén. Univ. Annon. Sci.* (Férussac) 3(9): 424-425. 1823;
 vol.2: *Linnaea* 2(4): 676. 1827;
Flora 13²(*Ergänz. Bl.*): 18-35. 1830.

Bibliogr. studies: Gepp, A.: *J. Bot. Brit. For.* 44: 176-178. 1906;
 Dixon, H.N.: *J. Bot. Brit. For.* 72: 15-17. 1934;
 Sayre, G.: *Dates of publ.* 56, 61. 1959;
 Stafleu, F.A.: *Taxonomia literaturae* n.529. 1967.

<i>Refs.:</i> BMNH 870	Kew 286	Mass.HS-M 145	Pr.ed.1 n.4648
Cat.Juss. n.2308	Krüg. 242	Mass.HS-M 2: 250	Pr.ed.2 n.4210
Graesse 3: 344	Linn.Soc. 370	Milt. 485	Teyl. 412
Jacks. 153	Lownd. 1108	Niss. n.925	Un.Edinb.2: 414.

Variants: The 4° and 8° states were printed with a different imposition from the same type-pages. I did not study the conjugacy of the lambda-leaves of the 4° state, since I did not see an uncut copy, but the places of the wm. indicate a normal 4° imposition. The inner margins of this state are markedly wider than those of the 8° state: about 50 mm. in the former and 30 mm. in the latter. The plates were colored or uncolored; I have no indication of uncolored plates in the 4° state. A copy with no watermarks in the plate-paper at all (HBL copy 2) apparently represents a later pull of the plates; it belonged to the bryologist George Stabler (1839-1910) and was probably bought new at a late date.

Bibl.notes. The arrangement of the plates and text for final binding was left "to the option of the possessor". The fascicles were delivered as folded sheets with the corresponding plates. The first, easy, way was to bind the sheets in this folded position with the plates at the end of the volume. A second way was to place the plates within these sheets facing the leaves with the corresponding descriptions (lambda-leaves); this results in alternate pairs of lambda-leaves and pairs of plates, the blank sides of each pair coming together. A third way, which I saw in several copies, was to separate the leaves of the folded sheets and to place all text-leaves with the text as rectos and all plates facing the corresponding text. I consider this form to represent the ideal copy, as described in the collational formula. A fourth method was to bind the separated text leaves and the facing plates in a systematical order, e.g. that of the appendix. This was done in the copy of Stabler (HBL copy 2). A last possibility was, as indicated by the author, an arrangement of the leaves in groups of species collected by one collector; for this purpose the collectors' names were already mentioned in the running title. I have not seen a copy with this arrangement.

The distribution of text and plates over the 23 fascicles had not been worked out to the last detail by previous authors (Gepp, Dixon, Sayre). During Dr. Sayre's research I expressed my opinion to her that the later parts had equal numbers of plates, which was a supposition only. After the bibliographical analysis I can now confirm this opinion with the following facts.

(1) The text of the 8° state was printed on complete sheets (except for fasc.1, a half-sheet only, and fasc.3, one sheet and a half), and a complete sheet had 8 text leaves. I carefully checked the edges of the slightly trimmed Stabler copy, and differences in protruding or slightly tilted leaves.

In this way I am certain of complete sheets in fasc.2, 4, 7, 11-15, 19, 21.
(2) The offsets of the printed text on the plates of some copies is heavy in all plates of one fascicle (copy of Dawson Turner, HBL copy 1, fasc.6, 7, 21) or weaker but clearly visible (fasc.5, 8, 20, and the even numbered plates of fasc.11).

(3) The signature of the engraver is consistently present on the plates of fasc.1-17, and not on those of fasc.18-19. This indicates the break between fasc.17 and 18. It is probably connected with the death of the engraver on 8 Feb. 1819 and could be explained by supposing that he had sent out the plates for fasc.17 and that his other engravings were not directly released or anyway not used before fasc.20.

(4) The watermarks in the plates confirm these conclusions. Additional confirmation for the contents of fasc. 1 is that its plates are uncolored or partly colored in the Dawson Turner copy (all other plates are fully colored) and that the text certainly was printed on a half-sheet.

I have no reason to doubt the regular make-up of those gatherings which I was not able to check definitely.

The dates on the wrappers were given by Dixon for most wrappers. I saw wrappers of the fascicles of vol.1 in the Rijksherbarium copy, Leiden. These dates are in a very precise way confirmed by Gepp, who stated the days on which the publisher received the material from the printer. These dates are usually a few days before, or exactly the date printed on the wrapper.

The date on the wrapper of fasc.19 has not been reported. In my opinion it is safe to assume regular intervals and to assign the date 1 Sep. 1819 to this fascicle. No wrapper of the final fascicle 23 is known to us, and here the date reported by Gepp is the only source. It is reliable enough, and fulfills the main requirement for effective publication of the Botanical Code: copies were available for sale on that date.

It is remarkable how precise the publication of the fascicles was as to dates. This means that there must have been a considerable planning. The disturbance in the monthly sequence after fasc.17 was probably connected with the death of the engraver Edwards. Two months intervals followed until fasc.20; fasc.21 was issued one month later, 1 Dec. 1819, and the last two fascicles, 22 and 23, only on 1 May 1820.

Hooker had more material and certainly planned a third volume, but this was not realized. Apparently as a Glasgow professor his attention was taken up by other fields.

Bot.notes. Hooker thoroughly described and figured 175 species of mosses and liverworts from different parts of the world, contributed by a number of his correspondents, e.g. Humboldt, Gardner, Menzies and R.Brown. A large number of the species were new, representing singular bryophytes, which were later segregated into several new genera. In the *Appendix* (fasc.23) new names were proposed too.

The new genus *Drepanophyllum* was proposed in the text to pl.145. The description was marked: "*Richard in litt.*", a note was added that the description had been made from fresh specimens in its native country (French Guiana). This concerned Louis Claude Marie Richard (1754 Sep. - 1821 Jun.), as is evident from a letter from Arnott to Ad. Brongniart: Arnott wrote that he had asked Achille Richard for specimens of *Drepanophyllum* of Richard's father, but had not received any answer. The description and the plate characterize the genus perfectly. However, by a small detail the name is invalid in this place, according to the letter of the International Code of Botanical Nomenclature. Technically the description is a specific description only, because the genus, though monotypic, was not based on a new species, since the synonym *Dicranum falcatifolium* was included, in turn based on *Fissidens falcatifolius* Schwaegrichen 1816 (cited in the text to pl.82).

In the Appendix (fasc.23) Hooker maintained the name *Drepanophyllum* (p.3) and made for the generic description an explicit reference: "*For the very imperfect character of this Genus, see Description to TAB.CXLV.*" This is a good reference, but the Code requires a reference to a generic description. Therefore the genus is published invalidly in the second place too.

4 Flora Scotica ...

1 vol. in 2 parts. Edinburgh & London, 1821.

Title: "FLORA SCOTICA; | OR | A DESCRIPTION | OF | SCOTTISH PLANTS, | ARRANGED | BOTH ACCORDING TO THE ARTIFICIAL AND NATURAL | METHODS. | IN TWO PARTS. | BY | WILLIAM JACKSON HOOKER, LL.D. | F.R.A. AND L.S., MEMBER OF THE WERN. SOC. OF EDINB., OF THE IMP. ACAD. | NATURE CURIOSORUM, OF THE ROYAL BOT. SOC. OF RATISBON, OF | THE HELVETIC SOC. OF NAT. HIST., ETC. | AND REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW. | [short swelled rule] | London: [in gothic] | PRINTED BY RICHARD AND ARTHUR TAYLOR, SHOE-LANE, | FOR ARCHIBALD CONSTABLE AND CO., EDINBURGH; AND | HURST, ROBINSON, AND CO., CHEAPSIDE, LONDON. | [very short rule] | 1821."

Collation: 8°: a⁴ b² B-T⁸ U-X² 2A-T⁸ (\$1-2 signed, second alphabet in square brackets); i-v vi-x xi-xii (vii) [part 1:] 1 2-292 293-296 (163) [part 2:] 1-3 4-297 298-304 (2: 28 as '8').

Contents: i half-title; ii □; iii title; iv □; v-vi dedication to James [Graham, 3d] Duke of Montrose (1755-1836), chancellor of the University of Glasgow, dated 10 April 1821; vii-x preface, dated 10 April 1821; xi part-title for part 1; xii □; part 1: 1-292 text, descriptions of genera and species of Scottish plants in the Linnaean classes 1-23 (Phanerogams) with habitats and localities; 293-296 index of the generic names in part 1; part 2: 1 part-title for part 2; 2 □; 3-297 text, descriptions of natural classes, orders, genera and species of Scottish plants of all groups, cryptogams with habitats and localities, phanerogams with references to part 1, ending with 3 genera "of which the situation is uncertain."; 298-303 index of generic names in part 2; 304 imprint. RT: part 1: abbreviated names of Linnaean classes and orders; part 2: full names of class, order and genus. Language: English.

Paper: leaf height 228 mm. (U copy, slightly trimmed); wove; no wm.

Printers: Taylor, Richard, and Taylor, Arthur, London.

Publishers: Archibald Constable & Co., Edinburgh;
Hurst, Robinson & Co., London.

Collaborators: Lindley, John (1799-1865), botanist and horticulturist, collaborated with Hooker in drawing up the descriptions, "characters", of the natural orders, *Acotyledones* excepted: "where no name is cited we must be considered as wholly responsible" (preface, p.x, footnote);

Greville, Robert Kaye (which see): "devoted a large portion of his time to the study of the minuter Fungi, ...";

Brown, Robert (which see): occasional information on natural plant groups, especially a note on a particular character of *Cisteae* (p.284, and footnote).

Date: 1821 (t.-p.); 'after 10 Apr. (preface and dedication);
on or bef. 10 May (*Monthl.Lit.Adv.* fide Sayre).

Reviews and announcements:

J.Gén.Litt.Estr. (Jun. 10);
Blackwood's Edinb.Mag. 9(51): 356. 1821 Jun.;
Ann.Phil. n.ser. 1(6): 471. 1821 Jun. (just publ.);
Edinb.Phil.J. 6(11): 145-156. 1822 (rev.);
Bull.Gén.Univ.Annonc.Nouv.Sci. 1823(3) (rev.).

Bibliogr.studies: Rogers, D.P.: *Mycoologia* 43: 378. 1951;
Sayre, G.: *Dates of publ.* 66. 1959;
Stafleu, F.A.: *Taxonomia literature* n.530. 1967.

Refs.: BMNH 871	Graesse 3: 344	Linn.Soc. 371	Milt. 138
Bradl.1: 397 ^a	Jacks. 246	Lownd. 1108 ^a	Pr.ed.1 n.4649
Brun.3: 301	Kew 286	Mass.HS-H 145	Pr.ed.2 n.4212
Cat.Juss. n.1797	Lindl.Lib. 209	Mass.HS-M 2: 249	Un.Edinb.2: 414.

Bibl.notes. The make-up indicates a shift to two parts after the beginning of printing. In the first place the part-title of part 1 was printed as a part of the preliminaries at the end of the whole work. Secondly the printer had reserved the signature A for the preliminaries of part 1, and finally used the lower case "b" when a quarter-sheet was necessary. The index of part 1 might be another indication, being printed on a separate quarter-sheet, where the text already ended with a quarter-sheet. What probably happened was that Hooker, with his knowledge of cryptogams in general and of bryophytes in particular, wanted to shift to the natural classification when he came to elaborate the 24th class of Linnaeus. Then, extending this to a treatment of the natural classification throughout, it was made a separate part with a new pagination and a new alphabet of signatures.

The preliminaries were not printed on one sheet with gathering X, as would seem likely; the torn edges of the U copy do not match.

Bot. notes. This book is a result of Hooker's remarkable capacity for work, since he must have begun this book after or about the time of his nomination as professor of botany at the Glasgow University, 1820. In a handy form it gives a complete survey of Scotland's flora as known at the time. The treatment is clear, and the second volume with the natural arrangement certainly added to its usefulness.

The nomenclature of mosses was in accordance with that used in the *Muscologia Britannica* by Hooker and Taylor; therefore the number of new names in *Musci* is not high. The *Fungi* were arranged according to Persoon's *Synopsis methodum Fungorum*; the *Lichenes* according to Acharius' *Synopsis methodica Lichenum*.

There were no keys, as earlier introduced in France by De Lamarck. Also lacking were author-citations for the Latin names of genera and species; the books cited only gave information about Scottish localities.

A second edition was planned: *Edinb. J. Sci.* 1(2): 367. 1824 Oct., but was not realized.

5 Fungi, ... Lichenes, ... Hepaticae, ... Musci, ...

In: Kunth, C.S.: *Synopsis plantarum Aequinoctialium Orbis novi* 1: 7-65.
Paris-Strasburg, 1822.

Collation: 8°: 1, r-5, r; 7-65 (see Kunth n.1).

Contents: 7-13 descriptions of fungi, headed: "FUNGI, PERSOON"; 14-39 descriptions of lichens, headed: "LICHENES, ACHAR."; 40-45 descriptions of hepatics, headed: "HEPATICAE, JUSS."; 46-65 descriptions of mosses, headed: "MUSCI, JUSS.". No RT. Language: Latin.

Date: 1822 Dec. 9 (see Kunth n.1).

Bot. notes. Hooker prepared the text for the groups of South- and Central American *Cryptogamae* mentioned above. The majority of the mosses already were described in his *Musci exotici* or in other publications; 10 species were new; 1 was transferred to another genus, and 2 varieties were included, which, in my opinion, do not have a description.

6 Exotic flora ...

3 vols. [in 38 fascicles] Edinburgh-London, [1822]1823-1827.

Titles: "EXOTIC FLORA, | CONTAINING | FIGURES AND DESCRIPTIONS | OF | NEW, RARE, OR OTHERWISE INTERESTING | Exotic Plants, [line in gothic, except in vol.3] | ESPECIALLY OF SUCH AS ARE DESERVING OF BEING | CULTIVATED IN OUR GARDENS; | TOGETHER WITH | REMARKS UPON THEIR GENERIC AND SPECIFIC CHARACTERS, NATURAL | ORDERS, HISTORY, CULTURE, TIME OF FLOWERING, &c. | [rule] | BY | WILLIAM JACKSON HOOKER, | LL.D. F.R.A. & L.S. | MEMBER OF THE IMPERIAL ACADEMY NATURÆ CURIOSORUM; OF THE WERNERIAN | NATURAL HISTORY SOCIETY OF EDINBURGH; OF THE GEOLOGICAL AND HORTI-|CULTURAL SOCIETIES OF LONDON; OF THE ROYAL BOTANIC SOCIETY OF RATIS-|BON; OF THE HELVETIC SOCIETY OF NATURAL HISTORY; OF THE PHYSIOGRA-|PHICAL SOCIETY OF LUND; OF THE PHILOSOPHICAL SOCIETIES OF CAMBRIDGE, | AND YORK; OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, &c. &c. [2-3: AND YORK; OF THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, HONO-|RARY MEMBER OF THE ROYAL IRISH ACADEMY; OF THE LYCEUM OF NATURAL | HISTORY OF NEW YORK, &c. &c.] | AND | REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW. | [rule] | VOL. I. [2: VOL. II.] [3: VOL. III.] | EDINBURGH: | PRINTED FOR WILLIAM BLACKWOOD, EDINBURGH; | AND T. CADELL, LONDON. | [short rule] | MDCCCXXIII. [2: MDCCCXXV.] [3: MDCCCXXVII.]"

Collation: 8° in 4s: vol.1: π¹ 2π⁴ A-L⁴ χ¹ M-P⁴ (-P₄) ²A-C⁴ 2χ⁴ (A₁ unsigned, A₂ as 'A', F₄ in some copies as 'D', χ₁ as 'M'); I-II i-iv v-vii viii, 76 leaves: λ1-2 λ3/4 λ5-40 λ41/42 λ43-46 λ47/48 λ49-79; vol.2: π-3π² λ80-89 λ90/91 λ92-150 λ151+1 λ152+1 λ153-154; i-xii, 76 λ-leaves (see λ80-154); vol.3: π⁴ λ155/156+2 λ157-163 λ163* λ164-232; i-iii iv-viii (v), 80 λ-leaves (see λ155-232); (errata slip to λ75 in HBL copy).

Contents: vol.1: I half-title; II □; i title; ii imprint; iii dedication to Charles Lyell (1767-1849), dated 1 Nov. 1823; iv □; v-vi index of Latin plant names; vii index of English plant names; viii □; xi-79 text, descriptions of the plants figured, and explanation of the plates, versos □: x22, 23, 63; vol.2: i half-title; ii □; iii title; iv imprint; v-vii index of Latin plant names in fasc.1-21 (pls.1-154); viii □; ix-x index of Latin plant names in fasc.6-21 (pls.80-154); xi-xii index of English plant names in fasc.6-21; x80-154 text, versos □: x135, 137, 141, 146; vol.3: i title; ii imprint; iii-iv index of English plant names in fasc. 22-38 (pls.155-232); v-viii index of Latin plant names in vol.1-3; x155-232 text, versos □: x164, 165, 169, 172, 223, 231. NO RT. Language: English, with short Latin descriptions of plants.

Plates: 233 hand-colored or uncolored copper-engravings, numbered 1-163 163^[a] 164-232; names Latin binomials or (in the few varieties) trinomials; plate-marks: 224 × 134 mm. (pl.3), 321 × 244 mm. (pl.190) (most plates somewhat trimmed in HBL copy; larger dimensions may be present); 23 plates are double (folded in the middle) and 5 are folded in another way (HBL copy; these numbers may vary in other copies); bound-in folded narrow stub-like strips correct the thickness of the volumes.

Artists: 1) Hooker, William Jackson, the author: probably all plates not definitely assigned to another artist, and moreover some detail figures on plates by other artists; in the text Hooker explicitly states his responsibility for some plates;
2) Colebrooke, Henry Thomas (1765-1837), Chief Judge, Bengal (biogr.: Lane-Poole, S.: *Diot.Natl.Biogr.* 11: 282-286. 1887): pls.135, 136, 137, unsigned;
3) Duncombe, [Mr.], working at Bury Hill, Surrey, apparently for Robert Barclay: pls.166, 188, unsigned;
4) Greville, Robert Kaye (which see): pls.73, 75, 79, 86, 88, 105, 118, 150, 168, 195, 209, 210, 211, 216, 219, 222 (except probably details in some pls.); all signed except pl.88;
5) Guilding, Revd. Lansdowne [Lansdown in Britten & Boulger], (1797-1831), colonial chaplain, St.Vincent (biogr.: Britten & Boulger, BIBIB ed.2: 133. 1931.): pls.155, 156 and unsigned 167, "a coloured drawing was sent";
6) Harrison, Mrs. Arnold, from Aegsburgh, Liverpool (biogr.: Britten & Boulger, BIBIB ed.2: 140. 1931.): pl.120, signed;
7) Lindley, John (1799-1865), botanist and horticulturist (biogr.: Boulger, G.S.: *Diot.Natl.Biogr.* 37: 258. 1894.): pls.123, 132(except the later added leaf), 134, 139, all signed;
8) Menzies, Archibald (1754-1842), English explorer, botanist: pls.193, 194;
9) Richard (Louis Claude Marie?, 1754-1821; biogr.: *Mém.Mus.Hist.Soc.Paris* 11:215-229. 1824): pl.21, only the dissections of the fruit, "copied [by W.J. Hooker] from the beautiful drawings of Richard in Humboldt & Kunth's *Nov. Gen. et Sp. Plant.*";
10) Syme, Patrick (1774-1845), Scotland (biogr.: O'Donoghue, F.M.: *Diot.Natl.Biogr.* 19: 268. 1898.): part of pl.87, unsigned;
11) Telfair, Annabella (Mrs. Charles) (d.1832; biogr.: Britten & Boulger, BIBIB ed.2: 297. 1931.): pls.192, 203, or at least plates prepared with the aid of her drawings.

Engravers: Swan, J., Glasgow, (fl. 1822-30): 234 plates, signed;
Hooker, William Jackson, the author: probably the 9 unsigned plates: 20, 22-24, 26, 28, 38, 47, 48, and additional details on other plates, e.g. the leaf on pl.132 which was added during printing of the plate, or the specific epithet on pl.37 which was changed from *rigida* into *stellata* by Hooker himself, if the text may be taken literally; possibly his wife helped him with engraving.

Paper: leaf height 246 mm. (HBL copy, slightly trimmed); wove; wm.: "A C | 1821" in lower middle of half-sheet, to be found throughout all three volumes; unmarked sheets may have been used too but this is not certain since in half-sheets the wm. will show at random; plate paper: wove; wm.: "J WHATMAN | TURKEY MILL | 1822" throughout the three volumes, except for an occasional plate with the same wm. as has the text paper: "A C | 1821" (pl.14 in the copy of the University of California). Apparently much later more copies of the plates were printed, as is indicated by the wm. (HBL copy): "J WHATMAN | 1861", plates 39 and up; plates up to 31 have the same wm. as has the text.
All watermarks mentioned here are mainly in outline.

Fascicle titles: no wrappers seen, only offsets from the fascicle-title and versos. The fascicle-titles had a frame of very thick black rules around the text, which was similar to the text of the volume-titles, but with the fascicle indication "PART" and the number in a Roman numeral; the bottom line had the printed year without month; the verso contains an announcement concerning a work planned by Hooker (some fascicles).

Printer: Neill, Patrick, Edinburgh (see Greville n.5).

Publishers: Blackwood, William (1776-1834), Edinburgh (biogr.: Espinasse, F.: *Diet.Natl.Biogr.* 5: 153-154. 1886;
Cadell, Thomas (the younger) (1773-1836), London (biogr.: Lee, S.L.: *Diet.Natl.Biogr.* 8: 179. 1886.

Collaborators: descriptions of plants were furnished by:
Colebrooke, Henry Thomas (see *Artists*): 1136, 137, 146;
Graham, Robert (1786-1845), professor of botany, Edinburgh: 186, 168, 209, 210, 211, 227 (no new species);
Lindley, John (see *Artists*): 1115, 123, 132, 139; 134 (this not a new species), and the generic name *Pholidota* Lindley ex W.J. Hooker, but not its description: 1138;
some plant names were cited from other collaborators, not their descriptions, e.g. Bowie, James (ca. 1789-1869): 1227; according to the Code this name should be cited *Didymocarpus rexii* Bowie ex W.J. Hooker;
many other persons were duly acknowledged who had sent plants and seeds from overseas to Great-Britain, or who had put at Hooker's disposal plants from their gardens and stoves.

Dates: see table next page.

Reviews and announcements:

- fasc. 1: *Edinb.Phil.J.* 7(14): 395-396. 1822 Oct.;
Flora 6(3): 33-45. 1823 Jan.;
- fasc. 2: *Edinb.Phil.J.* 8(16): 405-407. 1823;
- fasc. 3: *Blackwood's Edinb.Mag.* 13(75): 489-490. 1823;
- fasc. 4: *Blackwood's Edinb.Mag.* 13(76): 618. 1823 (as from May);
- fasc. 2-5: *Flora* 7(14): 217-219. 1824 Apr. 14;
- fasc. 5: *Phil.Mag.J.* 61: 463. 1823 (fasc. appeared first of this month);
- fasc.12-13: *Edinb.J.Sci.* 1(2): 365. 1824 Oct.;
- fasc. 15: *Blackwood's Edinb.Mag.* 16(92): 355. 1824 (anncd. Sep.);
- fasc. 6-15: *Flora* 8²(*Ergänz.Bl.*): 24-44. 1825 sem.2 (vol.1 w with fasc.6);
- fasc.14-16: *Edinb.J.Sci.* 2(1): 167-168. 1825 Jan. (with additional note);
- fasc. 17: *Edinb.J.Sci.* 2(2): 355. 1825 Apr.;
- fasc.19-20: *Edinb.J.Sci.* 3(2): 367. Oct.;
- fasc.19-24: *Bull.Sci.Nat.* 7(1): 77-80. 1826;
- fasc. 1-29: *London Gard.Mag.* 1(1): 47. 1826 (as from "1823"- "1826");
- fasc.25-34: *Bull.Sci.Nat.* 10(1): 96-98. 1827 Jan.;
- fasc.35-38: *Bull.Sci.Nat.* 14(5): 92-93. 1828 May;
- fasc.37-38: *Edinb.J.Sci.* 6(1): 186. 1827 Jan.

Bibliogr.studies:

- Stearn & v.Steenis-Kruseman: *Fl.Males.* ser.1, 4(5): CLXXXVIII. 1954;
- Stafleu, F.A.: *Taxonomic literature* n.532. 1967.

Dates and contents of fascicles:

vol.	fasc.	plates	text-leaves	date fasc.	publ.-date	latest date in the fasc.
1	1	1 - 17	A-D ⁴	[1812]	Aug. 1822) Apr. 1822 Oct. 1822 1 Nov. 1823
	2	18 - 33	F-H ⁴	[1822]	1 Dec. 1822	
	3	34 - 48	I-L ⁴ X ¹	[1823]	Apr. 1823	
	4	49 - 63	M-O ⁴ P ³	[1823]	1 Jun. 1823	
	5	64 - 79	² A-C ⁴ 2X ⁴ W ⁴	[1823] 1823	Dec. 1823	
2	6	80 - 84	4+1	[1824]	Jan. 1824) Aug. 1823
	7	85 - 89	4+1	[1824]	Feb. 1824	
	8	90 - 94	4	[1824]	Mar. 1824	
	9	95 - 99	4+1	[1824]	Apr. 1824	
	10	100 - 104	4+1	[1824]	May 1824	
	11	105 - 109	4+1	[1824]	Jun. 1824	
	12	110 - 113	4	[1824]	Jul. 1824	
	13	114 - 118	4+1	[1824]	Aug. 1824	
	14	119 - 123	4+1	[1824]	Sep. 1824	
	15	124 - 127	4	[1824]	Oct. 1824	
	16	128 - 132	4+1	[1824]	Nov. 1824	
	17	133 - 137	4+1	1824	Dec. 1824	
	18	138 - 141	4	1825	Jan. 1825	
	19	142 - 146	4+1	[1825]	Feb. 1825	
	20	147 - 150	4	[1825]	Mar. 1825	
	21	151 - 154	4+2	[1825]	Apr. 1825	
3	22	155 - 158	4+1	[1825]	May 1825	May 1825 Jun. 1825
	23	159 - 163	4+1	[1825]	Jun. 1825	
	24	163* - 167	4+1	1825	Jul. 1825	
	25	168 - 174	4+1	[1825]	Aug. 1825	
	26	173 - 177	4+1	1825	Sep. 1825	
2 3	27	178 - 181	W-3W ²	1825) Oct. 1825 Nov. 1825 Dec. 1825 Jan. 1826 Feb. 1826 Mar. 1826 Apr. 1826 May 1826 Jun. 1826 ? 1826 Dec. 1826 Jan. 1827	Aug. 1825 Oct. 1826 (summer 1826 + 3 months.
	28	182 - 185	4	[1825]		
	29	186 - 189	4	1825		
	30	190 - 194	4+1	[1826]		
	31	195 - 199	4+1	[1826]		
	32	200 - 204	4+1	[1826]		
	33	205 - 208	4	[1826]		
	34	209 - 212	4	[1826]		
	35	213 - 217	4+1	[1826]		
	36	218 - 222	4+1	[1826]		
	37	223 - 227	4+1	[1826]		
	38	228 - 232	4+1 W ⁴	[1827] 1827		

The dates on the fascicles are inferred, or derived from other sources ("1812", a misprint), when in brackets; the others I saw on offsets from fascicle-titles unless they are the dates of the volume titles (*'s). The publication dates are the intended dates, as far as I could ascertain from literature; the announcements in *Blackwood's Edinb. Mag.* are interpreted as pre-publication announcements of the publisher, unless they are the only dates available. The real publication may have been delayed beyond the dates given, especially of the later fascicles (see *Reviews*). The first two fascicles apparently had been delayed too; the month August of the first fascicle has been derived from Dr. Stearn's list in van Steenis-Kruseman, *Flora Malesiana*; our first review is dated October.

In some cases the latest dates in the fascicles have a bearing on the dates of publication, indicating that these are later.

The numeral 4 in the text column indicates a gathering of 4 leaves.

Reviews and announcements: see foregoing page.

Refs.: Arn.Arb.2: 350	Dunth. 209	Linn.Soc. 371	Pr.ed.1 n.4651
BMNH 871	E.As.Bot. 191	Lownd. 1108	Pr.ed.2 n.4215
Bradl.1: 267a	Graesse 3: 344	Niss. n.920	Sitw.Blunt 60
Brun.3: 302	Lindl.Libr. 209	Plesch 105	Teyl. 359
Cat.Juss. n.1550			Un.Edinb.2: 414.

Variants. The half-sheet imposition allowed a large-paper 4' state with only slight reimposition, but I have not seen any reference. Available with uncolored plates at reduced prices. Plate 132 of *Chryseiphala pauciflora* had a stop-press additional engraving of a leaf on the plant, which Hooker had received too late to include before printing; it turns up at random in different copies and is present in the HBL copy and in a copy in NYBG. The error 1812 on the wrapper of fasc.1 was possibly corrected during printing.

Bibl.notes. The three volumes were published in 38 fascicles with very unequal contents. Dr. Stearn established the distribution of plates and text over the first 17 fascicles. I was able to ascertain the contents of the remainder by studying the matching watermarks and deckle-edges of the gathering leaves of the HBL copy, and conjugate leaves in NYBG copy 1, and by checking other copies (Univ.Calif.copy, NYBG). There has been confusion about the contents of the three volumes, since the plans had changed. The gatherings signed with the second alphabet A-C in vol.1 was destined to form the first part of vol.2, but the second I of the Roman numeral of the volume indication in the direction-line was erased; the next gathering X had the correct indication of vol.1 printed without change, the text-leaf to pl.80 had "VOL. II", but the leaf to pl.81 by mistake "VOL. I". The end of vol.2 again was a source of confusion. The indexes for this volume only include names up to pl.154. The text-leaves to pls.155-163 still have the indication "VOL. II" in the direction-line on every recto; the preliminaries, finally, were issued with fasc.26. This explains the different copies with different breaks between vol.2 and 3; it was a matter of chance which of these three breaks came to the attention of the binder or the person instructing him. The collation given here represents the ideal copy as finally intended by the publisher.

The unsigned leaves with indexes could be bound at the end, or in another arrangement. I am convinced that the preliminaries were printed in half-sheet imposition too. The HBL copy has an errata-slip to 175, which probably was issued with a later fascicle.

The offsets discussed under *Fascicle titles* are present in the HBL copy obviously because it was stored in sheet-form for a long time: the plates of this copy have a much later watermark, with the date 1861, indicating a very late pull of the plates. In the other copies I examined I either did not find these offsets so well marked, or not at all. The copy of the Univ. of California has a few offsets. They are mainly to be seen on the last page of a fascicle, and sometimes on the first leaf. I considered the possibility that the fascicle title was printed on a leaf conjugate with the last single leaf of the fascicle of 5 leaves, forming a wrap-around, though this would have been an exception to the usage of having cheaper paper for the wrappers.

The preliminaries of vol.1 were issued with fasc.6 (*Flora* 8²(*Ergänz.* Bl.): 24. 1825).

Bot.notes. This important work reflects the extent of active plant introduction into Great-Britain, and Hooker's part in it. Many of the plates represent new species; some new genera and varieties are included. The English descriptions are ample and the notes give interesting details, often including the history of the introduction of the plants in Great-Britain. The drawings are meticulously prepared and executed. Some of the names were changed in the indexes, e.g. *Alstroemeria tricolor* Hooker, pl.65, into *A. pulchra* Sims (index vol.1: v) and *Calceolaria paralia* Cavanilles, pl.75, into *C. corymbosa* Cavanilles (already on the correction slip, probably issued with the same fascicle); the generic name *Stelis* is correct on the plate (185) and in the indexes, but misprinted *Stetis* in the text.

Some mosses are mentioned incidentally as companions in the natural habitat of some species. This might be an excuse, if one is needed, to treat this interesting work here. I especially thank my colleague D.E. Kalk for letting me take over the description of this title when he was studying it and I realized the problems it offered.

HOOKER, William Jackson & GREVILLE, Robert Kaye

1 Sketch of ... the genera Orthotrichum, ... Glyphomitrium, and Zygodon.

Edinburgh J. Sci. 1(1): 110-133. pls. 4-6. 1824 July.

Head-title: "ART.XXIII.—Sketch of the Characters of the Species of | Mosses belonging to the Genera Orthotrichum, (including | Schlotheimia, Mioromitrium and Ulota), Glyphomitrium, and | Zygodon. By W.J.HOOKER, LL.D. F.R.S. &c. &c. Re-|gius Professor of Botany in the University of Glasgow; and | R.K.GREVILLE, LL.D. F.R.S.E. &c. &c. with three Plates. | Communicated by the Authors."

Collation: 8°: H7v-K3r; 110-133.

Contents: 110 head-title; 110-111 introduction; 111-133 text, descriptions of the genera Orthotrichum (111) with 59 species, Glyphomitrium (130) with 1 species and Zygodon (132) with 2 species.

Plates: 3 copper-engravings of moss species, numbered: "PLATE IV." - "PLATE VI.", with 8 figures each; plate-marks cut off in copies examined (Library Trinity College, Dublin; UB Utr.).

Artists: plates unsigned.

Engraver: Swan, J., Glasgow (pls. signed).

Paper: leaf height 219 mm. (copy UB Utr., cut); wove; no wm.

Printers: A. Balfour & Co., Edinburgh (t.-p. vol.).

Date: 1824 Jul. (issue dated; each gathering having date in the direction-line of the first page); after 7 Jun. (date of preface to the periodical fascicle); probably 1 Jul. 1824 (fascicle contains astronomical table for 1 Jul. - 1 Oct.)

Refs.: RSC 3: 424 Flora 8(20): 317-318. 1825 May 28.

Note. Monograph of a group of three related genera, with a number of new species and new combinations. Probably existing as a separate, but not seen.

2 On the genus Tortula ...

Edinburgh J. Sci. 1(2): 287-302. pl. 12. 1824 Oct.

Head-title: "ART.XIII.—On the Genus TORTULA, of the Order MUSCI. | By W.J.HOOKER, LL.D. and F.R.S. and F.L.S.; and | R.K.GREVILLE, LL.D., F.R.S.E. &c. Communi-|cated by the Authors."

Collation: 8°: U6-X5; 287-302.

Contents: 287 head-title and introduction; 288-302 text, descriptions of the genus Tortula with 37 species and a number of varieties.

Plate: 1 copper-engraving of species of Tortula, numbered: "XII"; plate-mark: 213 x about 133 mm.

Artist: Greville, R.K., co-author (which see).

Engraver: Swan, J., Glasgow.

Paper: leaf height 219 mm. (copy UB Utr., cut); wove; no wm.

Printers: A. Balfour & Co., Edinburgh.

Date: 1824 Oct. (issue dated); probably 1 Oct. 1824 (astron. table 1 Oct. - 1 Jan.).

Refs.: RSC 3: 424 Flora 8(20): 318. 1825 May 28.

Notes. Monograph of the genus Tortula Hedwig, Musci, in a wide concept, including Barbulula Hedwig (and some modern segregates). 37 species are described, and a number of varieties, not all with varietal epithets. A considerable number of new combinations are present, insofar as they had not been made earlier by Hooker, and five new species were proposed. The text refers to plate "XI" as well as to "XII". However, all figures were united in pl.12, and pl.11 belongs to another article. The assistance of G.A.Walker Arnott (which see) concerning species of Bridel was acknowledged. Possibly a separate was prepared, but I did not find an indication.

3 On the genus *Hookeria* of Smith ...

Edinburgh J. Sci. 2(2): 221-236. pl. 5. 1825 Apr.

Head-title: "ART. IX.—On the Genus *Hookeria* of Smith, of the or-der Musci. By W.J. HOOKER, LL.D. F.R.S. &c. &c. | Regius Professor of Botany of the University of Glasgow, | and R.K. GREVILLE, LL.D. F.R.S.E. &c. &c. Com-municated by the Authors."

Collation: 8°: P7-Q6; 221-236.

Contents: 221 head-title; 221-236 text, Latin description of the genus *Hookeria* (221), discussion, including the remark: The well-known moss *Hypnum lucens* is to be considered the type of the genus. (221-225), and descriptions of 35 species of *Hookeria* (225-236). RT: author names and title of article over two pages.

Plate: 1 copper-engraving, figuring 12 species of *Hookeria* (some by leaves only); plate-marks cut off in copies seen; number cut off?

Artist: Greville, R.K., co-author (which see).

Engraver: Swan, J., Glasgow.

Paper: leaf height 219 mm. (copy UB Utr., cut); wove; no wm.

Printer: Stark, John, Edinburgh.

Date: 1825 Apr. (issue dated), probably 1 Apr. (astron. table for 1 Apr.-1 Jul.).

Ref.: RSC 3: 424.

Note. Monograph of the genus *Hookeria* J.E. Smith, *Musci*, with the description of a considerable number of new species from the tropics, and 5 dubious species, apparently not seen by the authors.

4 On the genus *Hookeria* of Smith of the order *Musci*.

Edinburgh, 1825 [separate].

Head-title: not transcribed; not essentially different from the article in the periodical, but probably reset, without the article number.

Collation: 8°: 7⁸; 1 2-16.

Contents: 1 head-title; 1-16 text, description of the genus (1), discussion of its history (1-5), and description of 35 species (5-16), of which 5 dubious (15-16). RT: author names and title of article over two pages. Language: English, with Latin descriptions (phrases).

Plate: 1 copper-engraving of 12 species of the genus *Hookeria*, unnumbered (at least in trimmed copy of NYBG), generic name at the top, specific names below each figure in italics; plate-mark not measured (copy cut).

Artist, engraver and printer: see periodical article.

Paper: leaf height 209 mm. (NYBG copy, cut); wove; no wm.; plate paper: wove; no wm. (NYBG copy).

Date: 1824, about April (date of issue of periodical), possibly a pre-publication issue, if the plate number really is missing (this would prove an earlier printing of the plate, not necessarily an earlier publication).

Note: see n.3.

5 On the genus *Calymperes* of Swartz and *Syrrophodon* of Schwaegrionen ...

Edinburgh J. Sci. 3(2): 218-227. 1825 Oct.

Head-title: "ART.IV.-On the Genus *Calymperes* of Swartz and *Syrrho-*|*podon* of Schwaegrionen, of the Order *Musci*. By W.J.|HOOKER, LL.D. F.R.S. &c. &c. Regius Professor of Bo-|tany in the University of Glasgow, and R.K.GREVILLE, |LL.D. F.R.S.E. &c. &c. Communicated by the Authors."

Collation: 8°: O₅V-P₂R; 218-227.

Contents: 218 head-title; 218-221 introduction; 221-227 text, descriptions of the genera *Calymperes* (221) with 6 species (221-223), and *Syrrophodon* (223) with 11 species (223-227). RT: author names and title of article over two pages.

Paper: leaf height 219 mm. (copy UB Utr., cut); wove; no wm.

Printer: Stark, John, Edinburgh.

Date: 1825 Oct. (issue dated); probably 1 Oct. (astron. table for 1 Oct. - 1 Jan.)

Ref.: RSC 3: 424.

Notes. Monograph of the genera of *Musci*: *Calymperes* and *Syrrophodon*, both of the warmer regions, including one new species of the first (*C. guilidingii*) and four of the second (*S. fasciculatus*, *S. rigidus*, *S. spiculosus*, and *S. rufescens*). A separate is likely, but I have not seen one.

HOOKER, William Jackson & TAYLOR, Thomas

1 Muscologia Britannica ...

London, 1818.

Title: "Muscologia Britannica | CONTAINING | THE MOSSES | of Great Britain and Ireland [line in gothic] | SYSTEMATICALLY ARRANGED AND DESCRIBED; | WITH PLATES ILLUSTRATIVE OF THE CHARACTERS OF THE | GENERA AND SPECIES. | [short thick-thin rule] | BY | WILLIAM JACKSON HOOKER, F.R.S. A.S.L.S. | AND MEMBER OF THE WERNERIAN SOCIETY OF EDINBURGH, | AND | THOMAS TAYLOR, M.D. M.R.I.A. & F.L.S. | AND FELLOW OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS OF | IRELAND. | [short thin-thick rule] | LONDON: | PRINTED BY RICHARD AND ARTHUR TAYLOR, SHOE LANE; | FOR LONGMAN, HURST, REES, ORME, AND BROWN, | PATERNOSTER ROW. | [very short rule] | 1818."

Collation: 8°: a²(+a₁[or a₂]) b-c⁸ d² B-K⁸ L⁴; I-IV i ii-xxxv xxxvi
1 2-152 (xix xxxiii).

Contents: I title; II □; III dedication to James Dalton (1764-1843), rector of Croft (Yorkshire), botanist; IV □; i-x introduction; xi-xiii key to genera; xiii-xxxii key to species; xxxiii-xxxv sources; xxxvi addenda & emendanda; 1-128 text, descriptions of British genera and species of *Musci*; 129-136 index; 137-152 explanation of the plates; 152 imprint with vignette of oil lamp. RT: in text generic names, elsewhere chapter headings. Language: English.

Plates: 31 copper-etchings with engraving, of mosses, usually uncolored, in a number of copies hand-colored, numbered: "Tab. I." - "Tab. XXXI", the lower part of the last plate separately numbered: "SUPP.I."; pls.1-3 with the indication "GENERA." at the top of the plate and the generic name above and the specific names below the figures; plate-mark: 189 × 114 mm. (pl.1).

Artist: Hooker, William Jackson, the first author, as far as I know all plates; unsigned: pls. 1, 9, 12-15, 18-22, 30-31.

Engravers: Edwards, W.H.C., (see Hooker n.1): pls. 2-6, 8, 10-11, 16-18, 22-29; Curtis, J. (1791-1862): pls. 2, 19-20, 30-31; Hooker, William Jackson, the first author: possibly the remaining unsigned plates 9, 12-15 (perhaps assisted by his wife).

Paper: leaf height 210 mm. (NYBG copy, cut); wove; no wm.;
plate paper: wove (thicker than text paper); no wm.

Printers: Taylor, Richard, and Taylor, Arthur, London.

Publishers: Longman, Hurst, Rees, Orme & Brown, London.

Date: 1818 (t.-p.), 1 Jan. (announced on the wrapper verso of fasc.1 of W.J. Hooker, *Musci exotici*, 1 Jan. 1818, stating that the present work would be published on the same day (L copy)).

Reviews and announcements: *Blackwood's Edinb. Mag.* 1818 Jan.;
Peddie & Waddington: *Engl. Cat. Books* 1818 Feb.;
Monthly Lit. Adv. 1818 Feb. 10;
Rev. Encycl. 1819 Jan.-Mar.
J. Sav. Paris 1818(7): 448, 1818 Jul. (states: "London, 1817");
Ann. Sci. Arts Lett. 2(2)App.: (13). 1818. } derived from Sayre;

Bibliogr. studies: Sayre, G.: *Dates of publ.* 56, 1959;
Staflou, F.A.: *Taxonomic literature* n.546, 1967.

Refs.: BMNH 872	Kew-S 156	Milt. 485
Brun. 3: 300	Krüg. 242	Niss. n.930
Graesse 3: 344	Lindl. Libr. 210	Pr. ed. 1 n.4647
Jacks. 241	Linn. Soc. 372	Pr. ed. 2 n.4211
Kew 289	Lownd. 3: 1107	Un. Edinb. 2: 414.

Variants: title-cancellandum: see *Bibl. notes*; certainly issued in colored as well as in uncolored state; up to now no indication of large paper copies of the text; "The plates also published separately in 4to form, coloured in a very superior manner, by George Graves." (J.D. Hooker: *Ann. Bot.* 16: xcii. 1902); a copy in Kew-S 159 is listed as from 1820; a set of the plates on large paper is in the HBL, without a title.

Bibl. notes. Probably the copy reviewed in *J. Sav. (Paris)* as dated 1817 concerned a copy with the title-page cancellandum, which would explain the cancellans with the date 1818, and makes the date 1 Jan. 1818 for actual publication more likely. From the prompt publication of *Musci exotici* it may be inferred that this work was also effectively published on the planned date 1 Jan. 1818.

Bot. notes. Important British mossflora, the first specially devoted to the *Musci* proper of all the British Islands, since Linnaeus. The treatment of genera and species is conservative, not even all genera of Hedwig were accepted, e.g. *Barbula* and *Tortula* were united, as were *Fissidens* and *Dicranum*. A number of forms new to the British Islands were recorded here and a number of new combinations were introduced in bryology. According to modern rules of nomenclature, however, many of these, especially at variety level, are illegitimate, if epithets for varieties are present at all.

2 *Muscologia Britannica* ...

Ed. 2. London, 1827.

Title: "MUSCOLOGIA BRITANNICA; | CONTAINING | THE MOSSES | OF | GREAT BRITAIN AND IRELAND, | SYSTEMATICALLY ARRANGED AND DESCRIBED; | WITH | PLATES ILLUSTRATIVE OF THE CHARACTERS | OF THE | GENERA AND SPECIES; | BY | WILLIAM JACKSON HOOKER, LL.D., F.R.S., & L.S. | AND REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW, | AND | THOMAS TAYLOR, M.D., M.R.I.A., & F.L.S. | FELLOW OF THE KING AND QUEEN'S COLLEGE OF PHYSICIANS OF IRELAND, AND | PROFESSOR OF NATURAL HISTORY IN THE ROYAL INSTITUTION OF CORK. | Second Edition, Corrected and Enlarged. [line in gothic] | LONDON: | PRINTED FOR LONGMAN, REES, ORME, BROWN, & GREEN; | PATERNOSTER-ROW. | [very short rule] | 1827."

Collation: 8°: a-b⁸ c⁴ A-R⁸ (I, as 'I'); i-v vi-xxxvii xxxviii-xl 1 2-272 (xxxviii-xxix xxxxi-xxxiii xxxv 271 242-243 255 257, xi as 'x').

Contents: i title; ii imprint; iii dedication to James Dalton (as in ed.1); iv □; v-xxvii introduction to the second edition, undated, including a list of species found by Thomas Drummond on his first journey in North America, up to Fort Franklin, sent by Dr. Richardson (vii); xxxviii □; xxxix-xxxi key to British genera of mosses: "MUSCORUM BRITANNICORUM | GENERUM | CLAVIS ANALYTICA."; xxxii □; xxxiii-xxxiv addenda & corrigenda; xxxv-xxxvii sources: "AUCTORES CITATI. | LIST OF THE PRINCIPAL AUTHORS QUOTED."; xxxviii □; xxxix half-title to the text: "BRITISH MOSSES."; xl □; 1-210 text, headed: "BRITISH MOSSES."; 211-241 "APPENDIX", treating the British hepatics; 242 □; 243-254 index to the *Musci*; 255-256 index to the *Hepaticae*; 257-272 explanation of the plates. RT: centered: name of class or order, in capitals; inner corner: name of genus in italics. Language: English, except for key to the genera which is in Latin; no Latin descriptions in the text.

Plates: 36 copper-etchings with engraving, of mosses, uncolored or hand-colored, numbered: "Tab.I." - "TAB. XXXI" and "Suppl. T. II." - "Suppl. T.VI." (Suppl. I as in ed.1 lower part of pl.31); pls.1-31 identical with those of ed.1; suppl.pls.2-6 only with binomials below the figures; plate-mark: 199 × 126 mm. (suppl.pl.6).

Artist: Hooker, William Jackson, the first author: all plates.

Engravers: W.H.C. Edwards, J. Curtis, W.J. Hooker: pls.1-31 (see ed.1); Edwards, William Camden, London (see p.xxv): suppl.pls.2-5 (pls.3, 5, 6, signed explicitly: "W. C. Edwards Scpt").

Paper: sheet size 564 × 461 mm. (BMNH copy, slightly trimmed); wove; no wm.; plate paper: wove, thicker than text paper; wm. indistinct, not deciphered, possibly two lines of letters, horizontal lines present, superimposed on the wire system, possibly from a dandy-roll of machine-made paper (HBL copy).

Printer: Glasgow University Press.

Publishers: Longman, Rees, Orme, Brown & Green, London.

Date: 1827 (t.-p.), probably 1 Jan. (Sayre, *Dates of publ.* 56. 1959 cited a letter from Arnott to Hooker, now at Kew, indicating that printing was completed in August 1826; *Edinb.J.Sci.* 6(1): 186. 1827 Jan. first?, of which W.J. Hooker was the collaborator for botany, stated: "just ready for publication"; the fasc. of this journal was prepared for printing in the first weeks of Dec.1826).

Pre-publication announcements:

Flora 6(15): 249. 1823 ("nächstens"), 7(20): 317. 1824 (delayed);
Ann. Philos. n.ser. 7(3): 237. 1824 (in the press), 8(1): 77. 1824 (same);
Edinb.J.Sci. 2(1): 185. 1826 Jan. (delayed), 6(1): 186. 1827 Jan. 1.

Refs.: BMNH 872	Kew 289	Mass.HS-M 2: 250	Stafl. TL n.546
Brun.3: 300	Linn.Soc. 372	Niss. n.930	Teyl. 410
Graesse 3: 344	Lownd.3: 1107	Pr.ed.1 n.4654	Un.Edinb.2: 414.
Jacks. 241	Mass.HS-H 145	Pr.ed.2 n.4211	

Variants: only variant to my knowledge: hand-colored or uncolored plates, prices: "1l. 11s. 6d. plain, and 3l. 3s. coloured plates" (publisher's announcement in a folded octavo sheet of advertisements of the publisher, p.7, n.33, dated Oct. 1827, which is bound with copy BMNH).

Bibl.notes. There was a long delay in the publication of this edition (see pre-publication announcements). This explains the numerous press figures (numbers in the direction-line, associated with individual compositors or presses): 3 (boi), 4 (Qoi), 7 (aoi Moi), 8 (Ao Boi), 9 (co Oi Poi Roil), 10 (D-Hoi), 11 (Ci), 13 (Lo), 16 (Co Ioi Li), 18 (Koi), confirming that printing proceeded very slowly (o stands for outer forme, i for inner forme).

Bot.notes. Revised edition, with the important appendix with *Hepaticae*. The literature of the period since the first edition has been cited, and occasionally answered, e.g. in the long footnote to *Hypnum proliferum* (171-173). The numbers of the exsiccata of Hobson, *Brit. mosses* and of Thomas Drummond, *Musci Scotici*, are cited. The treatment of genera and species of *Musci* is in the main the same as in the first edition.

HOPPE, David Heinrich

Biogr. Born 1760 Dec. 15, Vilsen, Hannover, Germany.

Died 1846 Aug. 1, Regensburg, Bavaria, Germany.

Hoppe learned pharmacy with the court pharmacist at Celle (Hannover), and later was assistant pharmacist in Hamburg, Halle, Wolfenbüttel and Regensburg, in all these places actively botanizing; in fact he had chosen pharmacy to be able to find a living in botanical work. He acquired a good practical knowledge of the plants in the environments of the places where he worked.

In Regensburg he was instrumental in founding the Regensburger Botanische Gesellschaft (1790). He also edited *Hoppe's Botanisches Taschenbuch* (1790-1804; a final volume was edited by Fürnrohr with Hoppe's biography, Regensburg, 1849).

He studied medicine and natural history at the University of Erlangen (1792-1796), received the degree of D.M., and settled as a physician in Regensburg. He taught natural history at the Lyceum in Regensburg, and made it a custom to go each summer to the Alps near Salzburg and Heiligenblut, with one of the most interesting experiences an ascent of the Gross-Glockner.

He concentrated more and more on botany and prepared many collections for sale, including a number of exsiccata of alpine plants.

He married in 1795; his wife died in 1805. He was survived by a daughter. His name was commemorated in the generic names *Hoppea* Willdenow 1801 (*Gentianaceae*), *Hoppea* Reichenbach 1824, considered a synonym of *Senecio* L. (*Compositae*), and *Hoppia* Nees 1842 (*Cyperaceae*).

Refs.: Hoppe, D.H. & Fürnrohr, A.E.: *Selbstbiographie*, ergänzt von A.E. Fürnrohr. *Hoppe's Bot. Taschenb.* 23: 1-352, 1849.

R[eichardt?]: *Allg. Deutsche Biogr.* 13: 113-114, 1881.

1 Bemerkungen über einige Pflanzen Deutschlands, nach Anleitung von Steudel und Hochstetter *Enumeratio Plantarum Germ. Helv. indigenarum.*

Flora 10(32): 497-511, 1827 Aug. 28; (33): 524-528, 1827 Sep. 7;
(36): 561-573, 1827 Sep. 28; (41): 647-656, 1827 Nov. 7.

Collation etc.: see *Flora*.

Refs.: RSC 3: 430.

Note. Contains on p.654-656 critical remarks on the mosses, mostly additional localities or species.

HORNEMANN, Jens Wilken

Biogr. Born 1770 Mar. 5, Marstal, island Aarø, Denmark.

Died 1841 Jul. 30, Copenhagen, Denmark.

Hornemann was home-educated, and at the age of 14 he went to the island Fyn, and later to Copenhagen, where he entered the university in 1788, receiving a prize for a botanical paper. After traveling in Europe he was a supervisor of forests on Falster late in 1800. He became successively editor of the *Flora Danica* (*Icones Florae Danicae*) in 1803, extraordinary professor of botany at the University of Copenhagen on 23 Apr. 1808 and ordinary professor on 18 Jul. 1817. He was rector of the University in 1830-31 and became Ph.D. honoris causa in 1836.

He married Marie Judithe Horneman on 9 Oct. 1801; she died 14 May 1830. He was commemorated in the generic names *Hornemannia* Willdenow 1809, now a synonym of *Mazus* Loureiro (*Scrophulariaceae*) and *Hornemannia* Vahl 1810, included by some authors in *Thibaudia* Ruiz & Pavon 1802 (*Vacciniaceae*).

Refs.: *Flora* 25(9): 141-147, 1842.

Bot. Tidskr. 12: 88-92, 1880.

Erslew, T.H.: *Almindeligt Forfatter-Lexicon Konger. Danmark 1814-1858.*

1 *Nomenclatura florae Danicae* ...

Hafnia [Copenhagen], 1827.

Title: "NOMENCLATURA | FLORÆ | DANICÆ | EMENDATA | CUM INDICE SYSTEMATICO ET | ALPHABETICO. | [short rule] | AUCTORE | J. W. HORNEMANN, | PROFESS. BOTANICES ORDIN. EQVITE AURAT. ORDIN. DANNEBROG. | [full thick-thin rule] | HAFNIÆ. | TYPIS HARTV. FRID. POPPII. | [very short rule] | MDCCCXXVII." (see Variant).

Collation: 8°: w¹ *⁸(+*¹) 2*⁶(+2*⁵) 1-13⁸ 14² x²(-x₂ = cancellans *₁) (\$2 signed \$*); i-ii I-III IV-XXVIII 1 2-214 (XXVII 100 160 209, 208 as '108').

Contents: i title; ii □; I dedication to the King [Frederic VI of Denmark (1768-1839)]; II □; III-XXVI preface, undated; XXVII-XXVIII abbreviations of author's names; 1-99 nomenclature of Oeder, *Icones florae Danicae* [2°, known as *Flora Danica*, not to be confused with Oeder, *Flora Danica*, 8°, which has only text], in numerical sequence, listing the original names and the equivalents accepted by Hornemann, grouped according to fascicles, of which the authors are stated; 100-159 systematical index in the Linnaean classification of the names accepted by Hornemann; 160-208 alphabetical index of all binomials; 209-214 corrections and additions. RT: chapter headings, or in the part with numerical sequence fascicle-numbers and their editors. Language: Latin.

Paper: leaf height 184 mm. (HBL copy, cut); laid, chains vertical; wm.: "[fleur-de-lis] = C & H HONIG".

Printer: Popp, Hartv. Frid., Copenhagen.

Date: 1827 (t.-p.), late (see Variant).

Refs.: Arn.Arb.1: 352	Graesse 3: 371 ('1828')	Linn.Soc. 374
BMNH 876	Heins.8(1): 370 ^b	Pr.ed.1 n.4702
Bradl.1: 353a	Kew 290	Pr.ed.2 n.4268
Brun.1: 338 ('1828')	Krüg. 126 ('1828')	Teyl. 434 n.49.

Variant. A variant with the title-page date 1828 is recorded in several of the references; no copy seen. See the *Bibl.notes*, where the cancels are also discussed.

Bibl.notes. The title-page is a single leaf. It is likely that it formed with its discarded conjugate leaf a quarter-sheet above the quarter-sheet 14; the watermarks I checked do not contradict this supposition. The dedication, cancellans *₁, is in several copies (including the HBL copy) still conjugate with the correction leaf x. The cancellans 2*⁵ might have been part of a half-sheet with the pair x₁*₁, but not the title w. Possibly the cancellandum *₁ was an original title, even with the date 1828, which was replaced at the explicit wish of the author when it appeared that the book could be brought out in 1827, but this is conjecture and does not explain the situation completely.

Bot.notes. Hornemann gave in this book the nomenclature of all plants of the plates of the important series *Icones florae Danicae*, which work itself is not included in this thesis partly because there are no new combinations for mosses in the period, though some plates of mosses were included in the fascicles of these years. However, I had not the time to treat this long series in a sufficient way. A much later review of the nomenclature was given by Lange, J.M.C.: *Nomenclator "Florae Danicae" sive Index systematicus et alphabeticus operis* ... Havnia, 1887. No new combinations seen in Hornemann's nomenclature.

HORNSCHUCH, Christian Friedrich

Biogr. Born 1793 Aug. 21, Rodach, Sachsen-Coburg, Germany.

Died 1850 Dec. 29, Greifswald, Vor-Pommern, Germany.

Hornschuch was already interested in natural history during his elementary school period in his native town. After the death of his father (a pharmacist) he became a pupil at the court pharmacy at Bartenstein (Hildburghausen). He went to Regensburg in 1813 as an assistant in a pharmacy, and there he botanized with Hoppe (which see). Hornschuch then came in the same position in the pharmacy of Funck (which see) at Gefrees, where bryology became his favorite study. With Hoppe he traveled through the Alps to the Adriatic Sea, 1816, and to Tyrol and Carinthia, 1817. They also founded the periodical *Flora* in 1818.

Hornschuch was nominated "demonstrator botanices" at the University of Greifswald on 28 Jan. 1817 as the successor of Ledebour; he started his lectures in April. On 7 April 1819 he was nominated supervisor of the natural history museum and of the botanical garden at Greifswald. In 1819 he was for three months in Berlin, studying the mosses of Willdenow's herbarium. After this he traveled to Sweden where he visited C.A. Agardh, and returned via Copenhagen.

In Apr. 1820 Hornschuch was nominated extraordinary professor of natural history and botany and director of the botanical garden in Greifswald. On 26 Feb. 1827 he was nominated Professor ordinarius. He received the degree Dr. med. hon. causa. In 1836 he became rector magnificus of the University of Greifswald for the term of a year. He made several other travels, e.g. in 1823 to Switzerland and Paris, returning via Holland and Hamburg, and in 1826 to the Alps in Tyrol. He went to Sweden for important meetings, e.g. the festivals of the Swedish Academy of Sciences in Jul. 1842.

Hornschuch was an eminent bryologist, publishing several articles on mosses, and co-author of the *Bryologia Germanica*. His views on the development of organisms were strongly influenced by the "Naturphilosophie" of Schelling and others; algae, lichens and mosses could, in his opinion, grow out of the "Priestleyan green matter" by the influence of light, air, and the formative vegetabilic principle. Similar ideas were proposed by Cassebeer (which see).

The valuable herbarium of Hornschuch came after his death to Laurer (which see), and finally to the Botanische Staatssammlung at Berlin, where it was destroyed during World War II.

Hornschuch was commemorated in the generic names *Hornschuchia* C.G. Nees von Esenbeck 1821 (*Annonaceae*), *Hornschuchia* Sprengel 1822 (*incertae sedis*), and *Hornschuchia* Blume 1823 (= *Cratoxylon* Blume, *Hypericaceae*).

Refs.: Flora 34: 62-63. 1851.

Häcker: *Allg. Deutsche Biogr.* 13: 158. 1881.

Dittrich, Mauritz: Christian Friedrich Hornschuch (1793 bis 1850) als Botaniker (ein Beitrag zu seiner Biographie). *Festschr. 500-Jahrfeier Univ. Greifswald* 2: 540-547. 1956 (with portr. as rector of the university, list of publications, and two reproductions from his works).

1 *Ptychostomum novum muscorum frondosorum* genus.

Sylloge plantarum novarum 1: 62-64. 1824 [1822].

Head-title: "Ptychostomum novum muscorum frondo-|sorum genus. Constituit et descripsit Dr. | Hornschuch."

Collation: 8°: D7v-D8v; 62-64.

Contents: 62 head-title; 62-64 text, description of the new moss genus *Ptychostomum* with three species.

Date: 1824 (t.-p.); 1822 (see *Sylloge plantarum novarum*).

Bot.note. Hornschuch proposed a new genus on a peculiarity of the peristome. The group is now usually treated as a subgenus of *Bryum*.

2 Bryologia germanica. 1823-1831.

See Nees von Esenbeck, C.G., Hornschuch, C.F. & Sturm, J. n.1.

3 Diagnosen neuer Laubmoose und andere die Mooskunde betreffende Notizen.

Flora 8(5): 77-80. 1825 Feb. 7.

Collation etc.: see Flora.

Contents: 77 head-title; 77-80 text, descriptions of 5 new species of mosses, a number of new localities of rare species, and a new variety. Language: German, with Latin descriptions.

Notes. Descriptions of the new species *Tayloria acuminata*, *Hypnum freuchenianum*, and *Dicranum moerkianum* (p.78), *Gymnostomum globosum*, *G. confertum* (p.79), and of the new variety *G. ovatum* & *mucomulatum*, (p.80). Moreover the localities of several rare species are reported.

4 Beitrag zur Geschichte der Fortschritte in der Kenntniss der Moose, nach den Schriften der Ältern Botanikern bis auf unsere Zeit.

Flora 8(14): 209-223. 1825 Apr. 14; (15): 225-240. 1825 Apr. 21.

Collation etc.: see Flora.

Ref.: RSC 3: 439.

Note. Interesting discussion of the history of bryology.

5 [Über die von R. Brown entworfene Flora der Melville Insel.] Under the heading: "Correspondenz".

Flora 8(16): 249-254. 1825 Apr. 28.

Collation etc.: see Flora.

Note. Discussion of the merits of R. Brown's article, and a comparison of the arctic vegetation of Melville Island and the alpine vegetation of the Gross-Glockner, in which a pair of moss species are mentioned.

6 Musci. In: Presl, K.B.: *Reliquiae Haenkeanae* ... vol.1(1): 13. 1825.

Head-title: "MUSCI. JUSSIEU. | F. Hornschuh[sic], M. D. Prof. Gryph."

Collation etc.: see Presl n.1.

Note. Hornschuch published the determination of 2 moss species from the collections of T. Haenke: *Mnium palustre* from Nootka-Sound, N.Am., and *Hypnum spiniforme* from Peruvia, S.Am.

7 [Review of Schwaegrichen: Species Muscorum Supplementum 2 vol.1(1).]

Flora 8²(Ergänz.Bl.): 1-23. 1825.

Head-title: full title of the reviewed book (see Schwaegrichen n.1) in italics.

Collation etc.: see Flora.

Date: 1825, sem.2 (title of half vol.), probably late (if early, it would most likely have been included in a "Beilage"), or 1826, early (not later than Beil.5, since its contents listed the articles of this *Ergänzungsblatt*).

Notes. This detailed review of the fascicle of Schwaegrichen's large work praised it in general. The circumscriptions and characters of several genera, however, were discussed or criticized, as were those of some species. Two new genera were proposed: *Bruchia* Hornsch. p.10, based on *Pterogonium tenue* (Hook.) Schwaegr., and *Walkeria* Hornsch., p.21, based on *Triachostomum leucoloma* Schwaegr.

8 Berichtigung.

Flora 10²(Beil.1): 98. 1827 [1828?].

Collation etc.: see Flora.

Note. Correction to Nees, Hornschuch & Sturm, *Bryologia Germanica* (which see), concerning the names on pl.20, *Grimmia donniana* and *G. sudetica*; these must be interchanged.

9 [Review of Bridel: *Bryologia universa*.]

Jahrbücher für wissenschaftliche Kritik 1828¹(55/56): 442-448;
(57/58): 449-464; (59/60): 465-472. 1828 Mar.

Head-titles: col.442: "XX. | Samuel El. a Bridel-Brideri a consiliis se-|cretis
legationes Saxo-Gothanae etc. *Bryologia* | *universa* seu systematica ad novam
methodum | dispositio, historia et descriptio omnium musco-|rum frondosorum
hucusque cognitorum cum | synonymia ex auctoribus probatissimis. Acco-|dunt
tabulae aeneae tredecim. V. I. II. Lipsiae, | apud Barth. 1826-27. XLVI. 856
et 848."; col.449: same, except: "*cognitorum* etc. | (Fortsetzung.)";
col.465: same, except: "*cognitorum* etc. | (Beschluss.)".

Collation: 4": 28_{3,4} 29" 30_{1,2}; [columnation:] 442-448 449-450 451-464
465-466 467-472.

Contents: 442, 449, 465 head-titles; 442-472 text, ample review of Bridel, *Bryologia universa* (which see), with many opinions on the circumscriptions and characters of genera and species and three generic names. RT: name of reviewed book. Language: German.

Paper: leaf-height 266 mm. (copy UB Leiden, cut); laid, chains horizontal;
wm. not studied (probably some outline capitals).

Printer: no imprint.

Publisher: Societät für wissenschaftliche Kritik, Berlin, in collaboration with
J.G. Cotta, Stuttgart & Tübingen.

Date: 1828 Mar. (head-title of fascicles as well as wrapper-title of the group of
5 fascicles concerned).

Notes. Important review of Bridel, *Bryologia universa*, 1826-27, praising the thoroughness of the work and supporting in general the many generic segregations and the efforts to achieve a natural classification. Hornschuch's two new genera are *Erpodium* (raised from subgeneric rank, col.450 & 466) and *Braunia* (based on *Neckera* subg. *Distichia*, col.467); he proposed the new generic name *Ulophyllum* (col.458) for the illegitimate homonym *Brachypodium* Brid. In detail Hornschuch expressed many different circumscriptions of taxa or stressed other characters, or gave the result of recent research, e.g. the genus *Holzia* Sieber was stated to represent *Dionemon oalyginus* Schwaegr. (col. 467), as checked by reliable bryologists. Together with the new generic name these independent opinions warrant the treatment of this review as an article here.

10 [Review of Arnott: *Disposition méthodique des espèces de mousses*.]

Jahrb. Wiss. Krit. 1828¹(69/70): 557-560; (71/72): 561-569. 1828 Apr.

Head-title: col.557: "*Disposition méthodique des espèces de mousses* par | G. A.
Walker-Arnott, A. M. Paris 1825. 4. 72.".

Collation: 4": 35, 36_{1,2,3}; [columnation:] 557-560 561-562 563-569.

Contents: 557, 561 head-titles; 557-569 text, critical review, sharply rebuking the lumping of Arnott as superficial. RT: title of reviewed work. Language: German.

Paper & publisher: see Hornschuch n.8.

Date: 1828 Apr. (head-titles of fascicles as well as wrapper-title of group of
5 fascicles).

Notes. Review of one of the main articles treated in this thesis (Arnott n. 5), stating that a copy was sent to Hornschuch by the author from Paris (apparently before Feb. 1826, see discussion under Arnott), mentioning the two forms of the article in the periodicals and their relative order, and indicating, erroneously, that the 4° separate was published later than the two forms in the periodicals, and that it was available in the book-trade.

Hornschuch replied firmly to the criticisms of Arnott on the splitting of new species and genera of the German authors, and gave an interesting discussion of the problem of lumping and splitting. He ended the review with the mildly ironical sentence: we ask the Author to use in future with his determinations the compound microscope, from which he will realize his own mistakes, and his disdain for the works of the Germans will change into esteem, and in this conviction we pardon him already now for all injustices ("Unbill") against us.

ISIS (Oken).

Jena (later Leipzig), 1816-1848.

Collation: 4°; in monthly fascicles with (often discarded) fascicle wrappers which had information on books just received, or advertisements of plant collections etc.; the earlier volumes were accompanied by *Literatur-Anzeiger* and *Beylagen*. Details not studied.

Dates: The first 3 fascicles were published in 1816; the remaining 12 fascicles of vol. 1, of which the numbers 11 and 12 were combined into one (11/12), were dated 1817; up to 1827 12 fascicles were produced each year, arranged into 2 volumes; in 1827 and 1828 a small number of combined fascicles were published, and the volumes contained the fascicles of the whole year. Occasionally the publication had a few weeks delay. e.g. fasc. 3(12) of 1818 (December) cited *Flora* 2(2) of 14 Jan. 1819.

Notes. Though it was outside my field to prepare collations of this periodical, I had to study approximate dates of the fascicles in connection with the dates of other works. In the above survey I combined the notes made by Mr. F. Schütz from the copy of the Leiden University with my own observations on a limited number of volumes of the Philadelphia Academy of Sciences. These had the original wrappers and moreover some numbers had an interesting advertisement journal of the publisher Brockhaus, *Intelligenzblatt*, bound in. My impression is that delays of publication were not serious.

KITTEL, Balduin Martin

Biogr. Born 1798 Jan. 4, Aschaffenburg, N.W. Bavaria, Germany.

Died 1885 Jul. 23, Aschaffenburg.

No biographical account available to me. Kittel was for some time in Paris, where he became a member of the Société Linnéenne de Paris. In 1826 he attended its meetings and contributed a *Mémoire sur les pucerons* (memoir on aphids), and the report to Arnott's *Nouvelle disposition*, which report was read in the meeting of 23 Feb. 1826 (in which the suggestion of Kittel, that Arnott be admitted as a corresponding member, was unanimously accepted). On the separate he is indicated as "docteur".

Later he was back in Aschaffenburg, and became director of the "Gewerbeschule", the technical school there. He wrote a pocket flora of Germany which had several editions, but this did not include mosses. Up to now I have found only one indication that after his stay in Paris he still studied mosses. This is the sentence in a report of the meeting of the Société Linnéenne de Paris, held on 22 Feb. 1827: "M. Kittel annonce la découverte d'un nouvel *Hypnum*", *Hém. Soc. Linn. Paris* 6 (*Bull. Linn.* 1): 32. 1827. I do not know of a detailed publication of this discovery.

Kittel was commemorated in the generic names *Kittelia* Reichenbach 1837, a homotypic synonym of *Cyanea* Gaudichaud 1828 (*Campanulaceae*), and *Kittelocharis* Alefeld 1863, a superfluous synonym of *Reinwardtia* Dumortier 1822 (*Linaceae*).

Refs.: *Bot. Notis.* 1886: 39. 1886.

Backer, C.A.: *Verkl. Woordenb.* 303. 1936.

1 Rapport sur la Nouvelle disposition méthodique des espèces de mousses ... par H. G.-A. Walker Arnott ...

Mém. Soc. Linn. Paris 5(3): 205-324. 1826 Jul.

Head-title and collation: see Arnott n.7.

Contents: 205 head-title; 205-214 text of Kittel's report on Arnott's article with a short historical introduction to bryology; 214-323 text of the article of Arnott (n.7), interspersed with observations by Kittel printed in larger type, and two names of "tribu": *Andraeaeoideae* [spelled *Andraeoideae*], p.214, and *Sphagnoideae* [spelled *Spagnoideae*], p.215, both with descriptions in the observations; 323-324 concluding remarks by Kittel: "CONCLUSIONS."

Paper: leaf height 215 mm. (HBL copy of re-issue of periodical, uncut; see Saumaises n.1); laid, chains vertical; wm.: "L [partly outline] = Chapelle [erect script in center of lower quarter-sheet]".

Date: 1826 Jul. (date fasc.); bef. 9 Aug.? (earlier than separate?);
bef. 27 Sep.? (see *Mém. Soc. Linn. Paris*);
bef. 30 Sep. (*Bibliogr. France* 1826(78): 834. 1826).

Ref.: RSC 3: 667.

Notes: see Arnott n.7, Kittel n.2, and Saumaises n.1.

2 Mémoires d'histoire naturelle.

Paris, 1826 [separate].

Wrapper-title: "[frame: thick rule and two thin rules enclosing at each corner three rosettes] | MÉMOIRES | D'HISTOIRE NATURELLE; | PAR M. le docteur B.-M. KITTEL, | Correspondant de la Société Linnéenne de Paris, etc. | [vignette: Minerva bust with inscription in 'pedestal': "ARTS.", and surrounded by a laurel wreath and several tools and symbols as globe, scroll, telescope, etc.] | PARIS, | DECOURCHANT et GALLAY, IMPRIMEUR ET LIBRAIRE, | RUE D'ERFURTH, N° I. | 1826."

Collation: 8°: 1⁸ 2⁴ 3-9⁸ 10⁴ (\$2 signed \$., 9₁ as '8', 9₂ as '8.1');
1 2-144 (25, 121-136 as '105'-'120').

Contents: 1-24 text of zoological article by Kittel: *Mémoire sur les pucerons* (Memoir on the aphids); 25-34 Kittel's report on Arnott's article, with head-title: "[full wavy rule] | RAPPORT | SUR LA NOUVELLE DISPOSITION DES MOUSSES, | PRÉSENTÉE PAR M. WALKER-ARNOTT; | SUIVI | DE NOTES CRITIQUES ET D'ADDITIONS QUI COMPLÈTENT CE TRAVAIL | ET LE METTENT A LA HAUTEUR DES CONNAISSANCES ACTUELLES. | [short swelled rule, partly open]"; 34-143 text of the article of Arnott (n.8), interspersed with observations by Kittel etc. (see n.1); 143-144 concluding remarks by Kittel: "CONCLUSIONS."; 144 footnote concerning the erroneous signature and page numbers of gathering 9.

Wrapper: thin paper wrapper; front recto: wrapper title, front verso: indication of the source, and imprint: "[full rule] | Extrait du V^e vol. des *Mémoires de la Société Linnéenne de Paris*. | [full rule] | [at bottom:] PARIS, IMPRIMERIE DE DECOURCHANT, | SUCCESSEUR DE LEBEL."; back wrapper recto [], back verso: "[frame as on front recto, with central vignette only]".

Paper: leaf height 194 mm. (HBL copy, cut); laid, chains vertical; wm.: "L [partly outline] = Chapelle [erect script in center of lower quarter-sheet]".

Printer: Decourchant, Paris.

Publisher: Gallay, Paris.

Date: 1826 (title); bef. 9 Aug. (*Bibliogr. France* 15(63): 691. 1826).

Ref.: BMNH 987.

Bibl.note. This "mémoire" of articles with the wrapper title and the changed head-title of the report on Arnott's article clearly indicates the influence of Kittel; it is evident that he ordered the separates (see also Arnott n.8).

Bot.note. Not an important separate, unless it could be proved that it was published before the periodical fascicle.

KNEIFF, Friedrich Gotthard

Biogr. Born 1785 or 1786.

Died 1832 Sep. 7, Strasburg.

No biography available to me. He was commemorated in the generic names *Kneiffia* Spach 1835 (*Onagraceae*) and *Kneiffia* E.M. Fries 1838 (*Fungi*), and in the specific name *Amblystegium kneiffii* Bruch, Schimper & Gumbel (*Musci*, *Amblystegiaceae*).

1 Den Standort des *Zygodon ocnioideum* Hook. bei Strassburg betreffend.

Flora 8(37): 590-591. 1825 Oct. 7.

Collation etc.: see *Flora*.

Date: 1825 Oct. 7 (fasc. dated).

Bot.note. Description of the locality and the peculiar habitat of the rare moss species *Zygodon ocnioideus* of which the sporophytes were collected in the past years after regularly watering a reservoir in the hole of the tree trunk on which it grew, providing sufficient moisture.

KNEIFF, Friedrich Gotthard & MÄRKER [Maercker?], Ch. Ph.

1 *Musci frondosi quas in Alsatia variisque Helvetiae et Germanibus partibus collegerunt F. G. Kneiff et Ch. Ph. Märker.*

10 parts. Strasburg, 1825-1832. [exsiccata].

Collation etc.: no copy seen.

Dates: fasc.1: 1825; fasc.7: 1827; fasc.9-10: 1832.

Refs. and reviews: fasc.1-7: Krüg. 112; fasc.9-10: *Archives de botanique* 1: 566-567. 1833.

Note. Mentioned for the sake of completeness. No indication of new names or combinations. Fascicles 1-7 contained 150 specimens.

KUNTH, Carl Sigismund

Biogr. Born 1788 Jun. 14, Leipzig, Germany.

Died 1850 Mar. 22, Berlin, Germany.

Kunth had since childhood a strong interest in the study of natural sciences. When his father, a teacher of English, died in 1806, he was without resources. He went to an uncle in Berlin, who was able to procure him a job at the office of a commercial organization. He did his work conscientiously, and in his leisure hours he studied chemistry and botany. He followed lectures of Willdenow and soon became his pupil. He published a flora of Berlin using the Linnaean classification.

Kunth's uncle had been an instructor to the von Humboldt family, and so Kunth himself met Alexander von Humboldt. Since the latter needed skilled collaborators for studying the collections brought from his American travels, he charged Kunth with the determination of the botanical collections and called him to Paris in 1813. Here he became the pupil of A.L. de Jussieu, Desfontaines and above all of Louis Claude Richard, who had a personal knowledge of the South-American flora. There was a mutual collaboration; several of the plates of the first volumes of *nova genera et species plantarum* (Humboldt, Bonpland & Kunth) were drawn by Richard. A very large number of plates were drawn and signed by Turpin, but Adr. de Jussieu stated that Kunth drew all analytical as well as other details. It is self-evident that Kunth became a student of the natural families; he described his genera with much detail to decide the family affinity.

He led a quiet life, living in the house of A. von Humboldt, describing the plants, regularly visiting the museums, cabinets and libraries of his learned friends and the botanical garden, as well as taking part in the famous "herborisations" of the de Jussieus. He was nominated a "correspondant" of the Institut de France.

When the German publisher Cotta asked Kunth to prepare a new edition of the *Synopsis* of Persoon, the plan was to follow the original closely. Kunth soon wanted to replace the Linnaean classes by the natural families; this was accepted by the publisher, so the *Enumeratio plantarum nusque cognitarum* became a new work, which began with the monocotyledons, differing in this respect from the *Prodrromus* of A.P. de Candolle.

In 1829 Kunth was nominated professor at Berlin, and he moved to this place just a few months after his marriage. In Berlin he again lived quietly, devoting his time mainly to his work and his family. Though he had no children, he had taken care of two nieces. During his lectures Kunth demonstrated the parts of plants on living specimens, the students having specimens too (Adr. de Jussieu described this as something new, which had been introduced by L. C. Richard). Kunth also led "herborisations" in the neighborhood of Berlin. 11 Jan. 1830 he was nominated a member of the Akademie der Wissenschaften at Berlin; he also helped to supervise the botanical garden, under Link.

In 1839 he had a fall in the botanical garden with serious consequences; a dislocation in the shoulder was not recognized by the doctors and this was the beginning of a moral depression. Afterwards he became deaf. In 1845 he tried to travel to Salzburg alone, but he fell ill at Munich, from which place his wife had to bring him back to Berlin. His health declined and in 1849 a deep melancholy was the result. The end was a suicide.

He was commemorated in the generic names *Kunthia* Humboldt, Bonpland & Kunth 1813 (*Palmaceae*), considered a synonym of *Chamaedorea* Willdenow, and *Kunthia* Dennstedt 1818, a superfluous synonym of *Garuga* Roxburgh (*Burseraceae*).

Refs.: *Bot.Zeit.* 9: 427-432. 1850.

de Jussieu, Adr.: Notice sur la vie et les ouvrages de Charles-Sigismond Kunth, Professeur de botanique, à Berlin. *Ann.Sci.Nat.Bot.* ser.5, 14: 76-106. 1850.

1 *Synopsis plantarum aequinoctialium orbis novi.*

4 vols. Paris & Strasburg, 1822-1824.

Titles: "SYNOPSIS | PLANTARUM, | QUAS | IN ITINERE AD PLAGAM Aequinoctialem | ORBIS NOVI, | COLLEGERUNT | AL. DE HUMBOLDT ET AM. BONPLAND. | [double rule] | AUCTORE | CAROLO SIGISM. KUNTH, | PROF. REG.; ACAD. BEROL., INSTIT. GALL., SOCIETT. PHILOM. | ET HIST. NAT. PARIS. [last two lines replaced in vol.3 by: PROF. REG.; ACAD. BEROL. ET CÆS. LEOP. NAT. CURIOS., INSTIT. | GALL., SOCIETT. PHILOM. ET HIST. NAT. PARIS., HORT. CULT. BEROL., | PHYSIOGR. LUNDENS., NAT. SCRUTAT. LIPS., CÆT.] [same two lines replaced in vol.4 by: PHILOS. DOCT., PROF. REG., CRD. AQUILÆ RUBRÆ EQUITE; ACAD. BEROL. | ET CÆS. LEOP. CAROL. NAT. CURIOS., INSTIT. GALL., SOCIETT. PHILOM. | ET HIST. NAT. PARIS., WERNERIANÆ EDINB., HORT. CULT. BEROL., | PHYSIOGR. LUNDENS., NAT. SCRUTAT. BEROL. ET LIPS., LINN. CADOM., TÆC.[sic] | [short rule] | TOMUS PRIMUS. [2: TOMUS SECUNDUS.] [3: TOMUS TERTIUS.] [4: TOMUS QUARTUS.] | [short rule] | PARISIIS, Apud F.G.LEVRAULT, bibliopolam, via dicta M. le Prince, n.º 31, | atque ARGENTORATI, via dicta des Juifs, n.º 33. | 1822. [2: 1823.] [3: 1824.] [4: 1825.]"

series titles: "VOYAGE | DE HUMBOLDT ET BONPLAND. | SIXIÈME PARTIE: BOTANIQUE. | SYNOPSIS | PLANTARUM Aequinoctialium | ORBIS NOVI. | [short rule] | TOMUS PRIMUS. [2: TOMUS SECUNDUS.] [3: TOMUS TERTIUS.] [4: TOMUS QUARTUS.] | A PARIS, | Chez F.G.LEVRAULT, rue des Fossés M. le Prince, n.º 31, | et rue des Juifs, n.º 33, à STRASBOURG. | 1822. [2: 1823.] [3: 1824.] [4: 1825.]"

Collation: 8º: vol.1: π^{+2} 1-30⁸ 31⁶; I-VI i ii-iv v-vi 1 2-491 492 (480-487);
vol.2: π^2 2 π^1 1-33⁸(-33=72 π_1); I-VI 1 2-526 (517);
vol.3: π^2 2 π^1 1-31⁸; I-VI 1 2-496 (485-486);
vol.4: π^4 1-33⁸; I-VIII 1 2-528 (193-194 271-276 313-315 339-341 397-399 445-447 463-465 511-513 522-523).

Contents: vol.1: I half-title; II imprint; III title; IV □; V dedication to Robert Brown (which see), signed: "AL. DE HUMBOLDT. C. KUNTH. AM. BONPLAND."; VI □; i-iv preface: "PRÆFATIO.", dated: "Kal. Oct. MDCCCXXII."; v series-title; vi □; 1-479 text, descriptions of genera and species of the plants collected by von Humboldt and Bonpland in South- and Central America, *Algae* (1-6) by C.A. Agardh, *Fungi* (7-13), *Hepaticae* (40-45), *Musci* (46-65) all by W.J. Hooker, the remaining families by Kunth; 480 □; 481-491 index of generic names; 492 □;
 vol.2: I half-title; II imprint; III title; IV □; V series-title; VI □; 1-516 text, continued; 517-526 index of generic names in vol.2;
 vol.3: I half-title; II imprint; III title; IV □; V series-title; VI □; 1-485 text, continued; 486 □; 487-496 index of generic names in vol.3;
 vol.4: I half-title; II imprint; III series-title; IV □; V-VI corrigenda to vol.1-4; VII title; VIII □; 1-192 text, concluded; 193 part-title: "SUPPLENDA."; 194 □; 195-270 text of suppleenda, additional descriptions; 271 section-title: "DISTRIBUTIO | GEOGRAPHICA | PLANTARUM ÆQUINOCTIALIUM | ORBIS NOVI, | quas in latitudine boreali 21° usque ad altitudinem 2850 hexap. collegerunt | AL. DE HUMBOLDT ET AM. BONPLAND, | DESCRIPSIT HOC OPERE | CAROL. SIGISM. KUNTH."; 272 □; 273 part-title: "FLORA | PROVINCIAE NOVÆ ANDALUSIÆ, | VENEZUELÆ, NEC NON PLANITIEI | BARCINONENSIS."; 274 □; 275-312 text, short description of the region and lists of species per natural family, *Hepaticae* (279), *Musci* (280); 313 part-title: "FLORA | NOVO-GRANATENSIS."; 340 □; 341-396 text, *Hepaticae* (346), *Musci* (346-347); 397 part-title: "FLORA QUITENSIS."; 398 □; 399-444 text, *Hepaticae* (405), *Musci* (405-406); 445 part-title: "FLORA | ANDIUM PERUVIANORUM AB OPPIDO | CAXAMARCÆ USQUE AD LITUS | OCEANI PACIFICI."; 446 □; 447-510 text; 511 part-title: "FLORA CUBÆ INSULÆ."; 512 □; 513-521 text; 522 □; 523-528 index of generic names in the descriptive parts of vol.4.

Paper: leaf height 202 mm. (U copy, cut); laid, chains vertical; wm. not studied, fragments of outline letters present.

Printer: Levrault, F.G., Strasburg.

Publisher: Levrault, F.G., Paris & Strasburg.

Collaborators: Agardh, C.A. (1785-1859): algae;

Hooker, W.J. (which see): other cellular cryptogams (see Hooker n.5).

Dates:	vol.	date t.-p.	recd. Acad.Sci.Paris	Bibliogr.France
	1	1822	1822 Dec. 9	11(50): 748. 1822 Dec. 14
	2	1823	1823 Mar. 31	12(16): 243. 1823 Apr. 19
	3	1824	1824 Feb. 28	13(10): 148. 1824 Mar. 6
	4	1825	1826 Jan. 16	15(10): 108. 1826 Feb. 4

Bibliogr.study: Stafleu, F.A.: *Taxonomia Literature* n.620. 1967.

Review: *Linnaea* 1(2): 294. 1826 Apr.

Bot.notes. Important work for the flora of South America, bringing together the descriptions published in the large work of Humboldt, Bonpland & Kunth. The mosses were described by W.J. Hooker in vol.1, including a number of new species. In vol.4 the species, cryptogams included, were recapitulated per region; for this reason I include this work in my thesis since I want to treat all publications with mosses in the years 1825-1827. Of real importance for bryology, of course, is vol.1.

LAMOUROUX, Jean Pierre Péthion [or Justin Pierre]

Biogr. Born 1797 Feb. 11, Agen, dép. Lot-et-Garonne, France.

Died 1866 Jan. 17, Paris, France.

No biography available to me. He apparently had the degree M.D. from Paris and was a physician there. He was married (see *Artist*). His Christian names are sometimes stated as Justin P.; the Barnhart file gives the names mentioned above, derived from Andrieu, *Bibl.Gén.Agen* 2: 43-44 (not seen). The names *Lamourouxia* Agardh 1817 (*Algae*) and *Lamourouxia* H.B.K. 1827 (*Scrophulariaceae*) commemorate his brother Jean Félix Vincent Lamouroux (1779-1825), a student of marine plants and animals.

1 Résumé complet de botanique.

2 vols. Paris, 1826.

Title: "RÉSUMÉ | COMPLET | DE BOTANIQUE. | Tome Premier [vol.2: Tome Second][lines in gothic] | ORGANOGRAPHIE ET TAXONOMIE, | contenant l'ANATOMIE VÉGÉTALE et la GLOSSOLOGIE ou la | description de tous les organes et de leurs modifications, et la TAXONOMIE ou l'exposé des systèmes et des méthodes de classification; précédées d'une *Introduction historique*; [vol.2: PHYSIQUE VÉGÉTALE, | contenant la PHYSIOLOGIE et la PATHOLOGIE VÉGÉTALES, ou l'étude de l'organisation, des fonctions et des maladies des plantes; et la GÉOGRAPHIE BOTANIQUE. Terminé par la *Biographie* des botanistes, une *Bibliographie* et un *Vocabulaire*.] | ORNÉ DE PLANCHES. | PAR J.-P. LAMOUROUX, D. M. P. | [vol.2: extra lines: | ET POUR LA PARTIE PHYSIOLOGIQUE ET PATHOLOGIQUE, | PAR C. BAILLY DE MERLIEUX.] | La nature n'emploie jamais d'instruments | inutiles [vol.2: Et Flore, en souriant, m'appelle à ses mystères. | P. RADEL, *Myst. de Flore*. Trad.] | [publisher's emblem, monogram CB in laurel and oak wreath] | Paris, [in gothic] | AUX BUREAUX DE L'ENCYCLOPEDIE PORTATIVE, | Rue du Jardinnet-St.-André-des-Arts, n° 8, | Et rue Taitbout, n° 6. | Et chez BACHELIER, lib., quai des Augustins, n° 55. | [short swelled rule] | 1826."

Collation: 32° in 8s:

vol.1: π^6 1-178 182; I-IV $\dot{\iota}$ ii-viii 1 2-275 276 (35 64-65 243);
vol.2: A⁴ 1-178 184 (A₃ signed 'A', A₄ signed 'A'); I-IV $\dot{\iota}$ ii-iv
1 2-280 (9 145 168-169 275 239 259).

Contents: vol.1: I general title of the *Encyclopédie portative*; II imprint: "IMPRIMERIE | DE | Pochard [in gothic] | RUE DU POT-DE-FER, N° 14."; III title; IV \square ; $\dot{\iota}$ -iv contents; v-viii preface, headed: "AVERTISSEMENT"; 1-275 text, headed: "RÉSUMÉ | DE BOTANIQUE."; 7-34 historical introduction, 35-63 "NOTIONS PRÉLIMINAIRES", 64 \square , 65-242 "Première Partie [line in gothic] | ORGANOGRAPHIE, | OU ANATOMIE ET GLOSSOLOGIE | VÉGÉTALES.", 243-275 "Deuxième Partie [line in gothic] | TAXONOMIE."; 276 errata and notes, announcing that vol.2 would appear before the middle of June 1826, and two other volumes on special botany during the course of the year;

vol.2: I general title of the *Encyclopédie portative*; II imprint as in vol.1 with addition to the last line: "A PARIS."; III title; IV \square ; $\dot{\iota}$ -iv contents; 1-280 text, headed: "RÉSUMÉ | DE BOTANIQUE | [very short rule] | Troisième Partie [line in gothic] | PHYSIQUE VÉGÉTALE."; 7-8 "CONSIDÉRATIONS GÉNÉRALES.", 9-144 "Première Division [line in gothic] | PHYSIOLOGIE VÉGÉTALE.", 145-167 "Deuxième Division [line in gothic] | GÉOGRAPHIE BOTANIQUE.", 168 \square , 169-214 not studied, 215-238 "BIOGRAPHIES | DES BOTANISTES LES PLUS CÉLÈBRES | ANCIENS ET MODERNES.", 239-258 "BIBLIOGRAPHIE | BOTANIQUE | OU CATALOGUE RAISONNÉ | DES MEILLEURS OUVRAGES ÉCRITS SUR LA | BOTANIQUE.", 259-280 "VOCABULAIRE | DES MOTS TECHNIQUES | DE | LA BOTANIQUE.", including botanical terms of vols.1 and 2, the last with the indication: "(T.2)"; 280 errata. RT: usually left division, right subject. Language: French.

Plates: 2 lithographed frontispieces illustrating the mottos: vol.1: "Dans l'Étude des fleurs il trouva le repos", and vol.2: (folded) "Ce mouvement soudain de peine ou plaisir | D'en chercher les ressorts, fait naître le désir.", both signed: "Feugere d. f. inv. C. Girardet s.", and at bottom: "Lith. de Mantoux";

3 copper-engravings illustrating plant morphology (pls.1 and 2 in vol.1) and physiology and pathology (pl.3 in vol.2); signed: "S. Lamouroux del. Ambroise Tardieu sculpt."; plate-mark only seen at top of pl.1; probably printed originally together or with other plates from one block.

Artists: Feugere: frontispiece vol.1-2;
Lamouroux, S. [Mrs. J.P.]: plates.

Engravers: Girardet, C.: frontispiece vol.1-2;
Tardieu, Ambroise: plates.

Paper: leaf height 116 mm. (PBN copy, cut); wove; no wm. seen;
plate paper: wove; no wm. seen.

Printers: Pochard, Paris (text);
Mantoux [Paris?] (lithographs).

Publishers: Bureau de l'Encyclopédie portative (Bailly de Merlieux), Paris;
Bachelier, Paris.

Collaborator: Bailly de Merlieux, Charles François: "partie physiologique et pathologique".

Dates: vol.1: 1826 (t.-p.), bef. 28 Jun. (*Bibliogr.Francoe* 15 (51): 565, 1826);
vol.2: 1826 (t.-p.), bef. 30 Aug. (*Bibliogr.Francoe* 15 (69): 741, 1826).

Reviews: vol.1: *Bull.Sci.Nat.* 8(8): 433-434, 1826;
vol.2: *Bull.Sci.Nat.* 9(18): 181-182, 1826 Sep.

Refs.: BMNH 1052 | Krüg. 54 | Pr.ed.1 n.5521
Bradl.1: 86a | Milt. 47 | Pr.ed.2 n.5027.

Bibl.notes: The format is stated to be "grand 32°" by contemporary reviewers and I have no reason to doubt this, though later references give it as "small 16°". I was unable to check the format exactly because of the absence of chain-lines, watermarks or deckle-edges. The volumes were part of a larger series, the *Encyclopédie portative*. Vol.1 formed "livraison" 12 of this series, and vol.2 "livraison" 13.

Bot.notes. Popular introduction to botany, mentioning mosses in a general treatment. Some later botanical works by Lamouroux followed, but are not treated here.

LAURER, Johann Friedrich

Biogr. Born 1789 Sep. 28, Bindlach near Bayreuth, Germany.

Died 1873 Nov. 23, Greifswald, Germany.

Laurer attended the gymnasium at Bayreuth, learned pharmacy with Funck (Gefrees) and traveled with Hoppe in the Salzburg Alps. At the instigation of Hornschuch he began the study of medicine at the University in Greifswald. Here he became "prosector" in anatomy early in 1827 (staying this for 24 years), and received his M.D. degree 30 Oct. 1830. In 1830 he was admitted "Privatdozent" for anatomy and physiology; on 15 Jan. 1849 he was nominated extraordinary professor of pharmacology and on 1 Apr. 1863 ordinary professor of "materia medica".

Laurer had a strong botanical interest and especially studied lichens. He was very modest and many results of his studies were published in works by others. He issued a handbook of pharmacology as a second edition of Seiffert, *Handbuch der Arzneimittellehre*, though it was virtually a useful new book. This modesty brought him some grief by lack of recognition.

He married the printer's widow Koch *née* Krey on 18 Aug. 1852 and lost her by death in 1858, childless. They founded stipendia for students of the University. His herbarium, enriched by that of Hornschuch, was willed to the Bot.Museum at Berlin.

Laurer was commemorated in the generic names *Laureria* v. Schlechtendal 1833 (*Solanaceae*) and *Laurera* Reichenbach 1841 (based on *Meisneria* Fée non A.P. de Candolle), and in the specific name *Trichostomum laureri* Schultz (*Musci*).

Refs.: *Flora* 10(8): 127 Feb.28; Minks, A.: *Flora* 56(34): 529-536, 1873.

Bot.Zeit. 24: 65, 1874.

Hedwigia 13: 16, 1874.

Münter: *Mitt.Naturw.Ver.Neu-Vorpommern u. Rügen* 7: 129-134, 1875 (not seen).

Häckermann: *Allg.Deutsche Biogr.* 18: 66-68, 1883.

Wunschmann: *Allg.Deutsche Biogr.* 51: 604-605, 1906.

Wels, Paul: Pharmakologisches Institut. *Festschr. 500-Jahrfeier Univ. Greifswald* 2: 337-357, 1956.

1 Beiträge zur kryptogamischen Flor der Insel Rügen.

Flora 10(19): 289-299, 1827 May 21.

Head-title: "Beiträge zur kryptogamischen Flor der Insel Rügen; | von Hrn. Prosector Laurer in Greifswalde."

Collation: 8°: T₁-T₆r; 289 290-299 (see *Flora*).

Contents: 289 head-title; 289-290 introduction; 290-299 list of cryptogamic plants of the island Rügen with author citations, localities and descriptions of new species: *Filices* (290), *Musci frondosi* (290-294), *Musci hepatici* (295), *Lichenes* (296-298), *Algae* (298) and *Fungi* (298-299). No RT. Language: German, with Latin descriptions.

Paper etc.: see *Flora*.

Date: 1827 May 21 (fasc. dated).

Bot.notes. Article with the result of collecting cryptogams in the island Rügen (Germany, in the Baltic Sea). The new moss species *Mnium rugicum* (294) was described. An extensive footnote (293-295) was devoted to the moss genus *Timmia*, describing the known species and adding a new one, *T. alpina* (294), though including the name *T. salisburgensis* Hoppe (295) as a variety.

LESTIBOUDOIS, [Gaspard] Thémistocle

Biogr. Born 1797 Aug. 12, Lille, dép. du Nord, France.

Died 1876 Nov. 22, Paris, France.

Thémistocle Lestiboudois was the son of François Joseph, and the grandson of Jean-Baptiste Lestiboudois, botanists in Lille. During the period he studied medicine in Paris his father died (1815); his father's place of professor of botany in Lille was temporarily filled by a friend of the family (Aimé Fauvel), and after his death by another, until the son was ready to occupy this position.

He was indeed nominated 8 Apr. 1819, shortly after he had received his doctor's degree. He gave the courses at least up to 1848, and had the supervision of the botanical garden. He was also a practicing physician, and took part in the town administration of Lille, being nominated to the council in 1830, and later in several other functions. Finally he came to Paris and was charged in 1848 with the course in plant anatomy and physiology at the "Faculté des Sciences". In 1849 he became a member of the "Assemblée législative". In 1845 he already had been nominated a corresponding member of the Institut, Académie des Sciences, botanical section.

He married 12 Aug. 1829 Christine Thérèse Juliette Richebé (1772-1848). The generic name *Lestibudesia* Thouars 1806 (now considered a synonym of *Celosia* L., *Amaranthaceae*) is certainly named after his father, grandfather, or both; also probably *Lestibudaea* Jussieu 1823, an altered spelling of *Lestibodea* Necker 1790 (now considered a synonym of *Dimorphotheca* Moench, *nom.oons.*).

Ref.: Leclair, Edm.: Les Lestiboudois ... botanistes lillois. *Bull.Soc.Étud.Divers Prov.Cambrai* 12: 39-90. 1908.

1 Botanographie belge...

2 vols. Paris, Lille, 1827.

Title: Botanographie Belgique, ou flore du nord de la France, et de la Belgique proprement dite; ouvrage disposé selon la méthode naturelle, contenant les tableaux analytiques de François-Joseph Lestiboudois, la description des plantes qui croissent spontanément ou que l'on cultive généralement dans l'ancienne province Belgique, leurs localités, leurs propriétés, l'indication du temps de leur floraison, la citation de leurs figures ... par Th. Lestiboudois ... Paris, Roret, et Lille, Vanackère père, Grand'Place, n°7, et Vanackère fils, place du Théâtre, n°10, 1827.

Collation: 8° in 4s: part 1: π^2 a-b⁴ c²(-c₂) d-e⁴ λ 1-17¹ 1-39⁴ 40²(-40₂) (a-e signed in italics); I-IV $\dot{\iota}$ ii-xxxiv, 17 leaves: λ 1-17, 1 2-314 (305); part 2: π^2 1-62⁴ 63²(-63₂); $\dot{\iota}$ -iv 1 2-498 (476).

Contents: part 1: I half-title: "Botanographie | II | I.re partie Cryptogamie."; II list of booksellers, and imprint; III title; IV signature stamp of the author under notice of the publisher; $\dot{\iota}$ -xviii "DISCOURS PRÉLIMINAIRE."; xviii catchword "TABLEAUX."; xix-xxxiv introduction, discussing organisms with plant as well as animal characters, moreover listing and describing those which were considered doubtful in the Plant kingdom, since they have movement, as *Diatoma* and *Oscillaria* [*Oscillatoria*], or free swimming swarm spores or other stages reminding of the Animal kingdom, e.g. "Anthophysis", *Zygnema*, and "Salmacis" [*Spirogyra*]; λ 1-17 lists of genera in 17 classes with

reference to the numbers on the plates and the new numbers in the text, and occasionally added keys for later segregated genera which were not present on the engraved tables; verso □: $\lambda 1$ $\lambda 3-6$ $\lambda 11-13$; 1-304 text, containing the cryptogams; 306-314 index of names of genera and groups of higher rank; part 2: *i* half-title: "Botanographie | II | II.e partie Phanérogamie."; *ii* list of booksellers and printer's imprint; *iii* title; *iv* signature stamp of the author under notice of the publisher; 1-474 text, containing the phanerogams (473-474 addenda); 476-495 index of names of genera and groups of higher rank; 496 errata; 497-498 signs and abbreviations. Language: French.

Plates and tables: 17 folded copper-engravings ("CLASSE I" - "CLASSE XVII") and 6 folded typographical tables ("METHODE ANALYTIQUE.", "CLASSE XVIII" - "CLASSE XXII"), containing keys to the genera, the engraved plates in graphic form with sketches illustrating genera, placed between preliminaries and text, and facing the corresponding λ -leaf; plate-mark: 188 x 396 mm. (Cl.XI).

Artist: Chotard: probably all engraved plates; unsigned: plates of classes 6, 13, 16 (or signatures worn).

Engraver: Durieux: Cl.4 (signed: "Durieux. imp."); other plates unsigned.

Paper: leaf height 204 mm. (HBL copy, cut); laid, chains vertical; wm.: "ROU[BI?];LLION" in the middle of the sheet parallel to the chain lines; plate paper: Dutch; laid; wm.: "J KOOL=[rampant lion with sword]" (Cl.8, HBL copy).

Printer: Vanackère fils, Lille, France.

Publishers: Vanackère père, Lille, France; Vanackère fils, Lille; Roret, Paris.

Date: 1827 (t.-p.); bef. or on 21 May (recd. Acad.Sci.Paris; see Staf1. TL); bef. 6 Jun. (*Bibliogr.France* 16 (45): 466. 1827).

Review: *Linnaea Lit.Ber.* 3(2): 67. 1828.

Refs.: Arn.Arb.1: 424	Brun. n.5088	Jacks. 271	Pr.ed.1 n.5804
BMNH 1097		Kew 357	Pr.ed.2 n.5242
Brad1.1: 392a	Cat.Juss. n.1619	Linn.Soc. 445	Staf1. TL n.675.

Notes. This book, constituting a new edition of the *Botanographie belgique* of the father, François-Joseph, was entirely rewritten. From the engraved plates of the earlier editions 17 were used, the engraved page-numbers on the copper plates being eliminated; the references to the new page-numbers were printed separately on adjoining leaves, where necessary augmented with additional keys for genera segregated later. The keys for "Graminées" (*Gramineae* + *Cyperaceae*) and cryptogams (ferns, mosses, algae + hepatics, and fungi) were rewritten and typographically printed on folded tables.

In the text the classification of Lamarck, used in the former editions and on the plates, was dropped and replaced largely by that of A.P. de Candolle, in turn based on that of A.L. de Jussieu. The nomenclature also followed largely de Candolle, although in some groups considerable deviations occurred (e.g. *Algae*).

A few new names were proposed, e.g. *Girodia* (*Algae*), substitute name for the genus *Eutohinsia* Agardh non R. Brown in Aiton. No new names or combinations were proposed in the *Bryophyta*. In other groups new combinations might be present which are not indicated as such. Especially sections and varieties may appear to have new combinations, and some treatments are even inconsistent with the trend of the whole work, e.g. under *Pyrus* L. three sections are listed, "MALUS", "PYRUS" and "CYDONIA". The species of the first and last sections, however, are indicated by sectional initials, contrary to the usual procedure in the book. This could be treated as an oversight in preparing the text for this edition, since it occurs only on these pages (vol.2: 406-407).

Varieties were indicated in different ways, without a name, with a name in italics, or with a name cited in brackets, with a generic initial.

The original copper plates were presented to the municipality of Lille on 5 Oct. 1857, to be placed in one of the museums.

LOREY, Félix & DURET, L.

Biogr. Of the first author I did not yet find any biographical reference, except the indication on the title-page: "D. M." (doctor medicinae). He was commemorated in the generic name *Loreya* A.P. de Candolle 1828 (*Melastomataceae*). Of the second author, with the same title, I found only a reference to a notice: *Bull.Soc.Bot.France* 21(1): 8. 1874, which gave the date and place of his death: 1874 Jan. 7, Nuits (Côte d'Or), France. He was commemorated in the generic name *Duretia* Gaudichaud 1830 (*Urticaceae*).

1 Catalogue des plantes ... de la Côte-d'Or ...

Dijon, 1825.

Title: "CATALOGUE | des Plantes qui croissent naturellement dans le | Département de la Côte-d'Or, et des espèces | les plus généralement cultivées, | OBSERVÉES JUSQU'AUJOURD'HUI | PAR MM. LOREY ET DURET, DD. MM."

Collation: 8°: 1⁸ 2-3⁸ x¹; 1-3 4-47 48-50.

Contents: 1 title; 2 □; 3-18 preface: "AVERTISSEMENT"; 19-46 text, alphabetical list of Latin names of plants without author citations nor any other indication; 47 supplement, adding 3 names, and the explanation that names in italics represent cultivated plants; 48 imprint and date; 49 errata; 50 □.

Printer: Frantin, Dijon, France.

Date: 1825 (p.48), Jan.7, bef. 6 Aug. (*Bibliogr.France* 14 (32): 527. 1825).

Announcement: *Mém.Soc.Linn.Paris* 4(6): LII, CXXIX. 1826 (offered to the soc. during 1825).

<i>Refs.:</i> Arn.Arb.3: 186 ^a	Linn.Soc. 485	Pr.ed.1 n.6270
Bradl.1: 407 ^a	Milt. 131	Pr.ed.2 n.5616
Cat.Juss. n.1657		Stafl. TL n.782.

Notes. Local flora, list of names only, with a number of not too important mosses.

MÄRKER, Ch. Ph. No biography available to me. (See: Kneiff & Märker n.1).

MARTINOV, Ivan [Martuinov, Ivan Ivanovich in BMNH cat.]

Fl. 1820-1826. No biography available to me.

1 Slovar' rodov'ich' imen' rasténii ...

S. Petersburg, 1826.

Title [in Russian, transcribed]: [SLOVAR' | RODOV'ICH' IMEN' | RASTÉNII. | S' PEREVIDOM' NA RUSSIISKII JAZ'IK', OSNATSHENIEM' ICH' PROIS'CHOZDENIJA, KLASSA, | K' KOEMU KAZHD'II ROD' PRINADLEZHIT' | I TSHISLA IZVÉSTN'ICH' POROD' KAZHDAGO | RASTÉNIJA, PO POKAZANIJAM' PERSONA I | SHTEUDELJA, | SOSTAVLENN'II | IVANOM' MART'INOV'IM'. | [full swelled rule] | SANKTPETERBURG', | V' TIPOGRAFIHII DEPARTAMENTA NARODNAGO | PROSVÉSHCHENIJA. | 1826.]

Collation: 8°: w⁸ 1-22⁸(-27) 23⁴ x²; I-III IV-XVI 1 2-362 (317).

Contents: I title; II imprint: [Izdago om Departamenta Narodnago Pro-| svéshchenija.]; III-XVI preface, headed: [SREDISLOVIE.], undated; 7-316 text, headed: "GENERA PLANTARUM. | [ROD'I RASTÉNII.]", alphabetical list of Latin names of plant genera, followed by the Russian names, the derivation of the Latin names, and in the case of names derived from personal names some of the works published by those authors, and finally an abbreviation indicating the class or other group in the modified Linnaean classification (22 classes); 317-362 index of Russian generic names with their Latin equivalents. No RT. Language: Russian, except Latin plant names and an occasional head-title part.

Paper: laid, chains vertical; wm. "[crowned figure, probably eagle]" 3, 4 (PBN copy); indistinct marks at borders of other sheets.

Printer: National Department of Education, St. Petersburg.

Date: 1826 (variant 1825?).

Reviews: *Bull.Sci.Nat.* 17(4): 81. 1829 (cited date "1825");
Trautvetter, E.R.: *Florae Rossicae fontes*. Petropoli, 1880.

Refs.: Bradl.1: 77^a Jacks. 9 Krüg. 67 ("1825") Pr.ed.2 n.5863.

Variant: the date 1825 in some references may concern a title-page variant.

Notes. A list of generic names of plants for Russian use, following Persoon and Steudel. Cryptogams are treated as class 22, the names are in the alphabetical list with phanerogams. No new names traced in *Huoci*.

MÉMOIRES du MUSÉUM d'HISTOIRE NATURELLE ... [Paris]

20 vols. Paris, 1815-1832.

Title (vol.12-15): "MÉMOIRES | DU MUSÉUM | D'HISTOIRE NATURELLE, | PAR | LES
PROFESSEURS DE CET ÉTABLISSEMENT. | [short rule] | OUVRAGE ORNÉ DE GRAVURES. |
DÉDIÉ AU ROI. | [short rule] | TOME DOUZIÈME. [13: TOME TREIZIÈME.] [14: TOME
QUATORZIÈME.] [15: TOME QUINZIÈME.] | [monogram of swash script letters:] AB
| A PARIS, | CHEZ A. BELIN, IMPRIMEUR-LIBRAIRE, | RUE DES MATHURINS S.-J.,
HÔTEL DE CLUNY. | 1825. [13: 1825.] [14: 1827.] [15: 1827.]"

Collation: 4"; see table next page.

Plates: usually engravings, a few hand-colored; some plates lithographed.

Paper: leaf height 254 mm. (Teyl. copy); laid, chains vertical; wm. (Teyl. copy, all letters in outline, in countermark the letter L larger than the others):
"C [diamond] B = L": vol.12: w, 1, 2, 4-10, 14, 16, 18-22, 30, 33-37, 39, 42, 43, 49, 50, 52 (L missing, or B and L missing and diamond misformed in a number of sheets);
"P V [right top corner]": vol.12: 12, 23-28, 51, 53, 58, 59;
"P V [I [right top corner]"]": vol.12: 47;
"J P [left top corner]": vol.12: 60, 64; vol.12: 21-36, 38-41;
"J G [left top corner]": vol.12: 61, 63; vol.13: 3, 6, 9;
"J G [right bottom corner]": vol.12: 70; vol.13: 4;
"S [diamond] V = L": vol.12: 62, 66-69 (V missing: 69); vol.13: w, 1-2, 5, 11-19;
"J [diamond] F = L": vol.13: 7, 8;
"J G = L" [?]: vol.13: 7, 8;
"J [diamond] B = L": vol.13: 42-59 (B missing: 43, 57; L missing: 55, 51, 56); vol.14: 1, 3-7, 9-10;
"A [triangle] T": vol.14: 12-51 (not all gatherings checked since the mark is only 14 mm. high and therefore often not visible in the spine), and table facing p.366;
"T [triangle] D": vol.14: 54-62; vol.15: 1-4, 33-60 (50 uncertain);
"B P": vol.15: 10;
"P [diamond] L": vol.15: 11;
"M [diamond] T [left top corner]": vol.15: 12-32 (diamond in at least one mould compressed to a narrow erect triangle);
plate paper: mainly laid, usually chains vertical, occasionally horizontal;
wm.: "A F [left top corner]": vol.12: pls. 3, 23, 26, 27;
or "J D [left top corner]": vol.13: pls. 1, 4;
a few plates on wove paper: vol.14: pls. 1, 2, 3/5, 19.

Printer: Bélin, A., Paris.

Publishers: Muséum d'Histoire Naturelle, Paris;
Bélin, A., Paris.

Collation, dates and announcements:

Année	vol.	gatherings	pages	plates	year title	Bibliogr. France	remarks
3 (4)	6	[31]	[248]	[8]	[1921]	10(15): 207. 1821 Apr. 14	
4 (1)	7	π^2 1-31 ⁴ 32 ²	<i>iv</i> 7-252	1- 7	1821	10(16): 221. 1821 Apr. 20	Apr.
(2)		33-62 ⁴	253-492	8-23		11 (3): 43. 1822 Jan. 19	
(3)	8	π^2 1-30 ⁴	<i>iv</i> 7-240	1-15	1822	11(32): 339. 1822 Jun. 1	trim.2
(4)		31-61 ⁴	241-488	16-22	[1822]	11(39): 591. 1822 Sep. 28	trim.3
5 (1)	9	π^2 1-20 ⁴	<i>iv</i> 7-160	1- 5	1822	11(40): 603. 1822 Oct. 5	
(2)		21-28 ⁴ 29 ²	161-228	6-12	[1823]	12 (9): 130. 1823 Mar. 1	
(3)		30-37 ⁴	229-292	13	[1823]		
(4)		38-48 ⁴ 49 ²	293-384	14-15	[1823]	12(27): 394. 1823 Jul. 5	trim.2
(5)		50-52 ⁴ 53 ²	385-412	16-20	[1823]	12(31): 434. 1823 Aug. 2	trim.2
(6)		54-62 ⁴	413-484	21-24	[1823]		Jul.
(7)	10	π^2 1-10 ⁴ 11 ²	<i>iv</i> 7- 84	1- 4	1823	12(48): 717. 1823 Nov. 29	Aug.-Nov.
(8)		12-21 ⁴	85-164	5-11	[1823]		Aug.-Nov.
(9)		22-30 ⁴ 31 ²	165-240	12-15	[1823]	13 (1): 14. 1824 Jan. 1	Aug.-Nov.
(10)		32-40 ⁴ 41 ²	241-316	16-20	[1824]	13 (9): 133. 1824 Feb. 29	Dec. 1823
(11)		42-52 ⁴	317-404	21-24	[1824]		Jan.-Feb.
(12)		53-62 ⁴	405-484		[1824]	13(17): 258. 1824 Apr. 24	Mar.-Apr.
6 (1)	11	π^2 1-11 ⁴	<i>iv</i> 7- 88	1- 5	1824	13(17): 258. 1824 Apr. 24	?Apr.
(2)		12-20 ⁴	89-160	6-10	[1824]		trim.3?
(3)		21-30 ⁴	161-240	11-16	[1824]	13(44): 658. 1824 Oct. 30	?Oct.
(4)		31-40 ⁴ 39bis ²	241-320	17-18		14 (2): 26. 1825 Jan. 8	trim.1
(5)		41-49 ⁴ 50 ²	321-396	19-20	[1825]		
(6)		51-64 ⁴ 65 ¹	397-570	21-24	[1825]	14(13): 204. 1825 Mar. 26	trim.1
(7)	12	π^2 1-12 ⁴	<i>iv</i> 7- 96	1- 4	1825	14(25): 395. 1825 Jun. 11	trim.2
(8)		13-22 ⁴	97-176	5- 7	[1825]		Jun.-Sep.
(9)		23-32 ⁴	177-256		[1825]	14(60): 662. 1825 Oct. 1	trim.3
(10)		33-43 ⁴ 44 ²	257-348	8-13	[1825]		trim.3
(11)		45-56 ⁴ 57 ²	349-448		[1825]		trim.4
(12)		58-70 ⁴ 71 ²	449-558	14-29	[1825]	14(60): 923. 1825 Dec. 31	trim.4
7 (1)	13	π^2 1- 9 ⁴ 10 ²	<i>iv</i> 7- 76		1825		trim.4
(2)		11-18 ⁴	77-140	1	[1826]	15(14): 143. 1826 Feb. 18	
(3)		19-26 ⁴	141-204	2- 8	[1826]	15(24): 258. 1826 Mar. 25	Feb.-Mar.
(4)		27-37 ⁴ 38 ²	205-296		[1826]	15(52): 582. 1826 Jul. 1	trim.2
(5)		39-47 ⁴	297-368	9?	[1826]	15(78): 835. 1826 Sep. 30	trim.3
(6)		48-59 ⁴	369-464		[1826]	15(104): 1120. 1826 Dec. 31	trim.4
(7)	14	π^2 1-10 ⁴ 11 ²	<i>iv</i> 7- 84	1-3/5	1827	16(22): 235. 1827 Mar. 17	
(8)		12-22 ⁴	85-172	6- 9	[1827]		Mar.-May
(9)		23-32 ⁴	173-252	10-14	[1827]		May -Jun.
(10)		33-43 ⁴ 44 ²	253-344	15-18	[1827]		May -Jun.
(11)		45-53 ⁴	345-416	19-22	[1827]	16(51): 540. 1827 Jun. 27	Jun.
(12)		54-61 ⁴ 62 ²	417-484	23-28	[1827]		Jun.
8 (1)	15	π^2 1- 6 ⁴	<i>iv</i> 7- 48	1- 2	1827		Jun.
(2)		7-18 ⁴	49-144	3- 4	[1827]		
(3)		19-32 ⁴	145-256	5- 7?	[1827]	16(104): 1081. 1827 Dec. 29	trim.4
(4)		33-41 ⁴	257-328	8-11	[1827]		trim.4
(5)		42-48 ⁴ ?	329-384	12-13	[1828]	17 (8): 147. 1828 Feb. 23	Jan.-Feb.
(6)		49-61 ⁴	385-488	14	[1828]		trim.2
(7-8)	16				[1828]	17(27): 508. 1828 Jul. 5	trim.2
(9-12)					[1828]	17(40): 733. 1828 Oct. 4	trim.3

Bibl. notes. The distribution of the text over the fascicles as given in the table is based on the following criterions:

- 1) an incomplete gathering is definitely the last one of a fascicle;
- 2) fascicles begin, as a rule, with an article;
- 3) the plates, where bound in the middle of an article, indicate the end of a fascicle (the article by Cambessèdes, vol. 14, extends over two fascicles, and pls. 10-14 are bound in after gath. 32 in the Teyl. copy);
- 4) references to continuation of articles in later fascicles ("cahiers");
- 5) watermarks.

The preliminaries (π) were issued with the first fascicle of the volume. The date of the title-page, therefore, is often too early for the other fascicles of the same volume.

The wrapper titles did not have the volume indication, since only the years (années) and the corresponding fascicle numbers were stated in *Bibliographie de la France*. I did not see a copy in wrappers. This would have enabled me to settle some of the breaks between the fascicles, where the criteria mentioned did not lead to a conclusion. In these cases I selected the break which gave a better distribution of gatherings over the fascicles.

Only the announcements in *Bibliographie de la France* were studied for collateral evidence. This journal appeared regularly each week or, in 1826 and 1827, twice a week. Books published in Paris will, as a rule, have been announced within 10 or 7 days of their publication. Journals, however, were only treated in full the first time a fascicle was announced in any year; later fascicles in the same year were announced in a quarterly list of "Subscriptions" only, without a statement of the number of sheets or plates.

MÉMOIRES de la SOCIÉTÉ d'HISTOIRE NATURELLE de PARIS.

Paris, vol. an VII, [1799]; vol. 1-5, 1823-1834

Title [only studied one wrapper-title]: vol. 2(2): "[frame: thick-thin rule | border of stylized floral ornaments with fancy ornamented circles in the corners and two circles in the bottom center | rule] | MÉMOIRES | DE LA SOCIÉTÉ | D'HISTOIRE NATURELLE | De Paris. [in gothic, the capitals swash decorated] | TOME SECOND. | [short double rule] | II^e PARTIE. | [short double rule] | Paris [in thick-thin gothic] | CHEZ LES ÉDITEURS DU DICTIONNAIRE CLASSIQUE D'HISTOIRE NATURELLE, | BAUDOUIN FRÈRES, LIBRAIRES-ÉDITEURS, | RUE DE VAUGIRARD, N° 17, | REY ET GRAVIER, QUAI DES AUGUSTINS, N° 55. | [short wavy rule] | AVRIL 1826. | [below frame in right corner:] IMPRIMERIE DE J. TASTU, RUE DE VAUGIRARD, N° 36."

Collation: 4°; see table.

Printer: Tastu, J., Paris.

Publisher Baudouin frères, Paris;
Rey & Gravier, Paris.

Dates:

vol.	gatherings	pages	plates	date title	Bibliogr. France	remarks
1(1)	π ² 1-26 ⁴	iv 1-208	1-10	1823	12 (23): 331. 1823 Jun. 7	
1(2)	27-51 ⁴	209-411-472	11-25	[1824]	13 (15): 227. 1824 Apr. 10	
2(1)	π ² 1-31 ⁴	iv 1-248	1-14	1825	14 (43): 699. 1825 Oct. 22	
2(2)	32-52 ⁴	249-414-476	15-20	1826 Apr.	15 (89): 939. 1826 Nov. 8	
3(1)	{ π ² 1-14 ⁴ 2 ^{•1} 16* - 16** }	iv 1-112	1- 2	1827	16 (52): 540. 1827 Jun. 30	
3(2)	15-40 ⁴ 4 ¹²	173-323-324	3- 6	[1827]	16 (78): 804. 1827 Sep. 27	trim. 3
3(3)	42-54 ⁴	325-426-428	7-12	[1827]	16 (104): 1081. 1827 Dec. 29	trim. 4
4	π ² 1-53 ⁴ 54 ²	iv 1-426	1-22	1828 Sep.	17 (49): 871. 1828 Dec. 6	
5	π ² 1-38 ⁴ x ¹	iv 1-306	1-23	1834		1 vol., delayed

Notes. The contents of the fascicles are derived from the indication of the numbers of sheets and plates in *Bibliographie de la France*, except for vol. 3, in which the paper color and the place of the plates in the Teyler copy were the guides.

For bryological articles see Arnott n. 2 and n. 6.

MÉMOIRES de la SOCIÉTÉ LINNÉENNE de PARIS

Vol. 1, 3-5, 6(1)-(5). Paris, 1822 [1823]-1827.

Titles: vol.1: "MÉMOIRES | DE LA | SOCIÉTÉ LINNÉENNE | DE PARIS, | PRÉCÉDÉS DE SON HISTOIRE, | DEPUIS 1788, ÉPOQUE DE SA FONDATION, JUSQUES | ET COMPRIS L'ANNÉE 1822. | [wavy rule] | TOME PREMIER. | [wavy rule] | PARIS, | AU SECRÉTARIAT DE LA SOCIÉTÉ LINNÉENNE, | Rue des Saints-Pères, n° 46, en face la rue Taranne. | CHEZ AUDOT {Libraires} Rue Maçon-Sorbonne, n° 11.

ET {de la} SOCIÉTÉ, Quai Malaquai, n° 15. | [short wavy rule] | 1822.";

plate-part of vol.1: "FASCICULE | DE | QUATORZE PLANCHES | FAISANT PARTIE | DU PREMIER VOLUME DES MÉMOIRES | DE LA | SOCIÉTÉ LINNÉENNE DE PARIS. | [vignette of palm with snake] | A PARIS, | AU SECRÉTARIAT DE LA SOCIÉTÉ LINNÉENNE, RUE DES SAINTS-PÈRES, | N° 46, EN FACE LA RUE TARANNE, | [rest similar to the imprint on the title of vol.1, in another type-setting]";

vol.3-5: "MÉMOIRES | DE LA | SOCIÉTÉ LINNÉENNE | DE PARIS, | PRÉCÉDÉS DE SON HISTOIRE, | PENDANT LES ANNÉES 1823 ET 1824. [4: PENDANT L'ANNÉE 1825;] [5: PENDANT L'ANNÉE 1826;] | [wavy rule] | TOME TROISIÈME. [4: TOME QUATRIÈME.] [5: TOME CINQUIÈME.] | [wavy rule] | PARIS, | AU SECRÉTARIAT DE LA SOCIÉTÉ LINNÉENNE, | Rue des Saints-Pères, n° 46, en face la rue Taranne, [5: last part of line: près la rue Taranne,] | ET CHEZ DESBEAUSSEAUX, LIBRAIRE, QUAI MALAQUAI, n° 15 | [short wavy rule] | 1825. [4: 1826.] [5: 1827.]"

fascicle-titles (wrapper-titles) of vol.6(2)-(3): "[frame of thick-thin rule, rows of stylized flowers, and circles at the corners, slot in the bottom row, and double thin rule within] | ANNALES | DE LA SOCIÉTÉ LINNÉENNE DE PARIS. | [short swelled rule] | VI^e VOLUME DES MÉMOIRES. | [very short rule] | II^e [III^e] LIVRAISON DE LA IV^e ANNÉE DE SOUSCRIPTION. | [fancy swelled rule] | Mai 1827 [Juillet 1827] [lines in large flowing script] | [fancy swelled rule] | L'abonnement de 1827 a commencé avec le mois de mars dernier. | Ceux qui sont en retard pour renouveler leur souscription doivent | le faire de suite, s'ils veulent recevoir exactement les cahiers à me-|sure de leur publication. Pour les conditions, voyez la 3^e page. | PARIS, | AU SECRÉTARIAT DE LA SOCIÉTÉ LINNÉENNE, | RUE DES SAINTS-PÈRES, N° 46. | 1827 | [in slot:] PARIS, DE L'IMPRIMERIE DE E. POCHARD. | rue du Pot-de-Fer, n° 14."

Collation: see next page.

Contents and plates: see individual articles by Arnott, Desvaux and Palisot de Beauvois. At least two plates were engraved on one copper block (seen in copy of Saumaises, re-issue); probably other pairs were treated the same way.

Paper: leaf height 215 mm. (HBL copy of re-issue Saumaises, uncut); laid, chains vertical (except for some plates with horizontal chains); wm. in vol.5: "L [partly outline] = Chapelle [erect script, in lower half sheet]".

Printers: D'Hautel, Paris: vol.1;
Lebel, Paris: vol.3, 4(1), possibly more fascicles of vol.4;
Decourchant (successor of Lebel), Paris: vol.4(6)-6(5), probably more fascicles of vol.4.

Publishers: Société Linnéenne de Paris;
Audot, Paris;
Debeausseaux [Desbeausseaux?], Paris.

Editor: Thiébaud de Berneaud, J.B.M.A.Arsenne, "secrétaire perpétuel" of the society.

Dates: vol.1: 1823, after 7 Dec. (last date in vol., in article of A. Richard;
vol.2: never published?; *Honogr. fam. Elaeagnées*);
vol.3-6: see table next page.

Collation: 8* (except plate-vol. to vol.1: 4*);
 vol.1: [pagin.:] i-vi 1 2-741 742 [other unnumbered pages omitted];
 plate-vol. to vol.1: 1* 2-4*; 32 unnumbered leaves;
 vol.2: [pagin.:] I II-CXLI CXLII i-ii 1 2-256;
 vol.3-6(5):

Annales de la Société Linnéenne de Paris									
An- née	Mémoires Soc. Linn. Paris				Bulletin Linnéen [Paris]				Announcements/sources
	vol.	fasc.	gatherings	pages	no.	date	gath.	pages	Bibliogr. France (vol. 14-17)
1	3	1	1-5 ⁸ 6 ⁴	1-88	1	Mar.	1 ⁶	7-12	(12):178. 1824 Mar.20
		2	7-12 ⁸ 13 ⁴	89-192	2	May	2 ⁴	13-20	(28):428. 1824 Jul.10
		3	14-18 ⁸ 19 ⁶	193-284	3	Jul.	3 ⁶	21-32	(44):656. 1824 Oct.30
		4	20-23 ⁸ 24 ⁶	285-360	4	Sep.	4 ⁸	33-48	(52):813. 1824 Dec.25
		5	25-29 ⁸	361-440	5	Nov.	5 ⁴	49-56	
		6	30-35 ⁸	441-534					
2	4		a- g ⁸ h ⁴	I-CXLVIII	16	[Jan.]	6 ⁶	57-67	[1825]
			i2(-12)						
		1	1-3 ⁸ 4 ⁴	1-56	1	Mar.	1 ⁶	7-12	(13):203. 1825 Mar.26
		2	5-9 ⁸ 10 ²	57-140	2	May	2 ⁸ 3 ⁴	13-40	(24):394. 1825 Jun.11
		3	11-15 ⁸ 16 ⁶	141-232	3	Jul.	4 ⁸ 5 ⁴	41-64	(40):660. 1825 Oct. 1
		4	17-27 ⁸ 28 ⁴	233-416	4	Sep.	6-7 ⁸	65-96	(60):921. 1825 Dec.31
3	5	5	29-37 ⁸ 38 ⁶	417-572	5	Nov.	8 ⁸	97-112	
		6	39-46 ⁸ 47 ⁶	573-714					
			a- h ⁸ i ⁴	I-CXXXV	16	[Jan.]	9 ⁶	113-124	[after Feb. 1826]
		1	1-8 ⁸	1-128	1	Mar.	1 ²	7-4	[after Feb. 1826]
		2	9-12 ⁸ 13 ⁶	129-204	2	May	2 ⁸ 3 ²	5-24	(47):526. 1826 Jun.14
		3	14-22 ⁸ 23 ⁴	205-356	3	Jul.	4 ⁸ 5 ²	25-44	(78):834. 1826 Sep.30 {bef.9 Aug.?
4	6	4	24-29 ⁸ 30 ⁶	357-464	4	Sep.	5 ²	45-48	(77):821. 1826 Sep.27
		5	31-36 ⁸ 37 ²	465-564	5	Nov.	6 ²	49-52	(104):1118. 1826 Dec.30
		6	38-41 ⁸	565-628					
			a- i ⁸ k ²	I-CXLVIII	16	[Jan.]	7 ²	53-56	(18):198. 1827 Mar. 3
						[index]	8 ⁴	57-64	
		1	1-7 ⁸ 8 ⁴	1-120	I		1-2 ⁸	7-32	(26):284. 1827 Mar.31
		2	9-13 ⁸ 14 ⁶	121-212	II		3-4 ⁸	33-64	(52):538. 1827 Jun.30
		3	15-22 ⁴ 23 ⁴ 24 ²	213-352	III	{Jul. Aug.}	5-6 ⁸	65-96	{bef. Sep.20 (letter from Desvaux to Ad.Brongniart)
		4	24-28 ⁸ 29 ²	353-436	IV	{Sep. Oct.}	7-8 ⁸	97-128	(78):802. 1827 Sep.29
		5	30-32 ⁸ 33 ⁶	437-496	V	{Oct. Nov.}	9-10 ⁸	129-168	(104):818-819. 1827 Dec.29.

Note: unnumbered pages in the middle or at the end are omitted.

Re-issue. A remarkable re-issue of a number of sheets in the disguise of a completely new title was found: Saumaises, Auguste: *Cours d'agriculture, de botanique et d'histoire naturelle*. 2 vols. Paris, 1837 (which see).

Bibl. notes. The fascicle contents of this periodical had to be worked out (see table) in connection with the articles of Arnott (n.7), Kittel (n.1) and Desvaux (n.1, 2). The two fascicle-wrappers I studied were helpful for their information, including the contents of these fascicles. The contents of the other fascicles have been worked out by the bibliographical method.

It is clear that all incomplete gatherings (of less than 8 leaves) mark the end of a fascicle. In this way only the end of two fascicles remained uncertain: vol.3(5) and 5(1). For these I took it for granted that the beginning of a new fascicle also was the beginning of a new article (consistently the case for the other fascicles with one exception: the break between 6(2) and 6(3) in the article of Desvaux n.2); still, this left some uncertainty, since in both volumes another break was possible, with these criterions.

For fasc.5(2), however, we find that the announcement in *Bibliogr. France* indicates the number of sheets in the fascicle: 58. This explicitly included the *Bulletin Linnéen*. My collation indicates 6 sheets, since this is in better agreement with the statement mentioned than any other arrangement. For fasc.3(5) I inferred the break at a point where the numbers of sheets in the two fascicles were not too unequal; the other possibility is a break between p.424 and p.425.

The dating of the volumes and fascicles formed another problem. The volume- and fascicle-dates cannot be trusted; there were considerable delays. Vol.1 was probably published late in Dec. 1823, in time before the yearly meeting at the end of December, I suppose.

Vol.2 was, as far as I know, never published in the bibliographical sense, that is, put for sale. This is clear from the wrappers of fasc.6(2) and 6(3), stating that vol.2 was not yet published because it was "retardé par la gravure et quelques autres auteurs absens, 14 planches et portrait de Tournefort." Since after fasc.6(5) no more of the journal was published, it is unlikely that vol.2 was published at all. The copy in PMusBC therefore probably came in some other way to the Muséum. In how far it was distributed to botanists, fulfilling a requirement of the ICBN, I am unable to say.

The fascicles of the volumes 2-6 were published with new wrapper-titles: *Annales de la Société Linnéenne de Paris*, counting the years from 1823 onwards; they contained the *Mémoires* and the *Bulletin Linnéen*, and were scheduled to appear each two months; the wrappers consisted of thin colored paper.

The dates can be seen from the table of the collation, where the announcements in *Bibliographie de la France* are added. This journal appeared twice a week; the announcements under the heading "Subscriptions" of the periodicals published in Paris indicate publication with a margin of three months. Only occasionally an announcement will have been published later, e.g. when a copy was not delivered correctly.

This may be the explanation for the remarkable fact that fasc.5(3) was announced later than fasc. 5(4), just one installment later. Probably fasc. 5(3) and 5(4) were published together, shortly before 27 Sep. 1826, as it is also likely that fasc.4(3) and 4(4) were published together. Possibly the secretary tried to bring out the summer fascicles before the sessions of the society were resumed in October.

I did not find any announcement for the sixth fascicle of the years 1824-1825, which contained the last gatherings of the *Mémoires* and the *Bulletin Linnéen* and also the preliminaries of the complete volume of the *Mémoires* and the reports of the society over the year concerned; the title bears the year number of the publication year, not of the year of the fascicles 1-5. The 6th fascicles were scheduled for January, but I doubt that they were published already in this month; for vol.4 I am sure it was not even yet published in February because of the reference to the fact that Arnott was a "correspondant" (see Arnott n.5).

Another indication is the announcement of a prospectus for the *Ann. Soc. Linn. Paris* in *Bibliographie de la France* 1825(12): 185. 1825 Mar. 19. This announcement indicates the size of the prospectus (8°, $\frac{1}{2}$ sheet), the price and the printer of the periodical, and then quotes with two italicized words: "1^{re} année finira avec le mois de janvier 1825, le 2^e année a commencé avec le mois de mars 1825 et finira avec le mois de janvier 1826." This italicizing apparently is from the editor of *Bibliogr. France*, indicating that he had not seen the fascicles concerned. In the same journal it is indicated (*Bibliogr. France* 1826(47): 526. Jun. 14) that only 5 fascicles of 1824 and 5 of 1825 were seen.

MEMOIRS of the WERNERIAN NATURAL HISTORY SOCIETY

8 vols. Edinburgh, 1811-1839.

Title (vol.5(1)): "MEMOIRS | OF THE | WERNERIAN | NATURAL HISTORY SOCIETY. | VOL. V. | FOR THE YEARS 1823-24. | [short rule] | PART I. | [short rule] | WITH SEVEN ENGRAVINGS. | [very short swelled rule] | EDINBURGH; | PRINTED FOR | ADAM BLACK, NORTH BRIDGE, EDINBURGH; | AND LONGMAN, HURST, REES, ORME, & BROWN, | LONDON. | [very short rule] | 1824."

Dates and announcements:

vol.	pages	pls. & maps	date t.p.	last date	on p.	publ.-date	source
1	i-xxiv 1-632	15 2 tables	1811	1810 Nov. 24	609	1811 Jan.-Jun. 1811 Jun. 6 1811 Oct.	<i>Edinb. Rev.</i> 18:286. 1811 (between ...) <i>Monthl. Lit. Adv.</i> 1811 (74):43. 1811. <i>Sherborn, Ind. Animal.</i> 1801-60:xlvi. 1922
2(1)	1-260	19		1814 Feb. 12	252	1814 May 1814 Nov. 7	<i>Sherborn l.c.</i> <i>Trans. R. Soc. Edinb.</i> 9:531. 1823 (recd.)
2(2)	i-xvi 261-700	9	1818	1817 Dec. 20	666	1818 Jan. 1818 Feb. 2	<i>Blackw. Edinb. Mag.</i> 2(10):379. 1818. <i>Trans. R. Soc. Edinb.</i> 9:533. 1823 (recd.)
3	i-xii 1-560	25	1821	1821 Mar. 10	539	1821 May 1821 Jun. 20	<i>Blackw. Edinb. Mag.</i> May 1821 (Sayre p.66). <i>J. Gén. Litt. Étrang.</i> (Sayre p.66).
4(1)	i-viii 1-252	10	1822	1822 May 18	237	1822 May 1822 Aug. 1823 Apr. 5	<i>Sherborn l.c.</i> (doubtful). <i>Blackw. Edinb. Mag.</i> 12(67):243. 1822. <i>Linn. Soc. Lond.</i> (recd.)
4(2)	[viii] 253-604	7	1823	1823 May 31	588	1823 May 1823 Jul.	<i>Sherborn l.c.</i> (not correct). <i>Blackw. Edinb. Mag.</i> 14(78):112. 1823.
5(1)	i-viii 1-288	7	1824	1824 Mar. 21	287	1824 May 20 1824 Jun. 14	letter Arnott to Brongniart 20 May 1824 <i>Linn. Soc. Lond.</i> (recd.)
5(2)	i-viii 289-600	10	1826	1825 Dec. 3	580	1826 Jan. 2 1826 Jun. 20	<i>Trans. R. Soc. Edinb.</i> 10:423. 1826 (recd.) <i>Linn. Soc. Lond.</i> (recd.)
6	i-vi 1-591	6	1832	1831 Apr. 16	581	1832 Jan. 1 1832 Feb. 1	<i>Trans. R. Soc. Edinb.</i> 12:570. 1834 (recd.) <i>Linn. Soc. Lond.</i> (recd.)
7	i-iv 1-520	45	1838	1838 Aug. 11	510	1839 Jan. 7	<i>Trans. R. Soc. Edinb.</i> 14(2). 1841 (recd.)
8(1)	i-iv 1-164	5	1839			after 1839 Jul.	<i>Sherborn l.c.</i>

Printer: Neill, Patrick, Edinburgh (see Greville n.5).

Notes. This list gives some refinements compared with earlier lists (*Sherborn*; Stearn in v. Steenis-Kruseman: *Flora Males.* ser. 1, 4(5): CCI. 1954). As was already known for the articles of R. Brown and D. Don, separates from this journal were published before its fascicles; I could prove the same for the articles of Greville and Arnott. The position of the printer, being the secretary of the society, makes this understandable.

The dates given by *Sherborn* are not completely reliable, and he did not give any documentation. The other dates given are the dates of the fasc. of the periodicals with the announcement or review, and the dates of receipt of the book by the organization, indicated: (recd.); obviously the actual date of publication was usually earlier.

MOUGEOT, Jean Baptiste

Biogr. Born 1776 Sep. 25, Bruyères, now dép. Vosges, France.

Died 1858 Dec. 5, Bruyères.

After education at home he studied at the school of the gray friars at Alt-Breisach, later at the universities of Freiburg im Breisgau, and Basle, where he studied philosophy. Being placed on the list of "émigrés", he could not come back into France until 1795. In this year he botanized for the first time on the mountain Hohneck in the Vosges, where he returned nearly every year. He found many alpine plants in these mountains which before were considered to be confined to Switzerland.

He was sent to the medical school at Strasburg as national pupil for the district of Bruyères. Here he heard botany from Jean Hermann (1738-1800), and met Nestler as a fellow-student. He left the school 1 ventôse an VII (19 Feb. 1799), was called to arms to the field hospitals, went into Germany, where he studied natural history whenever possible, and made acquaintances with other botanists. After the peace of Lunéville (1801) he went to Paris for further study, where he received his doctor's degree 26 germinal an XI (18 Apr. 1803).

He settled as a physician at Bruyères for the remainder of his life, soon having charge of the hospital and helping the poor and the sick at every opportunity. Nevertheless he found time for a very fruitful scientific exploration of the Vosges mountains, not only botanical, but also geological. He was mentioned in 1810 by A.P. de Candolle as one of the botanists who had contributed most to the study of the French flora.

The exsiccata series, which he published together with Nestler, and after the death of the latter with W.P. Schimper, is discussed below. He also helped to prepare a geological map of the Vosges and was a founder of the Muséum at Épinal (the capital of the department Vosges), gave a choice collection of minerals and contributed yearly to it.

He was mayor of Bruyères for a considerable time, and was also elected a member of the general council of the département in 1833 and was reelected every time. In 1836 he was nominated chevalier de la Légion d'honneur. His son, [J.] Antoine, (1815-1889) became a well-known mycologist. A collection of letters of Jean Baptiste is preserved at the Bibliothèque of the Muséum d'Histoire Naturelle de Paris.

He was commemorated in the generic name *Mougeotia* C.A. Agardh 1824 *nom.cons.* (*Chlorophyta*, *Zygnemataceae*), and *Mougeotia* Humboldt, Bonpland & Kunth 1821 (*Sterculiaceae*), and the specific name *Amphidium mougeotii* (B.S.G.) Schimper (*Musci*).

Refs.: Jaubert: *Bull.Soc.Bot.France* 5: 562-565. 1859.

Annales Soc.Émul.Vosges 10(1). 1858 (extract 20 p.).

MOUGEOT, J.B. & NESTLER, C.G. [fasc.12-15:] & SCHIMPER, W.P.

1 *Stirpes cryptogamae Vogeso-Rhenanae ...*

15 fasc., 1 index-vol. Bruyères, 1810-1860 [exsiccata].

Title: fasc.1: "STIRPES CRYPTOGRAMAE | VOGESO-RHENANAE; | Quas in Rheni superioribus inferiorisque, nec non Vogensorum praefecturus | collegerunt | J. B. Mougeot (Bruyeriensis M. D.) et C. Nestler, Argentinensis Pharm. | Fasc. 1, Bruyerii Vogensorum typis M. Vivot, 1810."; fasc.2-11: slightly altered titles, especially as to printer; fasc.12-14: added after the authors: W. P. Schimper; fasc.15: J.-B. et J.-A. Mougeot, C. Nestler, et W. P. Schimper; index-vol.: "INDEX ALPHABETICUS | GENERUM, SPECIERUM ET SYNONYMORUM | IN | J. B. Mougeot, C. Nestler et W. P. Schimper Stirpibus | Cryptogamis Vogenso-Rhenanis a fasciculo primo ad duodecimum usque enumeratorum. | [short swelled rule with pearls] | Bruyerii Vogensorum 1843."

Collation: 4°:

fasc.1: iv⁴; i-viii;

fasc.2-15: not studied, usually 2 leaves, unnumbered;

index-vol.: 13 leaves; pagin.: 1-4 5-25 26.

Contents: fasc.1: i-ii □; iii title; iv □; v dedication to Dominique Villars (1745-1814), professor of botany at Strasburg; vi □; vii-viii alphabetical index to the species with their serial number; fasc.2-15: not studied in detail, usually only title and list of species, fasc.12 with a preface, dated Oct. 1842, signed: "J.B. Mougeot W.P. Schimper."; fasc.15 with a preface, dated 1 Jun. 1860, written by the son of J.B. Mougeot, [J.]-Antoine Mougeot (1815-1889) who prepared this fascicle after his father's decease.

Plate: frontispiece in fasc.15: portrait of J.B. Mougeot.

Specimens: pasted to the rectos of quarto leaves, one species per leaf, sometimes two specimens from different localities, occasionally of a different variety on the same leaf; gatherings quired of 8 or 10 leaves (2 or 2½ sheets), in sufficient amount to make 100 leaves; printed labels pasted on rectos of the specimen-leaves, with the following information (in general): a) consecutive number, b) Latin name with author's citation, c) usually a synonym, d) habitat, month of the sporophyte, and a general indication of occurrence, e.g. "ubique", rarely a special locality, e.g. "12 *Gymnostomum Hedwigia* Schrank" had an extra specimen marked "a" on the leaf, on the label referred to as "a. Varietas major, frequens circa Gerardmer."

Printer: fasc.1-...: Vivot, Bruyères, dép. Vosges, France; he died circa 1815; his widow continued the press for a time and then moved to Saint Dié, dép. Vosges, where the remaining parts were printed. She married there another printer; I did not investigate whether he continued printing this series.

Publisher: apparently Mougeot sent out the copies.

Dates and contents of fascicles:

fasc	specimen numbers	Musci numbers	date t.-p.	publication date and source
1	1- 100		1810	after 1 Sep.; 1810 or 1811 (Sayre 37).
2	101- 200	112- 146	1811	
3	201- 300	209- 238	1812	
4	301- 400	307- 335	1813	
5	401- 500	405- 430	1815	{ 1816: copy PC inscribed: <i>séance de 19 Juin 1816</i> ; <i>Flora</i> 2(38):589-599, 1819, 5 ¹ (<i>Beil.</i> 1):37, 1822: "1816".
6	501- 600	505- 526	1818	{ bef. 10 Nov.: <i>Flora</i> 1818 (fide Sayre 58); <i>J.Phys.</i> (Paris)89:285-287, 1819 Oct.
7	601- 700	605- 628	1820	in or bef. Mar.1824: <i>Bull.Sci.Nat.</i> 1(3):252-253, 1824. after Jan. (later than Arnott n.5); ca. Apr.? (see p.67).
8	701- 800	703- 732	1823	
9	801- 900	802- 835	1826	
10	901-1000	902- 934	1833	{ after 1 May (pref.); bef. or in Apr.1834: <i>Ann.So.Nat.</i> ser.2: 1:251-252, 1834: "1834"; <i>J.Bot.</i> (Hooker)1:158, 1834: "1834".
11	1001-1100	1002-1036	1840	aft.10 Oct.1842(pref.); bef. 11 Mar.1845: PC copy(recd.)
12	1101-1200	1102-1134	1843	
13	1201-1300	1204-1231	1850	
14	1301-1400	1304-1322	1854	
15	1401-1500	1403-1416	1860	after 1 Jun. (pref.).

Review (other than already in the above list):

de Candolle, A.P.: *Biblioth.Univ.Sci.* (sect. *Sci.*) 44(7): 261-262. 1830 Jul.

Refs.: index 1843: BMNH 1361 | exsiccata fasc.: Kew (1-12)
Cat.Juss. n.2148 | Krüg. 110 (1-5)
Pr.ed.1 n.7248 | Milt. 279 (1-5).

Notes. Important series of exsiccata, serving as a model for many others. The dates of the fascicles 1-7 have been reviewed by Dr. Sayre. I was unable to find any more precise date for fasc.9, with the title-date 1826. Possibly in some letters of Mougeot information is to be found, but the file I glanced through at the Bibliothèque du Muséum d'Histoire Naturelle, Paris, did not give me any answer on this year. I had especially hoped to find letters of S.E. Bridel, who had sent information of his *Bryologia universa* to Mougeot: "n.832 *Bryum erythrocarpon* Brid. Bryol.Univ. p.654 (ex Brid. in Litt.)". The only certain point, up to now, is that this fascicle was published later than Arnott's *Disposition méthodique* ... (the 4th pre-publication), since it is cited after n.813 in the synonymy.

A number of new names were proposed in the series, but usually no descriptions were printed, and only if some reference to a name with a published description was given, the name is valid. Unfortunately this is the case with *Buxbaumia industriata* Brid., as a species universally recognized under this name, without any exception as far as our work for *Index Muscorum* showed, but which name is antedated by "*Buxbaumia viridis* Brid. in Litt.", with the valid reference to "*B. aphylla* b. *viridis* De Candolle Fl. Fr. Suppl. p.227 [1815]", in fasc.8, n.724. 1823.

NEES von ESENBECK, Christian Gottfried [Daniel]

Biogr. Born 1776 Feb. 14, Reichenberg (castle) near Erbach, Odenwald, Germany.

Died 1858 Mar. 16, Breslau, Germany.

C.G. Nees von Esenbeck attended the gymnasium of Darmstadt, 1792-1796, and at the University of Jena he studied medicine, and natural history under A.G.J.C. Batsch (1761-1802), and philosophy under F.W.J. Schelling (1775-1854), having also contacts with Goethe in Weimar. He received his degree Dr.Med. in Giessen in 1800.

He then practiced as a physician in his native region, but gave this up since it badly influenced his health. He retired to the estate Sickershausen near Kitzingen am Main which he had inherited from his wife who had died after one year of marriage. Here he devoted his time to the study of languages and to the formation of collections of animals (especially birds and insects), and of plants. His animal collection later came to the University of Bonn, after he had published on some insect groups. His articles on plants are numerous, and of different contents, advocating the "Naturphilosophie" of Schelling, or treating different groups of cryptogamous as well as phanerogamous plants systematically.

He became a member of the Academia Caesarea Leopoldino-Carolina in 1816, its president on 3 Aug. 1818, and edited its *Nova Acta* for many years. When the returns from his estate diminished considerably he needed a position; he was nominated professor of botany at Erlangen in 1817, and at the new University of Bonn in 1818. Here he worked fruitfully, publishing also together with his brother Theodor Friedrich Ludwig (which see). The botanical garden was energetically supported by him.

In 1830 he exchanged his position in Bonn with the similar one of Treviranus in Breslau, in connection with the interests of the Academia Caesarea Leopoldino-Carolina. In Breslau he gradually became more involved in political and social organizations advocating freedom, which finally led to dismissal from all his functions. He had to sell all his collections and ended in a rather poor condition, but he did not renounce the ideals he had lived for.

His collection of *Hepaticae* is preserved in the Institut de Botanique de la Faculté des Sciences of the University at Strasbourg.

He and his brother are commemorated in the generic names *Esenbeckia* Humboldt, Bonpland & Kunth 1825 (*Rutaceae*), *Esenbeckia* Blume 1825 = *Neesia* Blume 1825, *Esenbeckia* Brid. 1827, replaced by *Garovaglia* Endlicher 1836 (*Musci*, *Pterobryaceae*), *Neesia* Sprengel 1818, *nom.ref.*, a superfluous synonym of *Otanthus* Hoffmannsegg & Link (*Compositae*), *Neesia* Blume 1825, *nom.cons.* (*Bombacaceae*), and *Neesiella* Schiffner 1893 (*Hepaticae*, *Marchantiales*).

Refs.: Hooker, W.J.: *Kew J. Bot.* 4: 28-29. 1852.

Kieser: *Nova Acta Phys. Med. Acad. Caes. Leop.-Car.* 27: lxxxv-xcvii. 1860.

Wunschmann, E.: *Allg. Deutsche Biogr.* 23: 368-376. 1886.

1 *Spiridens* ... 1823.

See: Reinwardt & Nees, n.1.

2 Nachschrift [to: Breutel: *Beitrag zu der Moosgattung Sphagnum*].

Flora 7(28): 441-442. 1824 Jul. 28.

Collation etc.: see *Flora*.

Bot. notes. Supplement to the article of Breutel (n.2) on *Sphagnum*, giving comparison of the parallel series of *Sphagnum* species with "exserted" and with "immersed" (sessile) sporophytes, the latter except one proposed by Breutel.

NEES von ESENBECK, Chr. & HORNSCHUCH, Fr. & STURM, Jacob

1 Bryologia Germanica ...

2 vols. in 3 parts. Nürnberg & Leipzig, 1823-1831.

Title (not transcribed): *Bryologia Germanica, oder Beschreibung der in Deutschland und in der Schweiz wachsenden Laubmoose*, von ... C.G. Nees von Esenbeck ... F. Hornschuch und J. Sturm, ... Nürnberg, J. Sturm ... Leipzig ... Fleischer.

Collation: 8°: vol.1: π^8 (= π_{36} π_8) $2\pi^2$ (= π_{36}) a-1⁸ k⁴ x(quarter-sheet folded table) A-B⁸ 2x(folded table) C⁸(=C₁₈ =2x) D-N⁸; i-xvi I II-CLIII CLIV 1 2-206 (CXIII as 'CXII', 203 as '206', CLIII folded table, recto of x, verso unnumbered, 33-34: folded table 2x); vol.2(1): π^1 A-E⁸(E₆+x¹) F-L⁸ M⁸; i-ii 1 2-76 [unnumbered folded table] 77-182 183-188; vol.2(2): A-N⁸ x¹; 1-3 4-208 209-210.

Contents: vol.1: i title; ii □; iii dedication to Karl Freiherr Stein von Altenstein (1770-1840); iv □; v-viii text of the dedication, signed: "Bonn und Greifswald, | den 1. May 1822. | [...] | Dr. Nees von Esenbeck | Dr. Hornschuch."; ix-xii thanks to the friends of German muscology: "Den Freunden | der deutschen Mooskunde", signed: "Die Verfasser."; xiii notice of the authors: "Zur Nachricht.", signed: "Die Herausgeber." and dated 14 Feb. 1823; xiv □; xv-xvi corrections in the introduction; I-III introduction, dated: "Bonn und Greifswalde am Christfest 1821.", signed: "Dr. C.G. Nees von Esenbeck. | Dr. Fr. Hornschuch."; IV-CLII introduction to bryology in general and that of Germany in particular, including (CXLIIV-CLII) a list of sources; CLIII folded table of genera of mosses of Germany, headed: "Einleitung. IX. Conspectus generum Muscorum Germaniae."; CLIV □; 1-206 text, headed: "DEUTSCHLANDS MOOSE.", descriptions of German moss genera, species and (in some species a large number of) varieties, *Sphagnum* - *Hymenostomum*, including the folded table 33-34; vol.2(1): i title; ii □; 1-180 text, continued, *Tetraphis* - *Grimmia*; 181-182 corrections; 183-188 list of works published by Jacob Sturm, dated 1827, including his *Deutschlands Flora* 1-17; 187-188 offer of a limited number of complete sets of his *Deutschlands Flora* and *Deutschlands Fauna* at a reduced price; vol.2(2): 1 title; 2 □; 3-208 text, continued, *Brachyodus* - *Trematodon*; 209-210 list of works published by Jacob Sturm, including his *Deutschlands Flora*, *Abt. 2 Cryptogamen* 1-20, which was also offered with illustrations on wove paper at a higher price. RT: mostly German names of systematic groups and the Latin generic name, e.g.: "Gipfelfrüchtige. Mündungslose. Voitia. | Fam. 2 Scheidige. Vaginulati. Voitia." Language: German. r

Plates: 43 hand-colored or uncolored copper-engravings, in vol.2(2) (colored state) partly printed in color (*Brachyodus* pl.25), illustrating moss species and varieties, numbered: vol.1: I-XII, vol.2(1): XIII-XXXIV, vol.2(2): XXV-XLII; generic names above, specific epithets below the figures concerned, species also with a numeral (in each genus new numbering), varieties marked with one or more (up to 4) asterisks; plate-mark: 189 × 117 mm. (pl.1).

Artist and engraver: Sturm, Jacob (which see)

Paper: leaf height 221 mm. (NYBG copy 1); laid, chains vertical; wm.: "N 8 = W [swash script letters]" (at least 2 different moulds, with larger or smaller 8); vol.1, 2(1): most sheets; 2(2): all sheets except E-N (no wm. seen in E-N); plate paper: wove; wm.: "J T [outline]": pl.1-2; "L O R [outline]": pl.4 6 7; "F O R" pl.17; "[crown] | K & M": pl.26-41 (not in all pls.) (NYBG copies).

Printer: no imprint.

Publishers: vol.1: Sturm, Jacob, Nürnberg, Germany (which see);
vol.2(1): Fleischer, Friedrich, Leipzig;
vol.2(2): Sturm and Fleischer (? notes insufficient).

Dates: vol.1: 1823 (t.-p.); after 14 Feb. (p.*xiii*);
Feb. (*Hess. Sci. Arts Gand* 1823(2): 88. 1823 Jun., not completely reliable);
bef. 15 Apr. (*Allg. Repert. Neuzeit. In-Ausl. Lit.* 1823²(1): 11-14. 1823 Apr. 15);
sem.2 (*Flora* 6(26): 414. 1823 Jul. 14: recd. for library spring 1823);
vol.2(1): 1827 (t.-p.); circa Apr. (*Linnaea* 2(4): 676. 1827);
vol.2(2): 1831 (t.-p.); in or bef. Oct. (*Flora* 15(8): 119. 1832: recd. for library).

Reviews (other than mentioned under *Dates*):
Flora 6¹(*Beil.* 6): 81-82. 1823;
Flora 6(22): 337-340. 1823 Jun. 14;
Bull. Gén. Univ. Annon. Nouv. Sci. 3(3): 424-425. 1823;
Isis (Oken) 13(22): 1240-1241. 1823;
vol.2(1): *Flora* 13²(*Ergdms. Bl.*): 18-35. 1827;
Isis (Oken) 21(3/4): 263. 1828;
vol.2(2): *Flora* 14² *Lit. Ber.* 1²(16): 250. 1831;
Isis (Oken) 25(7): 709-710. 1832.

Refs.: BMNH 287, 1408, 2043	Krüg. 242	Milt. 485
Brun. 4: 32	Lindl. Libr. 324	Niss. n.1439
Graesse 4: 655	Linn. Soc. 374, 562, 740	Pr.ed. 1 n.7452
Jacks. 296	Kew 291, 448, 594	Pr.ed. 2 n.6649.

Bibl. notes. The π 's and χ 's in vol.1 deserve mention. The gathering 2 π consists of the conjugate pair of leaves π_{36} taken out and inserted after the other leaves of π ; the WU copy had this pair folded together with the other leaves which interrupts the dedication. Another collation is: π^6 2 π^2 , but the one here is preferred to show its position.

χ and 2 χ are folded tables, but they are included in the pagination and therefore treated as part of the collation. 2 χ could also be designated C₁, but 2 χ is preferred since it in fact is C₁s inserted as a folded table. Likewise χ may have been part of the sheet on which k was printed, but this has not been checked thoroughly.

The folded table in vol.2(1) is for consistency also treated in the text-collation, though this leaf is unnumbered. In the notice on 2 π , r (p.*xiii*) a "synopsis" to the plates is mentioned, to be used for quick finding and determining. I have found no other reference. Since the work is unfinished, this part too will never have been published.

Bot. notes. A thorough treatment of the German mosses, illustrated by careful drawings of the species and varieties.

The authors of the text were Nees and Hornschuch; Sturm was the artist. Nevertheless, in my opinion, the new names should be cited with the three names as authority, since they are all on the title-page. In some bryological works this set of names has been abbreviated to N.H.S.; in some earlier works only *Bryol. Germ.* was used.

The preparations of the work took a long time. An early announcement is in *Flora* 2(7): 107-111. 1819 Feb. 21. In Oct. 1821 it was expected that vol.1 would be ready at the Easter Fair 1822; vol.2 was planned for Easter 1824, see *Flora* 6(28): 447. 1823 Jul.; in the same journal, 9(15): 236. 1826 Apr. 21 it was mentioned as follows: "... wird nächstens ein neuer Band erscheinen; die Manuskripte dazu sind schon in Sturms Händen, und dieser ist unaufhörlich mit dem Stich der Kupfer beschäftigt." Apparently this took some time, together with the printing.

The treatment of the species goes deeply into details, with sometimes long discussions. An unusual number of varieties was proposed, which in many cases were only modifications in the modern concept; probably they were not meant to be more. The work was never completed, since it was not a financial success. Possibly it went into too much detail.

NEES von ESENBECK, Theodor Friedrich Ludwig

Biogr. Born 1787 Jul. 26, Reichenberg (castle) near Erbach, Odenwald, Germany.
Died 1837 Dec. 12, Hyères, dép. Var, France.

T.F.L. Nees von Esenbeck attended school at Erbach, and after that he had to help his father in the management of an estate in Kitzingen am Main, but he preferred to accompany his brother Christian Gottfried on trips for collecting plants and insects.

He chose pharmacy, but first he followed a course in botany with his brother. In 1805 he became a pupil of Martius, court-pharmacist in Erlangen, and interested one of the sons in botany (the later famous Carl F.P. von Martius, 1794-1868). In 1811 he went to the pharmacy of Bernoulli in Basle, where he stayed until 1816, making many botanical excursions in the Swiss mountains.

For health reasons he was home in 1816 and after that he assisted in a pharmacy in Hanau. Here he made the acquaintance of H. Kuhl (1796-1821) who had an assignment from the Dutch government to make a scientific journey in the island of Java and was taking leave of his relations in Hanau. Back in Leiden Kuhl recommended Nees to S.J. Brugmans (1763-1819), the director of the botanical garden, which led to his appointment as inspector of this garden in 1817. He reorganized the garden in a systematical arrangement of the plants, made an inventory of the plants, and made many connections for the establishment.

Observations on the gemmae of the moss *Bryum annotinum* found in the dunes near the Dutch coast was the subject for his doctor's thesis, Erlangen 1818, including his view on the development of the cryptogams. He also made the acquaintance of C.L. Blume (1796-1862), who was preparing for a voyage to Java too.

In the summer of 1819 his brother Christian Gottfried called him to the University of Bonn, as inspector of the botanical garden and Repetent of Botany, where he helped to develop the new botanical garden to an important establishment, together with the gardener W. Sinning (1794-1874).

In Sep. 1819 he became "Privatdocent" at the University, and he lectured on pharmaceutical botany and preparative pharmacy, with real material for observation. In 1822 he became extraordinary professor and in 1827 ordinary professor of pharmacy and the director of the new pharmaceutical laboratory, founded largely by his efforts. In 1833 he became co-director of the botanical garden.

He published many pharmaceutical-chemical papers; he especially worked on the botanical identifications of many foreign drugs. In 1834 he was a founder of a botanical society of the middle- and lower Rhine area. His health was not too good, and when it strongly deteriorated in the summer of 1837, he hoped to recover in the milder climate of Southern France, but he died there.

For commemoration in generic names, see Christian Gottfried.

Refs.: Nees von Esenbeck, C.G.: *Theodor Friedrich Ludwig Nees von Esenbeck, zur Erinnerung ...* Breslau, 1838, p. 32-40 (not seen).
Wunschmann, E.: *Allg. Deutsche Biogr.* 23: 376-380. 1886.

1 *De muscorum propagatione commentatio ...*

Bonn, 1820.

Title: "THEOD. FRID. LUD. NEES AB ESENBECK | PHILOSOPHIAE DOCTOR | REG. SOC. BOT. RATISBON. SOC. PHARM. BAVAR. MEMBR. HON. | DE | MUSCORUM PROPAGATIONE | COMMENTATIO. | Cum tabula aenea picta. | [very long swelled rule] | BONNAE | apud Adolphum Marcum | 1820."

Collation: 4°: identical with the 1818 thesis, with cancellans title-leaf

Paper: laid, chains horizontal;
plate paper: laid; wm.: "[two circles around inscription] PATRIA EIUSQUE LIBERT ... [narrower circle within, enclosing Dutch lion on pedestal with inscription:] VRIJHEID".

Publisher: "Marcus, Adolphus", Bonn, Germany.

Note: title-page issue of the thesis of 1818.

2 Beobachtungen über die Entwicklung der Laubmoosen aus ihren Keimkörnern.

[Bonn, 1824] [separate].

Title: "BEOBACHTUNGEN | ÜBER DIE | ENTWICKLUNG DER LAUBMOOSE | AUS IHREN KEIMKÖRNERN
| VON | DR. TH. FR. LUDW. NEES V. ESENBECK, | M. d. A. d. N. | Mit 2 Kupfertafeln."

Collation: 4°: v¹ 22-23⁴(-23^{3,4}); 167-168 169-180.

Contents: 167 title; 168 []; 169-179 text, discussing observations on the development of mosses from gemmae; 179-180 "Nachtrag", discussion of Cassebeer n.2; 180 observations and correction.

Plates: 2 copper-engravings, color-printed (green) with additional hand-coloring; numbered: "XIII", "XIV" (in period.) of moss protonema; plate-mark: 243 × 206 mm.

Artist: Wild, T., Germany. (pl.13).

Engraver: Engels, W., Germany.

Paper: leaf height 255 mm. (UB Utr. copy of period., cut); wove.

Date: 1824 (t.-p.); early 1825? (period. p. v. list of new members: "usque ad finem anni 1824").

Review: *Flora* 8(25): 397-400. 1828 Jul. 7; (26): 401-408. 1828 Jul. 14.

Bibl. note. Separate consisting of sheets of *Nova Acta Phys. Med. Acad. Cass. Leop.-Car.* 12(1): 167-180. 1824, without change. No pre-publication notice seen.

Bot. note. The "Keimkörner" (gemmae) of this article included spores from the sporophyte; careful observations, with a supplement, doubting Cassebeer's explanations of the "generatio originaria" and giving his own argument to treat the spores of mosses as "Keimkörner" and not as seeds.

NESTLER, Chrétien Géofroy [Christian Gottfried, in German]

Biogr. Born 1778 Mar. 1, Strassburg, France.

Died 1832 Oct. 2, Strassburg.

C.G. Nestler was the son of a pharmacist and began to study pharmacy at the age of 16 under the direction of his father. When he later studied under Jean Hermann (also spelled Johann Herrmann, 1738-1800) he became interested in botany, as "passion dominante", so that his father had to take him away from his herbarium for the pharmaceutical preparations. He followed also medical courses.

In Jan. 1802 he was nominated honorary member of the Regensburger Bot. Gesellschaft. In 1803 he visited Paris where he met such botanists as Richard, admiring their collections. As a pharmacist of the army he was in Prussia and Austria, and visited Hungary, Salzburg and parts of Switzerland.

He was nominated professor of pharmacy (obviously, more correctly "professeur-adjointe à l'école de pharmacie" of Strassburg [documents in Archives Départementales, Bas-Rhin, Strassbourg], in 1811, and lectured for the professor of botany, Dominique Villars (1745-1814) as "suppléant" when the latter was ill.

After Villars' death he applied for this position and was nominated after a "concours" (on which I only saw a few documents in the Archives aforementioned), 20 Mar. 1817. He was very well versed in the botany of his region, made improvements in the botanical garden and sent many observations on plants to de Candolle. He did not publish much, apart from the exsiccata series with Mougeot (Mougeot & Nestler n.1). He was working on a flora of Alsace, when death overtook him. One of the candidates for his chair was F.F. Chevallier (which see).

Nestler's Christian names were checked in a "copie" of his "Acte de naissance" in the Arch. Dép. Bas-Rhin, Strassburg. Usually they are given in German (see above).

He was commemorated in the generic names *Nestlera* Sprengel 1818 (*Compositae*), *Nestlera* Willdenow ex Steudel 1841, a synonym of *Bouteloua* Lagasca (*Gramineae*), and *Nestlera* E. Meyer ex Walpers 1852, a synonym of *Leucosidea* Ecklon & Zeyher (*Rosaceae*).

Refs.: Caillot: *Notice lue à la Faculté de médecine de Strassbourg, le 27 déc. 1832.*

Sitzmann, F.E.: *Dictionnaire de biographie des hommes célèbres de l'Alsace ...* 2: 363. 1910 (Rixheim, Alsace).

1 *Stirpes cryptogamae Vogeso-Rhenanae ...* 1810-1860.

See Mougeot & Nestler n.1.

NOLTE, Ernst Ferdinand

Biogr. Born 1791 Dec. 24, Hamburg, Germany.

Died 1875 Feb. 13, Kiel, Germany.

Nolte received private education at home until at the age of 18 he came to the court physician Dr. Sachse in Schwerin, who taught him the classical languages and natural sciences; this brought him to botany. He fled the French army and finally settled in Goslar, where he became a pupil of the pharmacist Braunholz. He left after half a year and went in Sep. 1813 to the University of Göttingen, studying medicine, and not forgetting botany.

He became Dr. med. in 1817 and continued his studies in a hospital in Berlin. He botanized in the Berlin region with Schlechtendal. After meeting J.W. Hornemann he became a collaborator of the *Icones florum Danicae*. He traveled from 1821-1823 in Lauenburg and the neighboring region; in 1824 he settled in Copenhagen, making botanical trips all over Denmark.

In the summer of 1826 he became professor of botany and director of the botanical garden at Kiel, where he had among his pupils the later famous Ferdinand [von] Müller, the outstanding Australian botanist. After the death of his wife (1860) his health deteriorated, but he bore his sufferings with resignation. He was pensioned in 1873.

He was commemorated in the generic names *Noltia* Schumacher ex Thonning 1827 [or 1828?] = *Diospyros* L. sect. *Noltia* (Thonning) Hiern (*Ebenaceae*) and *Noltea* Reichenbach 1828 (*Rhamnaceae*).

Ref.: Wunschmann, E.: *Allg. Deutsche Biogr.* 23: 760-762. 1886.

1 Novitiae florum Holsaticae ...

Kiel, 1826.

Title: "NOVITIAE | FLORAE HOLSATICAE | SIVE SUPPLEMENTUM ALTERUM | PRIMITIARUM FLORAE HOLSATICAE | G. H. WEBERI | AUCTORE | ERNESTO FERDINANDO NOLTE, M. D. |[...]| [thick thin rule] | KILONII. | PROSTAT IN LIBRARIA ACADEMICA | [very short thin rule] | 1826."

Collation: 8°: π^8 π^4 1-5⁸ 62(-6₁); I-V VI-XXIV 1 2-82.

Contents: I title; II quotation from Seneca; III dedication to G.H. Weber (1752-1828); IV \square ; V-XXIV preface, headed: "Praemonita.", dated: "Junio anni 1826.", containing a concise history of botany in Holsatia and discussing the floral elements, in which some *Musci* (and other cryptogams) are mentioned, e.g. p.XXX: *Cinclidium stygium*, *Messia uliginosa*, *dealbata*, *longicauda* and *Splachnum ampullaceum*; 1-82 text, list of 500 Holsatian phanerogams not mentioned in G.H. Weber/F.H. Wiggers: *Primit. Fl. Hols.*, occasionally with descriptions; 82 corrections and imprint: "HAVNIAE | EX OFFICINA HARTV. FRID. POPP." No RT. Language: Latin.

Paper: leaf height 182 mm. (W copy); laid; no wm.

Printer: Popp, Hartv. Frid., Copenhagen, Denmark.

Publisher: Libreria Academica, Kiel (see also *Variant*).

Date: 1826 (t.-p.); after Jun. (pref.).

Reviews: *Linnaea* 2(1): 88-89. 1827 Jan.;
Flora 11(39): 610-618. 1828.

<i>Refs.</i> : BMNH 1441	Cat.Juss. n.1777	Jacks. 305	Linn.Soc. 570
Brun.-S 2: 32	Heins.7(2): 131	Kew 453	Pr.ed.2 n.6735

Variant: Pritzel (see *Refs.*) indicates a variant title-page: "Hamburg, Perthes und Besser. 1828", which probably is a cancellans title (not seen) of a re-issue.

Bot.notes. Nolte collected in this book all new species discovered for his region since the publication of the *Primitiae florum Holsaticae* by Weber and Wiggers (1800) and its supplement by Weber (1787). Numerous annotations were made to the phanerogams of the region; cryptogams were only shortly mentioned in the introduction. They were studied by Nolte in more detail, which remained in manuscript at the University of Kiel (according to Prahl, *Schriften Naturw. Ver. Schleswig-Holstein* 10: 153-155. 1895).

OKEN [Okenfuss], Lorenz

Biogr. Born 1779 Aug. 1, Bohlsbach near Offenburg, Baden, Germany.

Died 1851 Aug. 11, Zürich, Switzerland.

Lorenz Okenfuss studied at the Franciscan gymnasium of Offenburg (1793-1796), in Stadt Baden (1799-1800) and at the University at Freiburg im Breisgau (autumn 1800). Here he studied medicine, but he was more interested in philosophy and natural sciences. In summer 1804 he received his degree of Dr. med.

He published in 1802 *Grundriss des Systems der Naturphilosophie* under the name Oken which he retained through his life; he was registered under this name when he entered the University of Würzburg. In 1805 he went to the Göttingen University, where he made one of his few original researches, namely on the development of the intestinal tract of the embryo. In July 1807 he was nominated extraordinary professor of medicine at the University of Jena, where he developed his "Naturphilosophie" in general, and the theory of the derivation of the skull bones from vertebrae in particular, which later became a prime controversy with Goethe. In 1816 he received the degree Dr. Philos. honoris causa.

In this year he began the journal *Isis* which he maintained up to 1848. It was open to every scientific opinion, and Oken expressed his own opinions freely too which led to much opposition and the change of the place of publication from Jena to Leipzig. His lectures were successful, but in May 1819 he was forced to choose between stopping the publication of *Isis* and giving up his professorship. *Isis* remained.

He lectured in Kiel, but was not nominated. He organized the first meeting of German natural scientists and physicians, after the example of the Swiss meetings. From 1822 to spring 1827 he had no appointment, only publishing *Isis*. In 1827 he went to München, where he was nominated professor of physiology at the University. Here his personality again raised opposition; he handed in his resignation in 1832. The next year he was nominated at the new University at Zürich, Switzerland, and he became its first rector.

He had married Louise Stark in 1814; she survived him. They had a son and a daughter; the son died before him.

His "Naturphilosophie" had a strongly deductive character; from a few principles he derived many conclusions and he pressed facts in a sort of bed of Procrustes. Nevertheless he must be considered a pioneer of the cell theory, having expressed the basic idea clearly. He advocated de Jussieu's natural classification of plants and considered as the real higher classification the philosophical one, which takes into account the development or genetical system, but he explicitly excluded the idea of evolution from these terms.

He was commemorated in the generic plant names *Okenia* F.G. Dietrich 1819, a homotypic synonym of the conserved name *Adenandra* Willdenow (*Rutaceae*), and *Okenia* Schlechtendal & Chamisso 1830 (*Nyctaginaceae*).

Ref.: Lang, A.: *Allg. Deutsche Biogr.* 24: 216-226. 1887.

1 Lehrbuch der Naturgeschichte.

3 vols. in 5 parts (not completed). Leipzig or Jena, 1813-1826.

Titles [in gothic]: "Okens | Lehrbuch | der | Naturgeschichte. | [short swelled rule] | Erster Theil | Mineralogie | [long rule] | Mit achtzehn Kupfertafeln | (Preis: der Bogen 2 Groschen, die Kupfertafeln nichts) | [long swelled rule] | Leipzig | bei Carl Heinrich Reclam. | 1813";
vol.2(1): not published;
vol.2(2¹): same as vol.1, except: "Zweyter Theil. | Botanik. | [short rule] | Zweyter Abtheilung erste Hälfte. | Mark- und Stamm-Pflanzen. | [long thin rule] | (Preis: 4 Thaler Cond. M.) | [long swelled rule] | Jena, | bey August Schmid. | 1825.";
vol.2(2²): same, except: "Zweyter Theil. | Botanik. | [short rule] | Zweyter Abtheilung zweyte Hälfte. | Blüthen- und Frucht-Pflanzen. | [long thin rule] | (Laden-Preis: 5 Thaler Cond. M.) | [long swelled rule] | Jena, | bey August Schmid. | 1826.";
vol.3(1): same, except: "Dritter Theil | Zoologie. | Mit vierzig Kupfertafeln. | [short rule] | Erste Abtheilung | Fleischlose Thiere. | [long thin rule] | (Preis: 4 Thaler) | [long swelled rule] | Jena, | bei August Schmid und Comp. | (Ausgegeben 1815)";

vol.3(2): same, except: "Dritter Theil | Zoologie. | [... ?] | Zweite Abtheilung | Fleischtiere. | [long thin rule] | (Preis: 2 Thaler) | [long swelled rule] | Leipzig, bei C. H. Reclam. | 1816."

Collation: 8°: [all letters in signatures in gothic]:

vol.1: π^8 A-2I⁸ 2K⁴; I-III IV-XVI 1 2-519 520 (21 24 186 240 418, 251-253 as '151'-153', 288 as '188', 515 as '415');

vol.2(2¹): 18 A-3Y⁸(+2G_{1,2} +2R₁ +3C₁ -3G_{7,8} -3T_{7,8}); I-III IV-XV XVI 1 2-1077 1078-1080 (227 460 1053, 569 as '566', 592 in right corner, 761 as '661');

vol.2(2²): π^8 A-2Y⁸(+2M₈ +2X₁) x¹ 2Z-4U⁸(+4K_{6,7}) 4X² 2x¹; I-III IV-XV XVI 1 2-720 i-ii 721-1428 1429-1430 (641 as '661', 644 as '664', 645 as '665', 648 as '668', 649 as '669', 652 as '672', 653 as '673', 656 as '676', 1382);

vol.3(1): π^2 +8 2+8(-2+7,8) A-3F⁸ 3G⁶(-3G₆) 18 x¹; [pagin. not studied];

vol.3(2): collation not studied, only totals of pages: iv XVI 1270.

Contents: vol.1: I title; II □; III-XVI index to chapters, headed: "Rahmen zur Irdlehre"; 1-494 text of mineralogy; 495-510 explanation of plates; 511-519 alphabetical register; 519 corrections; 520 □;
vol.2(2¹): I title; II □; III-XIII Oken's classification of plants, on the principles explained in his *Naturphilosophie*, vol.2, Jena, Frommann 1810; XIV older classification; XV Linnaean classification; XVI note for the binder concerning cancels; 1-1052 text: 1-8 the plant, 9-220 classification and description of what now are considered *Fungi*, 221-227 introduction to "Aderpflanzen, Venaria", 228-350 *Algae*, 351-393 *Lichenes*, 394-459 *Musci*, 460-468 introduction to "Drosselpflanzen, Trachearia", 469-487 *Hepaticae*, 488-550 *Filices*, 550-1052 *Monocotyledones*; 1053-1077 alphabetical index; 1078 corrections; 1079-1080 □;
vol.2(2²): I title; II-III □; IV-XIII Oken's classification, printed over sets of 2 pages; XIV-XV older classification over 2 pages; XVI note for the binder concerning cancels; 1-720 text, *Dicotyledones* partly, "Blüten=Pflanze" in Oken's concept; i optional part-title, repeating the title for vol.2(2²), the price excepted and a line changed: "Frucht=Pflanzen (S.721)."; ii □; 721-1381 text, *Dicotyledones* concluded as: "Frucht=Pflanzen"; 1382-1428 alphabetical register including vernacular (German) names of vol.2(2¹); 1429 corrections; 1430 □;
vol.3(1): I title; II □; III dedication to: "Pallas | dem Auferstandenen Schrank, Jacquin, Blumenbach | den Niesterbenden | ben[sic for den] greisen, weisen | ersten | Naturforschern | Deutschlands | gewidmet | aus | Anerkennung"; IV □; [contents not fully studied, classifications and text];
vol.3(2): not studied.

Plates: 18 folded copper-engravings in vol.1, crystal forms only; 40 in vol.3(1), invertebrata only; [vol.3(2) not studied]; no botanical plates.

Engraver: Schnorr, C., Jena, Germany.

Paper: leaf height 204 mm. (copy Österr. Natl. Bibl., Vienna); laid, chains vertical; no wm.

Printer: no imprint.

Publishers: Reclam, Carl Heinrich, Leipzig: vol.1 and 3(2),
Schmid, August, Jena: vol.2(2); possibly also original of vol.3(1);
August Schmid & Comp., Jena: vol.3(1) [cancel?].

Dates: vol. 1 : 1813; | vol.2(2¹): 1825, trim.1-3; | vol.3(1): 1815 (+ variant?);
vol.2(1): not publ.; | vol.2(2²): 1826; | vol.3(2): 1816.

Reviews: vol.2(2¹): *Linnaea* 1(1): 103. 1826 Jan. (publ. trim.1-3, 1825);
Isis (Oken) 22(1): 30-64. 1829;
vol. 2(2²): *Linnaea* 2(3): 487. 1827 (Aug.-Oct.);
Isis (Oken) 22(2): 157-181. 1829.

Refs.: BMNH 1466	Graesse 5: 16 ("1812-1826")	Jacks. 37
Bradl.1: 255a,	Heins.7(1): 138 ("1825-1827")	Pr.ed.1 n.7618
5: xa		Teyl. 144.

Variants: the title-page of vol.3(1) probably was a new title because of the change of publisher. The reasons for the other dates in some references have not been investigated.

Bibl.notes. The cancels were mentioned in the indications for the binder. Of vol.2(2¹) the leaves G₇ and G₈ were cancelled and replaced by the new leaves 3H₁ and 3H₂ of the following gathering; the copy in the National Bibliothek, Vienna, had the cancellanda intact and consequently its page-numbers 845-848 were twice present. I did not check the conjugacy of pairs of cancellantia.

Bot.notes. Oken published in these volumes his classification of nature according to his principles, based on the age-old "elements" earth, water, fire and air. These "elements" he certainly did not conceive as the modern chemical elements but as general concepts, not existing as individuals; the mineral, plant and animal kingdoms, on the other hand, in his conception, do exist as individuals; with the combinations of his 4 "elements" he built his whole classification.

He used a natural classification and made divisions into three or four groups nearly everywhere. This from a modern viewpoint artificial division was changed by Oken during his work, as is clear from the cancels, and also from comparison of his classification scheme in vol.3(1), 1815, with that in vol.2(2¹), 1826. In the first he applied a division in three groups throughout the plant kingdom, taking the root - stem - leaf division as the main criterion; in the latter he had divisions into four groups mainly: marrow - trunk - flower - fruit, each subdivided: marrow: cell - vene - trachea; trunk: root - stem - leaf; flower: seed - capsula - corolla; fruit: nut - drupe - berry - apple. On this system all plant species were given new German names by Oken, consisting of a rather arbitrary generic name with prefixes derived from all parts of these subdivisions. *Musci* were named by him in German: "IV. Ordnung Frucht=Aderer. Moose."; the simple genus *Phascum*: "Zellen=Teisch", and the names of its species had prefixes before this word.

His Latin names for the plants were the traditional ones; he took into account the recent publications of Schwaegrichen and Bridel for the mosses, though I found no reference to a work published in 1826.

His treatment of species in subgenera is not clear; sometimes he cited the Latin species name with the initial of the subgeneric name, sometimes with the initial of the larger genus. Nevertheless no new combinations have been traced up to now, in the *Musci*.

Oken apparently planned a first section of his botany part, possibly treating general botany and physiology, but this never appeared.

OPIZ, Philipp Maximilian

Biogr. Born 1787 Jun. 5, Czaslau, now Czechoslovakia.

Died 1858 May 20, Prague, Czechoslovakia.

Born into a family of administrators, P.M. Opiz became in 1805 "Cameralbeamter", succeeding his father, in his native town. He was transferred in 1808 to Pordubitz and in 1814 to Prague, where he became "Forstamtsconcipist" in the same year, from which he was finally pensioned.

He was early interested in botany, publishing more than 400 articles, the first in 1800, and founded the first society for exchange of botany (and natural history) specimens and objects. He was commemorated in the generic names *Opisia* J. & C. Presl 1830 (*Gramineae*), and *Opisia* Rafinesque 1836, a synonym of *Capsella* Moench (*Cruciferae*).

Refs.: Wunschmann, E.: *Allg. Deutsche Biogr.* 24: 378-380. 1887.

Klastersky, I.: *Philipp Maximilian Opiz*. 1958 (not seen).

1 Nachtrag zu Böheims phanerogamischen und cryptoгамischen Gewächse.

Flora 8² (Beil. 4): 52-59. 1825.

Collation etc.: see *Flora*

Date: 1825; sem.2, probably late, Dec., or Jan. 1826.

Note. List of binomials with author citations & localities, including 4 *Musci* (p. 54).

PALISOT de BEAUVOIS, Ambroise-Marie-François-Joseph [Baron de Beauvois]

Biogr. Born 1752 Jul. 27, Arras, now dép. du Nord, France.

Died 1820 Jan. 21, Paris, France.

Palisot de Beauvois studied at the college of Harcourt, served as a musketeer, studied law, and became "receveur général des domaines et bois" in Northern France after the death of his father and his elder brother. He studied botany with J.-B. Lestiboudois in the meantime. In 1777 his function of "receveur" was suppressed. He lived in Paris afterwards, studying botany with and attending herborisations of de Jussieu. He became "Correspondant" of the "Académie des Sciences", 1781 or 1782.

In 1784 he sailed for West Africa with a group to settle a French trading post in Benin, and he collected there and also in Oware. Some shipments were sent to de Jussieu. Many of his companions died from tropical diseases and in 1788 he was obliged to go on board a ship because of a renewed attack of yellow fever, taking only his notes with him. This ship happened to go to S. Domingue (Haïti); the collections he left behind were destroyed during an English attack in 1791. The voyage to S. Domingue took 5 months, during which he suffered from scurvy and a dangerous inflammation.

Arriving 28 June in Cap-Français in bad condition, he finally recovered while staying with an uncle. He envisaged selling his French properties to settle in the colony. He began collecting again, and discovered a new medicinal plant. In 1790 he was nominated to the superior town council of Cap-Français, which council had been abolished for some years by the French government, but was maintained by the "colons" because of the threat of Negro uprisings. In 1791 he was sent to Philadelphia to obtain financial and other help against this threat, and also against a threatening famine.

In 1793 he came back to Cap-Français three days after a large fire following the hottest fighting of an uprising which destroyed the town, including all the new collections and the old and new manuscripts. Moreover he was imprisoned for having taken part in the death sentence of a mulatto, but he was released at the instigation of a mulatto woman who had served with his uncle. He was deported from the Island on condition that he not come back until peace was established. The ship with his belongings from the Philadelphia trip had left the island already and had been taken by the British; moreover his own ship was taken too and the only possessions which were left him were a small trunk, a freemason "diplome" and 10 francs.

Thus he came back to Philadelphia as a fugitive and had to earn his living as a street musician, of which the worst part for him was that people threw dirty things at him when he played Haydn, shouting for popular tunes such as Marlborough. A Quaker physician, Caspar Wistar (1761-1818), interested in natural history, provided him with the job of arranging a cabinet of curiosities of the painter Charles W. Peale (1741-1827), which enabled Palisot to study natural history objects again. He was able to travel Southwest to the Creek and Cherokee Indians and to make collections. These collections afterwards were for the larger part lost in shipwreck.

In 1798 he was finally permitted to return to France and he arrived in Bordeaux August 1798, learning that his properties had been confiscated during the Revolution. Afterwards he lived only for natural history, publishing on his collections, the small parts which had been sent to de Jussieu and therefore had been saved, and on mosses, clubmosses and grasses. He was opposed to Hedwig's views of the sexuality of mosses and advocated another idea.

In 1806 he was appointed "membre" of the "Académie" in Adanson's place. His final herbarium came to Delessert (1773-1847), in which the mosses were studied by Arnott. This herbarium is now in the Conservatoire botanique, Genève.

Palisot de Beauvois was commemorated in the generic names *Belvisia* Mirbel ex Massey 1804 (*Filicales, Polypodiaceae*), *Belvisia* Desvaux 1814, replaced by *Napoleona* P. Beauvois (*Barringtoniaceae*), *Palisota* Reichenbach 1828, *nom. con.* (*Commelinaceae*).

Refs.: Cuvier, G.: *Éloge historique*. in: *Recueil des Éloges historiques ...* 1827;

Recueil des Éloges historiques ... ed. 2, 2: 165-196. 1861.

Thiébaud de Berneaud, A.: *Éloge historique*. 81 p., portrait. 8°. Paris, 1821.

Biogr. Univ. Anz. Mod. ed. 2, 14: 319-320. 1843-47.

Boatner, C.H.: *Oeiris* 1: 173-183. 1936.

Ewan, J. (in): *Les botanistes Français en Amérique du Nord avant 1850* (in:)

Colloques Internat. Centre Nat. Rech. Sci. 63: 23, 37. 1947.

Camus, Aimée: same publication 63: 109-111. 1947.

Stafleu, F.A.: *Taxonomia Literature* 344. 1967.

1 Muscologie, ou traité sur les mousses.

Mém. Soc. Linn. Paris 1: 388-472, (Fascic. Planch.) pl. 1-11. 1822[1823].

Head-title: "[full wavy rule] | MUSCOLOGIE, | *Ou Traité sur les Mousses, par feu*
PALISOT | DE BEAUVOIS, de l'Institut de France, etc. | [short rule]".

Collation: text volume: 8°: 252r-304r; 388-472;
plate volume: 4°: 73-74, 2-34 44; 11 leaves (11-11).

Contents: text volume: 388 head-title; 388-472 text, including: 388-392 introduction (untitled); 392-431 six morphological chapters, ending with a discussion of different systems and (431) a key with descriptions of the system of the author; 432-472 descriptions of the 45 genera accepted by the author, with a derivation of the names, synonyms, and a selection of the species in the genera, often only indicated by basionyms; 472 additional note, "N.B.", signed: "(A. T. D. B.)", apparently Arsenne Thiébaud de Berneaud, drawing the attention to the publication of Palisot de Beauvois: *Prodrome de l'aethéogamie*, Paris, 1805, which gives a very complete synonymy; [an alphabetical list of generic names in this article is given on p.738 in the index of the volume of the periodical];
plate volume: 11-11 explanation of the plates. No RT. Language: French.

Plates: 11 copper-engravings, pl. I-XI, of mosses, illustrating the author's ideas of important generic characteristics; no names on the plates; species indicated by arabic numerals per plate, details by italic letters per species;
plate-mark: 248 x 191 mm. (pl.1).

Artist: Prêtre, Jean Gabriel, Paris: 11 plates, all signed.

Engraver: Plée, [François B.?), Paris: 11 plates, all signed.
Note: François B. Plée is the only Plée in the membership lists of the volume (p.78) and for this reason I suppose he was the engraver.

Paper: text vol.: leaf height 199 mm. (Teyl. copy, cut); laid, chains vertical;
wm.: "D D S [swash script]";
plate vol.: leaf height 294 mm. (Teyl. copy, cut); laid, chains horizontal;
wm. absent (or hidden in the spine);
plate paper: laid, chains horizontal; wm. usually: "I V D [outline]".

Printer: D'Hautel, Paris.

Publisher: Société Linnéenne de Paris,
and for sale with Audot, Paris, and Debeausseaux [Desbeausseaux?], Paris.

Date: 1822 (t.-p.); after 7 Dec. (see *Mém.Soc.Linn.Paris*).

Review: *Bull.Gén.Announo.Nouv.Sci.* 1(2): 244-245. 1823.

Refs.: Pr.ed.1 n.7711 Pr.ed.2 n.6901 RSC 4: 743.

Bibl.notes. The article was given to the Société Linnéenne de Paris by the widow of Palisot de Beauvois (*Mém.Linn.Soc.Paris* 1: 25. 1822); it was edited by its secretary, A. Thiébaud de Berneaud.

Bot.notes. In this work Palisot de Beauvois maintained his negative opinion on the theory of Hedwig concerning the sexuality of mosses, and stated his reasons for doing so, including another explanation for experiments on germination of spores. Instead, he considered the spores to be the fertilizing agents and the columella to be the receptive organ.

The taxonomic part contains the description of 45 genera, arranged in the 5 sections distinguished by the author. One new genus was proposed in the text: *Codriophorus*, p.445, pl.3 f.2-3, with the specific combinations only in the plate-volume. New generic names used in the plate-volume but not in the text, were: *Aerocarpum*, *Fusiconia* and *Perisiphorus*. These 3 names are invalid since they do not have a description and were not based on a new species, as is clear from the text. The name *Bryum sclerodon* is valid (pl.5 f.4); the species clearly does not belong to the genus *Bryum* in its modern circumscription, and has not been taken up afterwards.

The plates are well executed and give good figures with many details.

2 *Muscologie ou traité sur les mousses.*

Paris, 1822 [1823] [separate].

Title: "MUSCOLOGIE | OU | TRAITÉ SUR LES MOUSSES, | PAR FEU PALISOT DE BEAUVOIS, | MEMBRE DE L'INSTITUT DE FRANCE, etc. | [long rule] | J'invite les botanistes à étudier et à répéter mes obser- | vations sans les isoler: leur réunion et leur ensemble for- | ment la base du système que je leur soumetts. (pag. 9) | [long rule] | PARIS, | DE L'IMPRIMERIE DE D'HAUTEL, | RUE DE LA HARPE, No. 80. | [very short wavy rule] | 1822."

Collation: text part: 8°: 1⁸ 2-5⁸ 6⁴; 1-5 6-88;
plate part: 4°: 11 leaves (11-11).

Contents: text part: 1 half-title; 2 []; 3 title; 4 source, between two long rules: "Extrait du 1^{er} volume des Mémoires de la | Société Linnéenne de Paris"; 5-88 text, essentially similar to that of the article in the periodical; plate part: 11-11 explanation of the plates. No RT. Language: French.

Plates: 11 copper-engravings, pl. I-XI, identical with those in the periodical article, up to the inscription at the left top: "*Mém. de la Soc. Linnéenne.*", above the middle: "Mousses." and at the right top: "*Tom. I. Pl. I.*" [to Pl. XI]; plate-mark: 246 x 191 mm.

Artist: Prêtre, Jean Gabriel (see n.1).

Engraver: Plée, [François B.?] (see n.1).

Paper: text part: leaf height 206 mm. (BMNH copy, cut); laid, chains vertical; wm.: "D D S [swash script]";
plate part: leaf height 294 mm.; laid, chains horizontal; no wm.;
plate paper: laid, chains horizontal; wm.: "J", traces in some leaves.

Printer: D'Hautel, Paris.

Date: 1822 (t.-p.); (see n.1 and *Mém. Soc. Linn. Paris*).

Refs.: Milt. 485 Pr.ed.1 n.7711 Pr.ed.2 n.6901.

Bibl. notes. This separate was printed from the same type-setting as the article in the periodical, probably with another distribution of the lines over the pages to fit an even number of pages (I did not study the separate at the same time as the reprint). The title leaves, being part of a gathering with text, also point to a re-imposition. These two points make it likely that the separate was printed after the sheets for the periodical had been finished. It may in turn be an indication that the separates were also published later. This may have been a general policy of this society, of which I have not yet seen any pre-publication separate.

Nevertheless, more information on the exact date is very welcome, since the journal appeared late in 1823 and the separate might have been available earlier (the finished sheets of the incomplete second volume were held in stock up to 1827).

Bot. notes. See n.1.

PERLEB, Karl Julius

Biogr. Born 1794 Jun. 20, Konstanz, Württemberg, Germany.
Died 1845 Jun. 11, Freiburg im Breisgau, Baden, Germany.

No biography available to me. Perleb was Dr. Med. and professor of natural history at the University of Freiburg im Breisgau.

He was commemorated in the generic names *Perlebia* Martius 1828 (*Caesalpinia-ceae/Leguminosae*) and *Perlebia* A.P. De Candolle 1829, replaced by *Frangos* Lindley (*Umbelliferae*).

Refs.: *Bot. Notis.* 1845: 220. 1845 (states day of death 8 Jun.).

Pr.ed.2: 243. 1872 (day of death 8 Jun.).

Barnhart, John Hendley: *Biogr. notes botanists.* Boston, 1965.

1 Conspectus methodi plantarum naturalis ...

Freiburg im Breisgau, 1822.

Title: "CONSPECTUS | METHODI PLANTARUM NATURALIS | [medium short swelled rule] | IN
USUM AUDITORUM | TYPIS EXSCRIBI CURAVIT | DR. C. J. PERLEB. | [short swelled
rule] | [long swelled rule] | FRIBURGI BRISGOVIAE, | EXCUD. FR. XAV. WANGLER
1822."

Collation: 4°: 1⁴ 2-5⁴ 6²(-6₂); 1-3 4-42.

Contents: 1 title; 2 motto from Linnaeus, *Gen. Pl. Praes.*; 3 Linnaeus' *Fragmenti Methodi Naturalis*, 1771 (list of "orders"); 4-5 classification of A.L. de Jussieu, list of his orders ("Ordo"); 6-8 classification of A.P. de Candolle; 8-42 Perleb's own classification: "ORDINUM GENERUMQUE PLANTARUM | DISPOSITIO AB AUCTORE PROPOSITA."; 42 emendanda. Language: Latin.

Paper: leaf height 245 mm. (BMNH copy); laid, chains horizontal, chains and wires coarse; no wm. seen.

Printer: Wangler, Fr. Xav., Freiburg im Breisgau, Germany.

Date: 1822 (t.-p.).

Ref.: BMNH 1548.

Bot. notes. This work contains an account of Perleb's classification, preceded by the outlines of the natural methods of Linnaeus, A.L. de Jussieu, and A.P. de Candolle. Lists only of names of orders or families, followed, in Perleb's method, by the names of genera in the groups, arranged in four columns. No descriptions; in some groups indications in which groups of the older authors the genera concerned were included. New names of genera, if present, invalid; names of other ranks probably invalid too. Example: p.10: "HOMALOPHYLLAE. | (*Algar. Gen. Linn. Hepaticar. Gen. Eohreb. Juss. DC.*) Riccia. Blasia. Sphaerocarpus. | HEPATICAE. | (*Algar. Gen. Linn.*) | Targionia ... Andreaea. | MUSCI. | [56 genera]".

2 Lehrbuch der Naturgeschichte des Pflanzenreichs.

Freiburg im Breisgau, 1826.

Title [in gothic? "Lehrbuch | der | Naturgeschichte | des | Pflanzenreichs | von | Karl Julius Perleb, | Doctor der Philosophie und Medicin, ordent. öffentl. Professor der Natur-|geschichte an der groszherzogl. Badischen Universität zu Freiburg, Mitglied | der Gesellschaft für Beförderung der Naturwissenschaften daselbst, der natur-|forschenden Gesellschaft zu Halle, der Senckenbergischen naturforschenden Gesell-|schaft zu Frankfurt und der botanischen Gesellschaft zu Regensburg, Ehren-|mitglied der mineralogischen Societät zu Jena und des Apotheker-|Vereins im Groszherzogthume Baden. | [short swelled rule] | [full thick-thin rule] | Freiburg im Breisgau, | Druck und Verlag von Friedrich Wagner. | [very short rule] | 1826."]

Collation: 8°: π⁸(-π₈ = 26₁) 1-25⁸ 26²(-26₂) 27-29⁴ (32 signed '14°'); I-III IV-XII XIII-XIV 1 2-422 423-426 (VII 403).

Contents: I title; II []; III-VI preface: "Vorrede [in gothic]"; VII-XII index; XIII printing errors; XIV []; 1-7 introduction, including list of books on general botany; 8-46 text, first section, properties of plants in general, including a discussion of classifications; 47-382 text, second section, Perleb's natural classification of the plant kingdom with descriptions of classes, orders between classes and families ("Ordnungen"), families and genera, some species in genera mentioned; 383-402 text, third section, plant geography; 403-422 index of German and Latin plant names, including names of plant products; 423-424 printing errors, including those of XIII; 425-426 publisher's advertisement, list of books available. Language: German.

Paper: leaf height 201 mm. (HBL copy, cut); laid, chains vertical; wm.: "[double-headed eagle with broad cross on breast-plate] = [letters, only fragments seen]".

Printer and publisher: Wagner, Friedrich, Freiburg im Breisgau, Germany.

Date: 1826 (t.-p.); bef. 28 Oct. (*Flora* 9(40): 640. 1826).

Reviews: *Flora* 9(40): 640. 1826; 9(42): 671-672. 1826;
Linnaea 1(4): 614-615. 1826.

Refs.: BMNH 1548 | Bradl.1: 86a | Krüg. 54 | Pr.ed.1 n.7876
Heins.7(2): 153 | Milt. 48 | Pr.ed.2 n.7040.

Bibl.notes. Leaf π_7 is removed in some copies since its information is repeated on 29₃. 26₁ in the HBL copy fits with the watermark of π_1 ; this makes it practically certain that they were originally conjugate. The work was part of Perleb's *Lehrbuch der Naturgeschichte*, which had an independent title.

Bot.notes. Perleb stressed "Natural History" as a "historical descriptive doctrine" as different from the school of nature philosophy ("Naturphilosophie") with the systems of Oken (which see), J.B. Wilbrand, and G.W.F. Wenderoth (p.60). He claimed to have instituted the order ("Ordnung") as a separate rank between class and family. An example is (p.86-88): "Klasse II Muscosae. I. Ordnung Hepaticae. 1. Familie *Entocarpae* [with description] (syn.: Homalophyllae Willd.). Genera: *Riccia*, *Ricciella*, [p.87:] *Targionia*. 2. Familie *Valvatae* (syn.: Hepaticae Willd. Spr.) - Eigentliche Lebermoose; Genera: *Anthoceros*, [p.88:] *Marchantia*, [p.89:] *Jungermannia* [4 species described], II. Ordnung Musci frondosi, Laubmoose. [with description] [p.90:] Genera: *Sphagnum*, *Fontinalis*, *Polytrichum*, [each with one species mentioned] [p.91:] *Hypnum* [no species mentioned]."

PERNITZSCH, Heinrich

No biography available to me. Apparently he was a forester in "Heidelberg".

1 *Flora von Deutschlands Wäldern ...*

Leipzig, 1825.

Title: *Flora von Deutschlands Wäldern mit besonderer Rücksicht auf praktische Forstwissenschaft.* Leipzig, 1825 in der Baumgärtnerischen Buchhandlung.

Collation: 8°: π^4 1-21⁸ (-21₈); I-III IV-VI (in italics) VII-VIII 1 2-332 333-334 (3 18 47 85-86 89-91 146 155-157 329).

Contents: I title; II \square ; III-VI preface, dated: "Forsthaus Heidelberg, | im März 1825.", signed: "Heinrich Pernitzsch."; VII index; VIII \square ; 1-2 introduction; 3-328 text: 3-17 morphology of plants, 18-46 alphabetical list of morphological terms and their explanation, 47-88 systematics, 89 part-title, 90 \square , 91-154 descriptions of 341 genera, 155 part-title, 156 \square , 157-328 descriptions of species in alphabetical arrangement, cryptogams included, Latin names without author names, nor habitat nor locality, uses indicated; 329-332 index; 333 corrections; 334 \square . No RT. Language: German.

Table: folded typographical table, after 10₅(p.154), table of the genera in Linnaeus' classification; verso \square .

Paper: leaf height 207 mm. (copy Natl. Bibl., Vienna); laid; no wm.

Publisher: Baumgärtner, Leipzig, Germany.

Date: 1825 (t.-p.); in or after March (pref.).

Refs.: Arn.Arb.1: 549 | BMNH 1549 | Heins.7(2): 153 | Pr.ed.1 n.7880
Bradl.1: 377b | Milt. 146, 418 | Pr.ed.2 n.7043.

Notes. Unpretentious list of plants occurring in German forests and their uses. The natural system of A.L. de Jussieu as well as the Linnaean classification are discussed. I did not trace new combinations in *Musc.*

PRESL, Karel Boriwog (Carl)

Biogr. Born 1794 Feb. 14, ...

Died 1852 ... , Prague, Bohemia, now Czechoslovakia.

K.B. Presl was professor of natural history and technology at Prague and custodian of the museum there. No biography available to me.

Ref.: Weitenweber: *Abh. Boehm. Ges. Wiss.* ser.5,8(Anh.): 24-26, 1854 (not seen).

1 Reliquiae Haenkeanae ...

2 vols. [6 fasc.; unfinished]. Prague, 1825-1835

Titles: vol.1: "RELIQUIAE | HAENKEANAE | SEU | DESCRIPTIONES ET ICONES PLANTARUM, | QUAS IN AMERICA MERIDIONALI ET BOREALI, IN INSULIS | PHILIPPINIS ET MARIANIS COLLEGIT | THADDAEUS HAENKE, | PHILOSOPHIAE DOCTOR, PHYTOGRAPHUS REGIS HISPANIAE, | REDEGIT ET IN ORDINEM DIGESSIT | CAROLUS BOR. PRESL, | MEDICINAE DOCTOR, IN MUSEO BOH. CUSTOS, BOTAN. PROF. EXTRAORD. | CURA MUSEI BOHEMICI | TOMUS PRIMUS. | PRAGAE, | APUD J. G. CALVE, BIBLIOPOLAM. | M. DCCC. XXX."; vol.2(1) [wrapper-title]: "[frame: thick-thin rule | row of elliptic typographical ornaments with round ornaments at the corners | rule of simple typographical signs | thick-thin rule] | RELIQUIAE HAENKEANAE; | SEU | DESCRIPTIONES ET ICONES PLANTARUM, | QUAS IN AMERICA MERIDIONALI ET BOREALI, IN INSULIS | PHILIPPINIS ET MARIANIS COLLEGIT | THADDAEUS HAENKE, | PHILOSOPHIAE DOCTOR, PHYTOGRAPHUS REGIS HISPANIAE. | REDEGIT ET IN ORDINEM DIGESSIT | CAROLUS BOR. PRESL, | MEDICINAE DOCTOR, IN MUSEO BOH. CUSTOS, BOT. PROF. EXTRAORD. | CURA MUSEI BOHEMICI. | TOMI SECUNDI FASCICULUS PRIMUS. | CUM TABULIS XII AERI INCISIS. | PRAGAE, | APUD J. G. CALVE, BIBLIOPOLAM. | M. DCCC. XXXI."

Collation: 2°: vol.1(1): 1-4²[-1, in bound copies] (\$2 signed '\$*', 4² unsigned)

A-K²·2 L² (\$2 signed); I-III IV-XV XVI 1 2-84;

vol.1(2): x² M-S²·2 T²; 85-148;

vol.1(3): 2x² U²·2 V-W²·2 X-2A²·2(-2A₄); 149-206;

vol.1(4/5): x² 2B-2U²·2(-2U₄); i-iv 207-256;

vol.2(1): A-G²·2; 1 2-56;

vol.2(2): H-T²·2; 57-152.

Contents: vol.1(1): I [title of fasc.1, not seen]; II [possibly imprint]; III-XV preface: "PRAEFATIO", dated: "Pragae die 12 Junii 1825," signed: "Casparus Comes de Sternberg | Praeses Musei Bohemici." and containing a biography of Thaddaeus Haenke (1761-1817); XVI □; 1-84 text, descriptions of genera and species of plants collected by T. Haenke, arranged in natural families, each family beginning on a new page, the family in the head-title usually followed by the name of the author (where absent, K.B. Presl apparently was the author, since in such cases always the last previous family with a name was prepared by him; for other authors see the list of collaborators); vol.1(2)-(3): 85-206 text, continued;

vol.1(4/5): i half-title; ii imprint; iii title vol.1; iv □; 207-349 text, continued; 350-351 addenda & corrigenda, including the new generic name *Novodworskya* (p.351) for *Raspailia*; 352 list of the plates 1-48 and the names of the plants pictured; 353-356 index of names of genera and families in vol.1; vol.2(1)-(2): 1-152 text, continued.

Plates: 72 copper-engravings of plants, numbered I-LXXII, no plant names; plate-marks: 277 × 207 mm. (pl.1); 259 × 425 mm. (pl.61, the only double plate).

Artists: Both, Franz: 17 pls. (1-15 18 19);

Fieber, F.X.: 52 pls. (16 17 20-56 60-72, the majority only signed: "F. Fieber del.");

Longer, J.: 3 pls. (57-59, signed: "Longer del").

Engravers: Both, Franz: 19 pls. (1-15 17-19 21);
Skala, Jos.: 51 pls. (16 20 22-56 58-72, several signed: "J. Skala sc.");
Zeliska, W.: 1 pl. (57).

Fascicle wrappers: only seen front-wrapper of vol.2(1) (see *Titles*), and traces of other wrappers (see *Bibl.notes*).

Paper: leaf height 408 mm. (U copy, cut); wove; wm.: "E [outline, in lower right corner of sheet]"; vol.1: X H-W X_{1,2}; all other sheets unmarked (possibly machine-made in vol.2);
plate paper: wove; wm.: "E [as in text paper]"; pls. 13-33 in about one third of the plates (U copy; a statistical analysis of more copies should result in one half of the plates with the watermark);
paper of wrappers: wove; gray-brown thick paper; no wm.

Printer: Spurny, Joannes [Jan?], [Prague].

Publisher: Calve, J.G., Prague.

Editor: Presl, C.B., the author of the majority of the families.

Collaborators: Agardh, Carl Adolf (1785-1859): *Algae* 1(1): 8-12. 1825;
Bartling, Friedrich Gottlieb (1789-1875): *Paronychia* 2(1): 5-10. 1831;
Floerke, Heinrich Gustav (1764-1835): *Lichenes* 1(1): 3-7. 1825;
Hornschuch, Christian Friedrich (which see): *Musci* 1(1): 13. 1825;
Meyer, Ernst Heinrich Friedrich (1791-1858): *Juncaceae* 1(2): 141-146. 1827;
Opiz, Philipp Maximilian (which see): *Piperaceae* 1(3): 150-164. 1828;
Presl, Jan Swatopluk (1791-1849): *Taccaeae* 1(3): 149. 1828,
Cyperaceae 1(3): 165-206. 1828,
Gramineae 1(4/5): 207-351. 1830;
Sternberg, Caspar Count von (1761-1838): preface: III-XV. 1825.

<i>Dates:</i>	vol.	fasc.	gath.	pages	plates	fasc. date	publ.date
	1	1	A-L	I-XV 1-84	1-12	1825	{after 12 Jun. (pref.), bef. Nov. ? (rev.)}
		2	X H-T	85-148	13-25	1827	
		3	2X U-2A	149-206	26-36	1828	
		4/5	X 2B-2U	207-256	37-48	1830	sem.1 (rev.)
	2	1	A-G	1-56	49-60	1831	
		2	H-T	57-152	61-72	1835	{bef. 11 Jul. (Hinrichs, see Stafl., <i>Tax.Lit.</i>)}

Reviews: vol.1(1): *Flora* 8²(Beil.3): 35. 1825 sem.2 (Oct.?);
Linnaea 1(2): 259-262. 1826;
vol.1(4/5): *Flora* 13¹(Beil.5): 41. 1830 sem.1;
vol. 2(2): *Leips.Repert.Lit.* (Gersdorf) 1835 Aug. 30 (cited from Stafl., *Tax.Lit.*)

Bibliogr.studies: Kuntze, O.: *Rev.Gen.* 3(2): 160. 1898;
Stearn, W.T.: *J.Soc.Bibliogr.Nat.Hist.* 1: 153-154. 1938, 3: 14. 1954;
van Steenis-Kruseman, M.J.: *Fl.Males.* ser.1, vol.4(5): CCVI. 1954;
Staflou, F.A.: *Taxonomic literature* n.994. 1967.

Refs.: Heins. 7 : 318, | Niss. n.1564 | Pr.ed.2 n.7314
8(2): 153 | | Sitw.Blunt 71.

Bibl.notes. An unusual bibliographic feature of this book is the way of signing the gatherings. The "gatherings" of four leaves have leaves 1 and 2 signed and 3 and 4 unsigned. This is normal for quarto gatherings. However, in this case the first two leaves are conjugate as are the last two. I did not check every single pair in this respect, because the copy I studied was rather tightly bound, but I sampled every fascicle and did not find any exception. Still, this might have been a quarto format with an unusual folding of the sheets. I was able to exclude this possibility by the study of the watermark in fasc.2 and 3 of vol.1. The place of the watermark is at random in the top corner or the bottom corner of the printed leaf (not of the complete sheet) in the first pair as well as in the second pair. In the case of quarto the place in the leaf would have been at the bottom corner only; the book, therefore, is definitely of the folio format, with every second gathering unsigned.

Because of this way of signing the other unusual feature is possible: in two cases the breaks between fascicles are in the middle of a "signature". The older indications of fascicle contents did not satisfy me, but they are fully confirmed by the traces of the gray fascicle wrappers which I observed near the spine in the leaves concerned, p.85 and p.149.

In the collation I indicate these features, the first one by the superscript notation 2+2, the other one by the notation X and 2X for the unsigned leaf pairs in the beginning of the fascicles. These X's would not be necessary in the collation of a complete copy in which the fascicle contents are not reported.

Fascicles 1, 3 and 4/5 probably had fascicle titles on normal paper; that of fasc.1 was cancelled for the volume title, and those of fasc.3 and 4/5 explain the number of sheets as stated in Heinsius, being $\frac{1}{2}$ sheet more than in the collation given here. Probably the other fascicles only had printed titles on gray wrapper paper; usually one of these is preserved in vol.2 since this remained unfinished.

Bot.notes. K.B.Presl was the editor of this work. He distributed plant families to specialists for study. However, the treatments of the majority of the families were written by him and therefore I list the book under his name.

For the bryological contribution see Hornschuch n.6; he did not propose new names.

RAMOND de CARBONNIÈRES, Louis François Elizabeth [baron]

Biogr. Born 1753 Jan. 4, Strasburg, France.

Died 1827 May 14, Paris.

Ramond studied law and medicine and acquired the title Dr. in both. He traveled, made connections easily, and wrote "with taste". Because of his liberal ideas he was chosen in the Assemblée Législative in 1791; he became known for his eloquence and moderation. In Aug. 1792 Ramond went to the Pyrenees to avoid the Terreur, but was imprisoned there for some time. In 1796 he became "professeur" of natural history in the dép. Hautes-Pyrénées. In 1802 he was nominated a member of the Institut. After the restauration he had important political posts, finally honorary councillor of state.

He was commemorated in the generic names *Ramonda* L.C. Richard ex Persoon 1805, *nom. cons.*, (*Gesneriaceae*) and *Ramondia* Mirbel in A.P. de Candolle 1801 (*Schizaceae*).

Ref.: *Nouv. Biogr. Gén.* 41: 555-557. 1862.

1 État de la végétation au sommet du Pic du Midi de Bagnères.

Mém. Mus. Hist. Nat. Paris 13(10): 217-281. 1825 [1826].

Head-title: "[full thick-thin rule] | ÉTAT DE LA VÉGÉTATION | AU SOMMET DU PIC DU MIDI DE BAGNÈRES. | Mémoire lu à l'Académie des Sciences, en sa séance de 16 janvier 1826. | PAR M. LE BON. RAMOND. | [rule]"

Collation: 4*: 28₃₄, 29-35⁴, 36_{1,2,3}; 217-281 282.

Contents: 217 head-title; 217-243 introduction, description of the locality and general discussions of the plants collected; 244-277 list of 133 species and varieties with names, references, synonyms, exact localities and discussions, headed: "Énumération des Plantes qui croissent au sommet | du Pic du Midi.", including *Lichenes* (211-252), *Hepaticae* (252; 1 species), *Musci* (252-253, 6 species), ferns and phanerogams; 278 recapitulation, number of species (and varieties) per family; 279-281 appendix: "APPENDICE. | Espèces observées sur les sommets qui excèdent en hauteur | le Pic du Midi.", list of species observed on higher mountains in the Pyrenees; 281 errata; 282 □.

RT: short title. Language: French.

Paper: leaf height 252 mm. (Teyl. copy, cut); laid, chains horizontal; wm.: "JP [outline, in left top corner of sheet]".

Printer: Bélin, A., Paris.

Date: 1825 (t.-p. vol.); 1826 trim.2 (see *Ném.Mus.Hist.Nat.Paris*).

Ref.: RSC 5: 89.

Bibl.notes. According to a review in *Edinb.J.Sci.* 4(2): 380-381. 1826 Apr. 1, this paper already appeared in *Le Globe* 3: 62. 1826 Jan. 19, which I did not see. Neither did I check *Ann.Sci.Nat.* 8: 96. 1826, which has an article with the same title, according to *Linnaea* 1(4): 615. 1826. See also RSC.

Bot.notes. Interesting account of the plants (*Fungi* and *Algae* excepted) from the higher peaks of the Pyrenees, with descriptions of a considerable number of new species of lichens and of a few new species of phanerogams (*Galium oespitosum*, p.266 and *Cerastium squalidum*, p.268).

In a note following the few moss species the author stated his surprise about the lack of sporophytes of many species of mosses in the Pyrenees.

RE, Giovanni Francesco

Biogr. Born 1773 Sep. 27, Condove, near Susa, Italy.

Died 1833 Nov. 2, Turin, Italy.

G.F. Re studied at the University of Turin where he received the degree M.D. He became a physician at Susa, studied philosophy and taught mathematics at the college of Carignan. Finally he became professor of botany, chemistry and physics at the royal veterinary school at Turin and a member of the Academy of Sciences there.

His herbarium came to the botanical garden in Sasso (Sardinia). He was commemorated in the generic name *Rea* Bertero ex Decaisne 1830. now considered a synonym of *Dendrosaris* D. Don (*Compositae*).

Refs.: *Nouv.Biogr.Gén.* 41: 787. 1862.

Caso, B. in: Re, G.F. *Flora Segusienae* [reprint], 1881 (not seen).

Barraja, E., Mattiolo, O., Negri, G., Cassano, G., & Couvert, C.G.:

Il botanico Giovanni Francesco Re. 127 p. Torino, 1909 (not seen).

1 Flora Torinese.

2 vols. in 3 parts. Turin, 1825-1827.

Titles: vol.1: "FLORA TORINESE | DEL DOTTOR IN MEDICINA | GIOANNI FRANCESCO RE | PROFESSORE DI BOTANICA, DI CHIMICA, E DI MATERIE MEDICA | NELLA R. SCUOLA VETERINARIA, SOCIO CORRISPONDENTE DELLA | R. ACCADEMIA DELLE SCIENZE DI TORINO, E DELLA SOCIETA' | LINNEANA DI PARIGI, MEMBRO DELLA | R. SOCIETA' AGRARIA EC. | [short wavy rule] | VOLUME I. | [short wavy rule] | TORINO DALLA TIPOGRAFIA BIANCO | 1825.";

vol.2(1): same, except: "SOCIETA' | LINNEANA DI PARIGI DI LIONE, E DELLA I. E R. ACCADEMIA | DELLA SCIENZE DEI FISIOCRITICI DI SIEN, MEMBRO DELLA | R. SOCIETA' AGRARIA ECC. | [short wavy rule] | VOL. II. FASC. I. | [short wavy rule] | COMPIMENTO DELLE PIANTE FANEROGAME. | TORINO | DALLA TIPOGRAFIA BIANCO | 1826.";

vol.2(2): same, except: "DELLA R. SCUOLA VETERINARIA, SOCIO CORRISPONDENTE DELLA | SOCIETA' LINNEANA DI PARIGI, DI LIONE, E DELLA I. E R. | ACCADEMIA DELLE SCIENZE DEI FISIOCRITICI DI SIENA, MEMBRO | DELLA R. SOCIETA' AGRARIA DI TORINO, E DELLA R. ACCADEMIA DELLE SCIENZE ECC. | [short wavy rule] | VOL. II. FASC. II. | [short thin wavy rule] | ETEOGAMIA | COMPIMENTO DELLA FLORA TORINESE. | TORINO | DALLA TIPOGRAFIA BIANCO | 1827."

Collation: 8°: vol.1: 1⁸(+1_{4,5}) 2-23⁸(+2_{2,7} +5_{4,5} +8_{4,5} +12_{3,6} +18_{3,6}) 24² x¹;
7-4 5-372 373-374;

vol.2(1): 1⁸ 2-10⁸ 11⁶ (11⁶ signed '11') 1-2 3-172;

vol.2(2): 12⁸ 13-21⁸ 22⁴; 173-174 175-340.

Contents: vol.1: 1 title; 2 □; 3 dedication to Sebastiano Ferrari; 4 □; 5-18 preface, headed: "ALLIEVI AMATISSIMI", signed: "Venaria 15 gennajo 1825."; 19-23 characters of the Linnaean classes; 24-358 text, descriptions of genera and species, *Monandria - Monadelphia Polyandria*; 359-365 added observations and species; 366-372 index of Latin generic names of vol.1; 372 imprimatur, undated; 373 corrections; 374 □;

vol.2(1): 1 title; 2 □; 3-159 text, descriptions continued, *Diadelphia - Polygamia*; 160-164 additional or substituted plants (vol.1); 165-166 additional plants (vol.2 fasc.1); 167-169 index of Latin generic names in vol.2(1); 170 index of Latin generic names in the addenda to vol.1 in this fasc. and imprimatur, dated: "11. febbrajo 1826."; 171-172 corrections to vol.1: "CORRECTIONES I. VOL. | ADDENDAE INDICI JAM TYPIS EDITO | pag. 373."; 172 corrections to vol.2(1);

vol.2(2): 173 title; 174 □; 175-332 text concluded, descriptions of *Cryptogamia*, subdivided: 175-176 "GONOPTERIDES", *Equisetum*, 177-185 "STACHYOPTERIDES", 186-213 "MUSCOLOGIA." "*seu Musci Frondosi.*", 213-218 *Hepaticae*, 218-220 *Algae*, 220-255 "LICHENES.", 255-332 "DE FUNGIS."; 333-335 index of Latin generic names in vol.2(2); 336-339 additions to vol.1; 340 corrections to vol.2(1)-(2), and imprimatur, undated. No RT. Language: preface and characters of classes: Italian; descriptions of genera and species: Latin; French generic names added.

Paper: leaf height 175 mm. (BMNH copy); laid or wove: laid: vol.1 gath.2-10 except cancellantia, gath.7 cancellantia only, and 7; wove: vol.2, vol.1 gath. 11-24, cancellantia in gath.2-10, and gath.7 except cancellantia; wm.: in the laid paper: "BRIGINRASIO" or "BIRGINRASIO"; in the wove paper: "F A [large script]"; vol.1 gath.12; "A M [large outline script monogram]"; the rest of the wove paper, except vol.2 gath.11 12 15 16, in which no wm. was seen, perhaps because of the thickness of the paper (BMNH copy).

Printer: Bianco, Turin, Italy.

Dates: vol.1: 1825 (t.-p.); aft. 15 Jan. (pref.),
bef. 28 Dec. (*Mém.Soc.Linn.Paris* 4(6): LII. 1826);
vol.2(1): 1826 (t.-p.); aft. 11 Feb. (imprimatur);
vol.2(2): 1827 (t.-p.).

Reviews and annoucement: *Linnaea* 1(2): 331. 1826;
Nuove Giornale de Letterati 1825 (fide *Linnaea*);
Mém.Soc.Linn.Paris 4(6): LII. 1826.

Refs.: BMNH 1675 Bradl.1: 426^a Milt. 184 Pr.ed.1 n.8402, ed.2 n.4744.

Bibl.notes. Volume 1 of this work is again one of those having at the same time laid and wove paper. Its cancellantia were easily detected because of the paper difference. Moreover those on laid paper were signed with an asterisk on their first page. If there have been more cancellantia, of the same paper type as the rest of the gathering as well as unmarked, they would be very difficult to detect since they also would consist of conjugate pairs. I can not explain the laid paper cancellans in vol.1 gath.7; it is possible that the 6 other leaves on wove paper in reality were the cancellantia and the pair of the fourth and fifth leaf the only remaining part of the original gathering, set before the main body of the text. This, however, seems unlikely, since it would have been easier to reprint the whole gathering; moreover, the preliminaries were usually set after the setting of the text had been finished.

Bot.notes. A regional flora, with the Linnaean classification, and a more modern division in the cryptogams. The habitat for the species was given, and the locality only for rare species. The descriptions were printed in italics, as well as the discussions. A number of varieties were treated, but they were numbered only (per species) and no varietal epithets have been noted. In the *Musci*, p.186-205, I did not find new names or combinations.

2 *Ad floram pedemontanam appendix altera.*

Memorie R. Accad. Scienze Torino 31: 189-224. 1827.

Head-title: "DOCTORIS JOANNIS FRANCISCI RE | R. ACAD. SCIENT. SOCII CORRESPONDENTIS
| IN REGIA SCHOLA VETERINARIA BOTANICES PROFESSORIS ETC. | AD FLORAM
PEDEMONTANAM | APPENDIX ALTERA | *lecta die 20 junii 1824.* | [short swelled
rule]".

Collation: 4*: 2A₃, 2B-2E⁴; 189-224.

Contents: 189 head-title; 189-190 introduction; 190-224 text, enumeration of additional information on species already mentioned for the region, or descriptions of species new to the region, in Linnaean classes (descriptions omitted when already in Linnaeus or Willdenow), included are 2 species of *Musci* (p.206) and a considerable number of *Lichenes* (p.206-214) and of *Fungi* (p.214-224).
Language: Latin.

Paper: leaf height 266 mm. (copy separate in U, cut); wove; wm.: "Jne Avondo
[erect script]".

Date: 1827 (t.-p. vol.).

Ref.: RSC 5: 113.

Bot.note. Additional information on the flora of Piedmont, Italy, including two species of mosses new for the region: *Phascum curvicolium* and *Polytrichum arcticum*.

REINWARDT, Caspar Georg Carl

Biogr. Born 1773 Jun. 5, Lüttringshausen near Remscheid, Rheinprovinz, Germany.
Died 1854 Mar. 6, Leiden, Netherlands.

Reinwardt studied at home, until his father died, then at the gymnasium at Lennep. In 1787 his elder brother acquired a pharmacy in Amsterdam and soon Caspar came there as a pharmacy pupil. Though he was devoted to botany, he studied medicine at the Athenaeum of Amsterdam (now the University of Amsterdam).

At the age of 27 he was nominated professor of natural history at the University of Harderwijk, at the same time receiving the degree of Dr. Med. & Nat. Hist. honoris causa there. In 1803 he was rector of the University.

In 1808 he was nominated by King Louis Napoleon of Holland director of the "Menagerie", a botanical and zoological garden and a natural history museum, which was moved from Soestdijk to Haarlem and then to Amsterdam. In 1810 he was nominated professor extraord. of chemistry and pharmacy, and ordin. of natural history at the Athenaeum at Amsterdam; he held his oration 5 Nov. 1810.

In 1815 he became Director of Agriculture, Arts and Sciences for the Island of Java and adjacent regions (the present-day Indonesia except Sumatra). In spring 1816 he sailed for Java with a draughtsman and a taxidermist. During his 6 year stay he reorganized the school system and the health service, introduced new plants for agriculture, founded the Botanical Garden at Buitenzorg (Bogor), and traveled much for natural history reconnaissance. The first three shipments of the objects collected were lost in shipwreck, but the others came to Leiden.

He was nominated in 1820 professor of natural history at Leiden, but before sailing to Holland he again made a collecting trip. In Oct. 1822 he embarked, and 3 May 1823 he held his oration. In 1832 he was rector of the University.

He was commemorated in the generic names *Reinwardtia* Dumortier 1822 (*Linaceae*). *Reinwardtia* Blume ex Nees 1824, a synonym of *Saurauia* Willdenow (*Dilleniaceae*), *Reinwardtia* Sprengel 1825, a synonym of *Breweria* R. Brown (*Convolvulaceae*), *Reinwardtia* Korthals 1842, a synonym of *Ternstroemia* Mutis (*Theaceae*), and *Reinwardtiadendron* Koorders 1898 (*Neliaceae*).

Refs.: Meyer, A.B.: *Allg. Deutsche Biogr.* 28: 111-113. 1889.

van Steenis-Kruseman, M.J.: *Fl. Males.* ser.1, 1: 429-431. 1951.

REINWARDT, Caspar Georg Carl & HORNSCHUCH, Christian Friedrich1 Musci frondosi Javanici.

Nova Acta Phys. Med. Acad. Caes. Leop.-Car. 14(2): 697-732. pl. 39-41. 1829.

Title: "MUSCI FRONDOSI IAVANICI, | REDDIDI CONIUNCTIS STUDIIS ET OPERA | REINWARDTII Dr., ET HORNSCHUCHII Dr. | A. C. N. C. SS. | Cum tabulis tribus, aeri insculptis. | [short rule] | Academiae trad. d. XXIII. Maii a. MDCCCXXVI."

Collation: 4°: 88_{3/4}, 89-92⁴; 697-699 700-732.

Contents: 697 title; 698 □; 699-732 text, list of 50 Javanese mosses with localities, the description of the new genus *Trachypus* (p.708), and of 28 new species, and discussions on some others. RT: "REINWARDT ET HORNSCHUCH | *Musci frondosi Javanici*.", combined on p.732. Language: Latin.

Plates: 3 copper-engravings, numbered: "XXXX" - "XLI" in upper right corner; in upper left corner all with: "Vol.14. P. 2"; moss species indicated by italic letters, details by arabic numbers; at bottom Latin binomials; plate-mark: 253 x 204 mm. (pl.40).

Artist and engraver: Sturm, Jacob (which see): all plates, signed.

Paper: leaf height 270 mm. (HBL copy, cut); wove; wm.: "VAN DER MEULEN & COMP [outline, except &]" at border of the leaf (HBL copy); plate paper: wove.

Date: 1829 (fasc. title).

Ref.: RSC 4: 153 (states: "1828")

Bibl.notes. I include this article since the date of its lecture at the academy is 23 May 1826. However, there is little doubt that the periodical containing the printed article indeed appeared in 1829, though I have not investigated this as I would have liked to do. No indication of the separate as an earlier publication has been found, though its existence is likely.

Bot.notes. Important article on the Javanese mosses collected by Reinwardt. A number of new species were signed by Hornschuch only, a number of new species and new combinations were signed by both authors. The new genus *Trachypus* and its species *T. bicolor* were also signed by both authors. The plates are of a good quality.

REINWARDT, Caspar Georg Carl & NEES von ESENBECK, Christian Gottfried1 Spiridens, novum muscorum diploperistomiorum genus.

Nova Acta Phys. Med. Acad. Caes. Leop.-Car. 11(1): 141-146. pl. 17. 1823.

Title: "SPIRIDENS, | NOVUM MUSCORUM DIPLOPERISTOMIORUM GENUS. | DETEXIT | Dr. C. G. C. REINWARDT, A.C.N.C.S., | DESCRIPSIT | Dr. C. G. NEES ab ESENBECK, Acad. h. t. Praeses. | (Cum Tabula aenea picta)".

Collation: 4°: 18_{3/4}, 19₁; 141-142 143-146.

Contents: 141 title; 142 □; 143-145 text, description of the new genus *Spiridens* and its only species *S. reinwardtii*; 146 explanation of the plate. RT: "C.G.C. REINWARDT, | *Spiridens, Musci genus*.", combined on p.146. Language: Latin.

Plate: hand-colored copper-engraving, numbered "XVII", of the moss, with details, and of 1 hepatic.

Artist: Wild, T., Germany.

Engraver: Engels, W., Germany.

Paper: leaf height 262 mm. (HBL copy, cut); wove; wm.:
 "[outline script letters or monogram along long side of sheet]";
 plate paper: wove; thicker than that of text; no wm. (HBL copy).

Date: 1823 (t.-p.), probably sem.1.

Review: *Ann.Sci.Nat.* 1: 335-336. 1824.

Ref.: RSC 4: 153.

Bibl.notes. Probably a separate had been prepared without change of pagination, and consisting of the same leaves, detached. No copy studied; and no indication of earlier publication found.

Bot.notes. Description of a new conspicuous genus of mosses, found by Reinwardt and described by Nees. The name could be assigned to both authors, although the title-page ascribed the description to Nees; a narrow interpretation of the rules would assign the name to Nees only. In the explanation of the plate the description of *Jungermannia india* "nob." is added.

REYGER, Gottfried

Biogr. Born 1704 Nov. 4, Danzig, Germany.
 Died 1788 Oct. 29, Danzig.

No biography available to me.

Refs.: Pr.ed.2: 262.

Festschr. Naturf. Ges. Danzig 81. 1893 (not seen)

1 Die um Danzig wildwachsenden Pflanzen ...

Ed. 2. 2 vols. Danzig, 1825-1826;

Title: "Die | um Danzig | wildwachsenden Pflanzen | nach | ihren Geschlechtstheilen | geordnet und beschrieben | von | Gottfried Reyger. | [short rule] | Neue ganz umgearbeitete und vermehrte Auflage. [full stop missing in vol.2] | von | Johann Gottfried Weiss, | der Königl. Baierischen botanischen Gesellschaft zu Regensburg, | so wie mehreren gelehrten Gesellschaften ordentliches | Mitglied und ausübender Apotheker hieselbst. | [short swelled rule] | Erster Theil. | [long swelled rule] | Danzig, 1825. | Im Verlag in der S. Anhutschen Buchhandlung. | [short rule] | Gedruckt in der Wedelschen Hofbuchdruckerei." vol.2: same, except: "Zweiter Theil | Die Kryptogamie enthaltend. | [short rule] | Mit 3 Kupfertafeln. | [long swelled rule] | Danzig, 1826. | Im Verlag der S. Anhutschen Buchhandlung."

Collation: 8*: vol.1: $\pi^*(\pi_1)$ 1-34⁸(34⁷+ π_1); I-V VI-VII VIII 1 2-541 542-546 (290 as '90');
 vol.2: π^2 1-27⁸ 21-27⁴ 28² π^4 ; i-iv 1 2-432 I II-LXVIII LIX-LXVIII₄ (LXXVIII LVII).

Contents: vol.1: I title; II \square ; III dedication to Eduard Ferdinand Geiseler, "Kön. Medicinalrath"; IV \square ; V-VII preface, headed: "Vorbericht.", signed: "Danzig, im Februar 1825."; VIII \square ; 1-541 text, descriptions of plants of the region in the Linnaean classes 1-23, species numbered 1-2029; 542 \square ; 543 correction; 544-546 \square ;
 vol.2: i title; ii \square ; iii-iv explanation of plates; 1-432 text, descriptions of cryptogams of the region; I-XXXVII index of Latin names referring to the species numbers; LXXVIII-LVI register of German names of vol.1; LVII-LX register of German names of vol.2; LXI-LXIII additions to vol.1; LXIII-LXVII additions to vol.2; LXVIII corrections. No RT. Language: German.

Plates: 3 copper-etchings, probably with some engraving, folded, numbered: "T.I" - "T.III", details in arabic ciphers on each plate anew, figuring details of moss species.

Artist and engraver: plates unsigned.

Paper: leaf height 179 mm. (copy Bibl. Senckenbergiana, Frankfurt a.M.); laid; wm. not checked.

Printer: Wedel, Danzig, Germany.

Publisher: Anhuth, S., Danzig, Germany.

Editor: Weiss, Johann Gottfried (d. 1832 May 24), Danzig, Germany; pharmacist (biogr.: *Linnaea* 9: 735. 1835; *Festschr. Naturf. Ges. Danzig* 92. 1893, not seen)

Dates: vol.1: 1825 (t.-p.); after Feb. (pref.); bef. 21 Sep. (see *Reviews: Flora*); vol.2: 1826 (t.-p.); bef. Apr. (see *Reviews: Linnaea*).

Reviews: vol.1: *Flora* 8(35): 553-555. 1825 Sep. 21; *Linnaea* 1(1): 108. 1826; vol.2: *Linnaea* 1(2): 276. 1826 Apr. (sharp criticism).

Refs.: BMNH 1692, | Bradl.1: 373b | Heins.7(2): 211 (vol.1) | Pr.ed.1 n.8535
2289 | Cat.Juss. n.1772 | Milt. 153 | Pr.ed.2 n.7583.

Notes. The second edition of a regional flora of 1768, following the Linnaean classification; in the second volume the cryptogams, containing 3 plates with details of *Musci*. I did not find a new taxon nor a new combination in this group. The work was severely criticized; Pritzel quoted (from *Linnaea*?): "Ein ganz neues, völlig werthloses Buch. Der zweyte Theil ist aus von Schlechtendal's *Flora Berolinensis* fast völlig wörtlich übersetzt."

ROFFAVIER, Georges

Biogr. Lorn 1775 Sep. 17, Lyon, France.

Died 1866 Mar. 12, Lyon.

A merchant who had studied botany under Gilibert (1741-1814), Roffavier botanized often in the Lyon region, and cultivated critical plants at his country-seat at Saint-Genis-Laval. He was a founder of the Société Linnéenne de Lyon in 1822 and interim director of the Botanical Garden at Lyon for a very short period in 1830. He discovered many plants new to the Lyon region; some species were named after him (*Hieracium*, *Rosa*).

Ref.: Magnin, Ant.: *Hist. Botanist. Lyonn.* 79-80. Lyon, 1906.

1 Supplément à la flore Lyonnaise ...

[anonymous] Lyon, 1835.

Title: "SUPPLÉMENT | A LA | FLORE LYONNAISE, | PUBLIÉE | PAR LE DOCTEUR J. B. BALBIS | EN 1827 ET 1828; | OU | DESCRIPTION DES PLANTES | PHANÉROGAMES ET CRYPTOGRAMES DÉCOUVERTES DEPUIS | LA PUBLICATION DE CET OUVRAGE; | SUIVI | D'UN TABLEAU GÉNÉRAL CONTENANT LA NOMENCLATURE | MÉTHODIQUE DES ESPÈCES AGAMES DÉCRITES DANS LA FLORE LYONNAISE, | CONJOINTEMENT AVEC CELLES QUI ONT ÉTÉ TROUVÉES DEPUIS LA MÊME ÉPOQUE | DANS LES ENVIRONS DE LYON. | [rosette] | LYON. | IMPRIMERIE TYPOGRAPHIQUE ET LITHOGRAPHIQUE | DE LOUIS PERRIN, | rue d'Amboise, 6. | 1835."

Collation: 8° in 4s: 1^h 2-11^h 12²; 1-5 6-91 92 (7 60-61 88-89).

Contents: 1 half-title; 2 □; 3 title; 4 □; 5-6 preface: "AVERTISSEMENT", dated: "Lyon, février 1835"; 7-59 text, descriptions of phanerogams, ferns and bryophytes (under the restricted name cryptogams) new to the flora of Lyon; 60 □; 61-62 index to the foregoing part; 63-87 complete list of lower cryptogams, lichens, fungi and algae of the region, without descriptions, with comparison of the nomenclature of Duby and Balbis: "TABLEAU GÉNÉRAL | COMPRENANT | LES PLANTES AGAMES DE LA FLORE LYONNAISE | ET CELLES NOUVELLEMENT DÉCOUVERTES, | DISPOSÉ SUIVANT LA CLASSIFICATION DU BOTANICON GALLICUM DE DUBY. | (L'asterisque désigne les plantes nouvelles.)"; 88 two short lists of plants found in the region of Lyon, but outside the area of the flora (Vienne 3 species, Crémien 4 sp.); 89-91 index of generic names of the lower cryptogams, including synonyms; 92 □. RT: names of plant groups. Language: French.

Plate: 1 plate indicated (see *Bibl.notes*); missing in HBL copy.

Paper: leaf height 218 mm. (HBL copy, uncut); laid, chains vertical; wm.: "[shell] = A M D G [partly outline]", usually in the middle of the upper quarter-sheets, occasionally in those of the same half-sheet, showing both marks in one half-sheet, and none in another.

Printer: Perrin, Louis, Lyon, France.

Collaborators:

Rollet, Marc Antoine (1803-1882), Lyon: contributed a number of indications;
Seringe, Nicolas Charles (1776-1858): contributed some indications
(both according to Magnin: *Hist.Botanist.Lyonn.* 89-90, 102. 1906).

Date: 1835 (t.-p.); Apr. (see *Bibl.notes*);
bef. 12 Sep. (*Bibliogr.France* 24(37): 557. 1835).

Review: *Report.Gesamt.Deutsch.Lit.* (Gersdorf) 6(5) *Lit.Misc.*: 37. 1835 Nov. 30.

Refs.: Bradl.1: 408^a Brun.6: 5074 Graesse 1: 279 Pr.ed.1 n.431, ed.2 n.368.

Bibl.notes. A printed letter accompanies the HBL copy (and possibly other copies) with the following text:

"Monsieur, | J'ai l'honneur de vous adresser un exemplaire | du
supplément à la Flore Lyonnaise publiée par | M^r Balbis. Ce petit travail
qui est le résultat | des recherches de plusieurs Botanistes de cette ville, |
contient quelques espèces assez rares, entre autre | le Trifolium Lagopus
dont on a donné une | figure, le Carex nutans et plusieurs plantes | agames,
nouvelles pour la France. | Agrées, Monsieur, l'assurance de ma |
considération distinguée, | Roffavier. | Lyon, le Avril, 1835."

This letter, in flowing script, with the botanical names in erect script, probably was lithographed. It can be inferred from this letter that Roffavier was the main author of this anonymous supplement.

Bot.notes. This supplement contains additional information to Balbis' *Flore Lyonnaise*, mainly new localities and species, also some corrected determinations. The list of *Fungi* (without descriptions) was considerably enlarged

SAUMAISES, Auguste [editor]

No biography available to me.

1 Cours d'agriculture, de botanique et d'histoire naturelle; ...

2 vols. Paris, 1837.

Title: not studied.

Collation: 8^a:

vol.1: π^2 1-12⁸ 13⁶ 14-22⁸ 23⁴ 24-29⁸ 30⁶ 31-36⁸ 37² 39-47⁸(=47⁸);
i-ii I II 1 2-56⁴ 57³ 574-716;
vol.2: π^2 a- π^8 (-a₁) h⁴ i²(-i₂) $2a-2h^8$ 2¹⁴ 16 2⁴ 36 4⁸ 5⁴ 6²
2¹⁶ 2²⁸ 2³⁶ 2⁴⁸ 2⁵⁴ 2⁶⁻²⁸ 2⁹² 3¹² 3²⁸ 3³² 3⁴⁸ χ^2 3⁵⁻³⁷²
38-41⁸ $3a-3i^8$ $3k^2(2^3k_2)$; i-ii I II-CXXII 2¹ 2^{II-2}CXXXV
2^{CXXVI} 1 2-60 2¹ 2²⁻²¹¹⁶ 3¹ 3²⁻³⁵⁶ 3¹ 3^{II-3}CXLVIII.

Note: For brevity the numerous unnumbered pages are not recorded here.

Contents (by collational reference):

vol.1: π_1 title, v imprint; π_2 new text, headed: "COURS | D'AGRICULTURE",
new chapter, headed: "ARROSEMENT."; 11-37² re-issue of sheets of *Mémoires de la Société Linnéenne de Paris* 5(1)-(5): 1-564. 1826 (including the article of Arnott n.7 & 11, with the report and annotations by Kittel); 39¹-47⁷ re-issue of sheets of the same journal 4(6): 573-716. [1826]; 47⁸ cancellans, new chapter on destructive insects;

vol.2: π_1 title, v imprint; π_{2rv} text, headed: "COURS | D'AGRICULTURE.", new chapter, titled: "CULTURE DE L'AMANDIER."; π_{2v} reprint of a part of the same periodical, p.1-2, titled: "Discours prononcé par M. le docteur Descourtilz, président de la Société | Linnéenne, à la séance publique du 28 décembre 1824, jour anniver-|saire de la mort de Tournefort."; a_2-i_1 re-issue of sheets of the same journal 3(6): III-CXXII. [1825]: history of the society concerned during the year 1824; $2_{a_1}-2_{i_1}$ re-issue of sheets of the same journal 4(6): I-CXXXV. [1826]: history of the society during 1825; 1_1-6_2 re-issue of the *Bulletin Linnéen* 1824(1)-(6); $2_{1_1}-2_{9_2}$ re-issue of the same bulletin 1825(1)-(6); $3_{1_1}-3_{7_2}$ re-issue of sheets of the same bulletin 1826(1)-(6); 38_1-41_8 re-issue of sheets of the *Mém. Soc. Linn. Paris* 5(6): 573-714. [1826]; $3_{a_1}-3_{k_1}$ re-issue of sheets of the same journal 5(6): I-CXLVI. [1827]: history of the society during 1826; 3_{k_2r} reprint of p.CXLVII of the foregoing history, continuing the list of books received during 1826 up to "Société d'agriculture de Vesoul ..."; 3_{k_2rv} new final chapter of Cours d'agriculture, headed: "CULTURE DU CHANVRE." (culture of hemp). No RT. Language: French, with Latin descriptions.

Plates: 16 copper-engravings, reissued from vols.4 and 5 of the journal, representing plants, animals, fossils and minerals, and a map showing the result of an anti-hail device; some plates folded, a few still in the pairs as printed from one copper-plate (frontispiece vol.2 consists of pl.XIV and XII together, dated 1826, with engraved dividing line); plate-marks not measured.

Artists (of botanical plates):

Billotti, L.: pl.II of 1825 (vol.2);
 Brondeau, L. de: pl.VI of 1826 (vol.1);
 Descourtilz, Théodore, naturalist: pl.I of 1825 (vol.2);
 Desmazières, J.B.H.J. (which see): pl.IV of 1826 (vol.1);
 Léveillé, J.H. (1796-1870), botanist: pls.XIV, XX of 1825 (vol.2);
 Libert, Melle Anne (1782-1865), Belgian botanist (biogr.: *Bull.Soc.Bot.Belg.* 4: 403-411. 1865): pl.V of 1826 (vol.1);
 Machado née Berthelot, Marg. (sister of Sabin Berthelot): pl.VII of 1826 (vol.1);
 Roubieu: pl.XII of 1826 (vol.2 frontispiece);
 Zippelius: pl.XIII of 1826 (vol.1 frontispiece).

Engravers (of botanical plates): Desève: pls.V-VI of 1826, pl.XII of 1825;
 Lanvin: pl.XIII of 1826;
 Tourcaty: pls.I, II, XIV, XX of 1825.

Paper: leaf height 215 mm. (HBL copy, uncut); laid, chains vertical (except in some plates with horizontal chains); wm. new leaves: not studied; old leaves: see *Mém.Soc.Linn.Paris*.

Printers: A. Le Boyer & Comp., Lagny, France: the few new leaves;
 Lebel, Paris: the re-issued sheets of vol.3 of periodical;
 Decourchant, Paris: the re-issued sheets of vol.4-5 of the periodical.

Publisher and editor: Saumaises, Auguste, Paris.

Date: 1837 (t.-p.) (not traced in *Bibliogr.France*).

Reviews and references: none traced.

Bibl.notes. Remarkable re-issue, with a few newly printed leaves to cover the manipulation, of the sheets of the *Mémoires de la Société Linnéenne de Paris* of 1824-26. The printer's stock possibly came into other hands, with more material, since vol.2 (HBL copy) has the green wrapper pasted to the rectos of a title-page and a half-title of another book printed by Decourchant: *Histoire de France*, vol.8, by Le Comte de Segue, Paris, 1829 (publisher: Alexis Eymery, Paris). The contents of the journal are not recorded here, since the bryological articles are recorded at their appropriate places.

Bot.notes. The nomenclatural consequence of this re-issue for the names in the article of Arnott are discussed under Arnott n.11; there is a possibility that a similar situation is present for articles treating fungi, in connection with the different dates of the starting-point of nomenclature of this group; I did not check this possibility.

SAUTER, Anton Eleutherius

Biogr. Born 1800 Apr. 10, Grossarl, Herzogthum Salzburg, Austria.

Died 1881 Apr. 6, Salzburg, Austria.

Sauter entered the gymnasium at Salzburg in 1809 and the Collegium Rupertinum there in 1812. In 1814 he began learning plants with the help of the *Salzburgische Flora* published by F.A. von Braune in 1797, and later with the author himself. He studied philosophy in Graz in 1819 and medicine in Vienna in 1820, where he finished with his doctor's thesis in 1826 (treated below).

In the autumn of 1826 he became second physician in the St. Johns Hospital in Salzburg, where he stayed 1½ year. From 1828-1848 he held official medical positions in different places in Austria consecutively: Kitzbühl [Kitzbühel?], Bregenz, Zell am See, Ried (Oberösterreich) and Steyr. Finally he became "Kreisarzt" in Salzburg, a position from which he retired in 1871.

He made many trips in the neighborhood of the places where he worked, studying the local floras thoroughly. Not neglecting possible new species, Sauter paid special attention to cryptogams, earning the epithet: "nestor of the Austrian cryptogamology".

He corresponded with many other botanists and was visited by several of them, e.g. W.P. Schimper was with him in Steyr in 1844. After his retirement Sauter diligently studied the fungus flora of Salzburg. A botanist of the old school, he never used a microscope.

He was commemorated in the generic name *Sauteria* C.G. Nees von Esenbeck 1838 (*Hepaticae*, *Marchantiaceae*).

Ref.: Schiedermayr, Karl: *Oesterr. Bot. Zeitschr.* 27(1): 1-6. 1877 Jan.

1 *Dissertatio inauguralis geographico-botanica de territorio Vindobonensi;*

Versuch einer geographisch-botanischen Schilderung der Umgebung Wiens.

Vienna, 1826.

Latin title: "DISSERTATIO | INAUGURALIS GEOGRAPHICO-BOTANICA | DE | TERRITORIO | VINDOBONENSI." ... (not further transcribed);

German title: "VERSUCH | EINER | GEOGRAPHISCH-BOTANISCHEN SCHILDERUNG | DER | UMGEBUNG WIENS. | [swelled rule] | VON | ANTON ELEUTH. SAUTER, | DER | REGENSBURGER BOTAN. GESELLSCHAFT MITGLIED. | [swelled rule] | WIEN 1826. | GEDRUCKT BEY ANTON V. HAYKUL." (typography not studied).

Collation: 8°: 1⁸ 2-3⁸ x¹; I-VII VIII-X 11 12-48 49-50.

Contents: I Latin title; II □; III German title; IV □; V dedication to "Joseph Franz Freiherrn von Jacquin" (1766-1839); VI □; VII-X preface, dated: "Wien, am 26. July 1826."; 11-48 text: 11-23 physical geography of Vienna, 24-48 flora of Vienna in natural families; 48 list of abbreviations; 49 "Theses"; 50 correction. No RT. Language: German.

Paper: not studied.

Printer: Haykul, Anton von, Vienna, Austria.

Date: 1826 (t.-p.); after 26 Jul. (pref.).

Refs.: BINH 1812 Bradl.1: 439^b Pr.ed.1 n.9008, ed.2 n.8053.

Bot. notes. An important study on the plant geography and ecology of the flora of the Vienna region, however, not treating the cellular cryptogams except for a short mention in the introduction; e.g. one paragraph devoted to *Musci*, in which one species is mentioned: *Anacamptodon splachnoides*.

SAVI, Gaetano

Biogr. Born 1769 Jun. 13, Florence, Italy.

Died 1844 Apr. 28, Pisa, Italy.

G. Savi was professor of botany and director of the botanical garden in Pisa; he was author of many botanical works, e.g. a flora of Pisa.

He was commemorated in the generic names *Savia* Willdenow 1805 (*Euphorbia*-*ceae*) and *Savia* Rafinesque 1809, a synonym of *Amphicarpasa* S. Elliott corr. A.P. de Candolle (*Leguminosae*).

Ref.: *Nuov. Giorn. Bot. Ital.* 4: 177-208. 1872.

1 Botanicon Etruscum ...

4 vols., 1808-1825.

Title: "CAJETANI SAVI | MED. DOCT. | IN IMPER. PISANO ATHENÆO | BOTANICES PROFESSORIS | ACAD. GEORGOPHIL. FLORENT. SOC. | BOTANICON ETRUSCUM | SISTENS | PLANTAS | IN | ETRURIA SPONTE CRESCENTES | [medium rule] | VOLUMEN I. [vol.2: VOLUMEN II.] [vol.3: VOLUMEN III.] [vol.4: VOLUMEN IV.] | [medium rule] | PISIS | TYPIS RAYNERII PROSPERI | 1808. [vol.2: 1815] [vol.3: 1818] [vol.4: 1825]."

Collation: 8°: vol.1: 7⁸ 2-12⁸ 13⁴; 1-5 6-200 (8-9 193);
vol.2: 7² 1-16⁸ 17⁶; i-iv 1 2-268;
vol.3: 1-11⁸ 12⁴; 7-3 4-184;
vol.4: 7⁸(7, x¹) 2-5⁸ 6-7⁴ 8⁸ 9-12⁴ 13⁸ 14-25⁴ 26⁸ 27-32⁴;
1-2 i-ii 3 4-320 (267 292).

Contents: vol.1: 1 title; 2 □; 3 dedication to Octaviano Targioni Tozzetti; 4 □; 5-7 preface; 8 □; 9-192 text, descriptions of plant species: "[1.] *Veronica spicata*." - "248. *Vallisneria spiralis*."; 193-199 index; 200 addenda and emendanda;
vol.2: i title; ii □; iii-iv preface; 1-258 text: "249. *Ligustrum vulgare*." - "711. *Hippocrepis multisiliquosa*."; 259-268 index of vol.2;
vol.3: 1 title; 2 □; 3-177 text: "711[sic for 712]. *Equisetum sylvaticum*." - "1000. *Evonymus latifolius*."; 178-184 index of vol.3;
vol.4: 1 title; 2 □; i-ii preface; 3-266 text: "1001. *Corydalis lutea*." - "1509. *Byssus aurantiaca*."; 267-291 alphabetical index to vols.1-4; 292-319 systematical index to vols.1-4; 320 addenda and emendanda. No RT.
Language: Latin.

Paper: laid, chains vertical; wm.:

"[crowned shield with post-horn] | C & I HONIG = I V": vol.1, vol.2: 11-17;
"[crowned shield with fleur-de-lis] | 1806 = [monogram in script with C]":
vol.2: 1-10, vol.3: 1-11;
"[crowned shield with post-horn] | L G [...] E C": vol.3: 12;
"[crowned shield with post-horn] | G B A & M": vol.4.

Printer: Prosper, Rayner, Pisa, Italy.

Dates: vol.1: 1808 (t.-p.); bef. 20 Jun. (*J.Gén.Litt.Étrang.*, Sayre 59),
Sep.-Oct. (*Nuov.Giorn.Lett.Pisa* ser.2, 9(26): 260-261.1808);
vol.2: 1815 (t.-p.); bef. 20 Nov. 1816 (*J.Gén.Litt.Étrang.*, Sayre 59);
vol.3: 1818 (t.-p.); Apr. (*Biblioth.Ital.* 10(4): 139-140.1818);
vol.4: 1825 (t.-p.); Jun. (*Antologia Firenze* 19(56): 145-146. 1825 Aug.).

Reviews: vol.1: *J.Bot.*(Desvaux) 2: 111-114. 1809;
vol.2: *Flora* 3¹(*Beil.*2): 27. 1820;
vol.3: *Biblioth.Ital.* 10(4): 139-140. 1818;
vol.4: *Nuov.Giorn.Lett.Pisa* ser.3, 10(21): 245-246, 1825;
vol.1-4: *Linnaea* 1(2): 330. 1826 [from *Bull.Sci.Nat.* ser.2, 1825 Nov.].

Bibliogr.study: Sayre, G.: *Dates of publ.* 58-59. 1959.

Refs.: Arn.Arb.1: 626	Brun.6: 5101	Linn.Soc. 679	Pr.ed.1 n.9017
BMNH 1815	Kew 549	Milt. 185	Pr.ed.2 n.8062
Bradl.1: 425a			Un.Edinb.3: 475.

Notes. Savi, apparently not content with his *Flora Pisano* of 1793, published in this book his accumulated knowledge of the flora of his region. He acknowledged the consultation of the manuscripts of Pier' Antonio Micheli (1679-1737). The arrangement of the plants and the nomenclature are in essence Linnaean; the Linnaean arrangement was for convenience not followed throughout the book, but at the end a systematical index was added.

A number of new species were proposed, or new combinations (*Eromus hispidus*), for phanerogams listed in *Index Kewensis*. Cryptogams were included, except *Algae* (and the *Hepaticae*, included in *Algae* by Linnaeus).

This work is often cited for *Pontinialis juliana* Savi (3: 107); however, this name was already published by A.P. de Candolle in Lamarck & De Candolle, *Fl. Frang.* ed.3, 6: 236. 1815, and both were antedated by *Skitophyllum fontanum* De la Pylaie which was cited by Savi as a synonym.

2 Scelta di generi di piante ...

Pisa, 1826.

Title: "SCELTA | DI GENERI DI PIANTE | CON I LORO RISPETTIVI CARATTERI | DISPOSTI SECONDO IL SISTEMA SESSUALE | E IL METODO NATURALE | PER USO | DEGLI STUDENTI DI BOTANICA | DI GAETANO SAVI | PROFESSORE DI BOTANICA E DIRETTORE DEL GIARDINO | DELLA I. E R. UNIVERSITÀ DI PISA | SOCIO CORRISPONDENTE DELLA R. ACCADEMIA DEI GEORGOFILI | DI FIRENZE, DELL' ACCADEMIA VALDARNESE DEL POGGIO, | DELL' ACCADEMIA LABRONICA, DELLA R. ACCADEMIA DELLE | SCIENZE DI STOCKOLM, DELLA R. ACCADEMIA DELLE SCIENZE | DI TORINO, DEL LICEO DI STORIA NATURALE DI NEW-YORK, | DELLA SOCIETÀ' ORTICULTURALE DI LONDRA, DELLA SOCIETÀ' | ELVETICA DI STORIA NATURALE EC. EC. EC. | PISA | PRESSO SEBASTIANO NISTRI | MDCCCXXVI."

Collation: 8°: $\pi^4(\pi_2+2\pi^2)$ 7⁸ 2-19⁸; I-III IV-XII 1-3 4-302 303-304
(VII 7 12 85 88 94 102 112 119 124 135 151 164 173 186
208-211 216 227 291).

Contents: I title; II \square ; III-VI preface: "PREFAZIONE"; VII-XII systematical list of genera in natural families (Italian names); 7 part-title: "PARTE PRIMA | [short double rule] | GENERI DI PIANTE | DISPOSTI | SECONDO IL SISTEMA SESSUALE | COLLE CORRISPONDENZE | ALLE FAMIGLIE NATURALI"; 2 \square ; 3-207 text, descriptions of plant genera in the Linnaean classification with marginal references to the natural families; 208 \square ; 209 part-title: "PARTE SECONDA | [short double rule] | GENERA DI PIANTE | DEPOSTI SECONDO LE FAMIGLIE NATURALI | COLLE CORRISPONDENZE | AL SISTEMA SESSUALE"; 210 \square ; 211-290 text, descriptions of natural families with lists of genera in the families and their numbers in the first part; 291-302 index of names of genera and families, page-numbers and consecutive numbers; 303 corrections; 304 \square . RT: absent in π ; Latin names of Linnaean classes and their subdivisions in part 1, Italian names of natural classes in part 2. Language: Italian.

Paper: leaf height 199 mm. (BMNH copy, cut); laid, chains vertical; wm.: "[five-pointed star] | La Stella = G & C Cini [large outline script]"; 2 π 2-13 19;

"[crowned shield with post-horn] | G B A & M": 14-15;
"[crowned shield with post-horn] | [monogram M or CA?]" : 16;
not identified: 17, 18 (BMNH copy).

Printer: Nistri, Sebastiano, Pisa, Italy.

Date: 1826 (t.-p.).

Refs.: BMNH 1815	Bradl.1: 259b	Pr.ed.1 n.9030	Soulsb. n.831a
	Kew 549	Pr.ed.2 n.8074	Un.Edinb.3: 475.

Bibl.note. The part 2 π in the gathering π could have been part of one gathering π^6 , but the wm. and the paper color (π more browned than 2 π) indicate otherwise, possibly a cancel.

Bot.note. Arrangement of the genera of plants in the Linnaean and natural classifications. *Musci* were treated on p.VII: "Le Muscoidee", p.189-194 with special references to Savi: *Botanicon Etruscum* and its numbers; p.213 exactly the same arrangement.

SCHULTZ, Carl Friedrich

Biogr. Born 1765 ... , Stargard, Mecklenburg, Germany.

Died 1837 Jun. 27, Neubrandenburg, Mecklenburg, Germany.

C.F. Schultz was a physician at Neubrandenburg. He received the title "Grossherzoglich Mecklenburgisch-Strelitzischen Hofrath" and he was a member of the Academia Caes. Leopoldina-Carolina. He was a bryologist.

His herbarium came to the Botanical Institute of the University of Rostock. The first half-year volume of the periodical *Flora* was dedicated to him. He was commemorated in the generic name *Schultzia* Sprengel 1813, *nom. cons.* (*Umbelliferae*).

Ref.: Boll, E.: *Flora von Mecklenburg* 161-163. 1860 (not seen).

1 *Species nonnullas novas e Barbularum generi.*

Sylloge plantarum novarum 1: 34-37. 1824 [1822].

Collation: 8°: C₁^r-C₃^r; 34-37.

Date: 1824 (t.-p.); 1822 (see *Sylloge plantarum novarum*).

Bot. note. Descriptions of new species of *Barbula* (*Musci*), e.g. *B. hornschoekiana* (35), usually overlooked (title date 1824 is later than that of Schultz n.2).

2 *Recensio Generum Barbulae et Syntrichiae.*

Nova Acta Phys. Med. Acad. Caes. Leop.-Car. 11(1): 191-232. pl. 32-34. 1823.

Title: "RECENSIO | GENERUM BARBULAE ET SYNTRICHIAE | AUCTORE | C. F. SCHULTZ, M. D.,
— Ac. C. N. C. S. | (Cum tabulis 3 aeneis pictis.) | [short rule]".

Collation: 4°: 24, 25-29*; 191-192 193-232.

Contents: 191 title; 192 □; 193-195 introduction; 196-232 text, descriptions of species of the moss genera *Barbula* and *Syntrichia*; 232 note for explanation of plates, referring to p.196, and errata.

Plates: 3 hand-colored copper-engravings of mosses with details, numbered: "XXXIII." - "XXXIV.", name of species below the figures, details with italic letters; plate-mark: 233 × 190 mm. (pl.34).

Artist and engraver: Sturm, Jacob (which see): all plates, signed.

Paper: leaf height 262 mm. (HBL copy, cut); wove; wm. (periodical): "[outline script letters or monogram along long side of sheet]"; plate paper: wove; no wm. seen.

Date: 1823 (fasc. title); probably sem.1.

Ref.: RSC 5: 566.

Bot. note. Important monograph of the moss genus *Barbula* and the related genus *Syntrichia*, including the species of *Tortula*.

3 *Trichostomum laureri* Schultz, eine neue Laubmoosart.

Flora 10(11): 161-164. 1827 Mar. 21.

Title: "*Trichostomum laureri* Schultz, eine neue Laub-|moosart; aufgestellt von Herrn Hofrath Dr. | Schultz in Neubrandenburg."

Collation and date: see *Flora*.

Ref.: RSC 5: 566.

Note. Latin description of a new species of *Musci*, p.163, with a German introduction. A correction to the description was published in *Flora* 10²(Beil.): 112. 1827 (probably Jan. 1828).

4 Observationes bryologicae.

Sylloge plantarum novarum 2: 119-154, 177-217. [1827?], 1828.

Collation: 8°; see *Sylloge plantarum novarum*.

Date: 1828 (t.-p.); after 7 Mar. 1826 (see *Announcement*);
at least partly after 12 Dec. 1826 (second part dated, p.217);
probably 1827 (see *Sylloge plantarum novarum*).

Announcement: "particula prima" was announced in *Flora* 9(9): 142. 1826 Mar. 7:
"wird in der Fortsetzung der Sylloge plantarum einverleibt werden" (will
be incorporated in the continuation of the *Syll.pl.nov.*).

Bibl.notes. It is quite well possible that the first part or at least some
gatherings already appeared during 1826, but I did not find other indications
than the pre-publication announcement referred to. It is very likely that
the whole article was published before 1828, but again I do not have any
certainty.

Bot.notes. The new names in these bryological discussions were entered in *Index
Muscorum* under the year 1828, taken from the title.

SCHWAEGRICHEN, Christian Friedrich

Biogr. Born 1775 Sep. 16, Leipzig, Germany.

Died 1853 May 2, Leipzig.

C.F. Schwaegrichen, from a merchant family, studied in Leipzig and became Dr. Med. in 1799. In 1802 he was appointed professor extraordinarius in natural history, and in 1806, after the death of R.A. Hedwig (1772-1806, son of Johann Hedwig), professor extraordinarius of botany and director of the botanical garden there. In 1815 he became professor ordinarius. He visited Great Britain in 1822/23 and afterwards became a foreign member of the Linnean Society. In 1837 he consigned the directorate of the botanical garden to G. Kunze (1793-1851). In 1852 he resigned as professor and was awarded the order "Pour le Mérite". He died from a fall.

Schwaegrichen was an outstanding bryologist, a worthy pupil of Johann Hedwig (which see), whose herbarium he afterwards acquired. The combined herbarium Hedwig-Schwaegrichen is now kept in the Conservatoire et Jardin Botanique de Genève.

Schwaegrichen edited the posthumous work *Species Muscorum* of Johann Hedwig, refraining from adding material not contributed by Hedwig. Additionally he published his own material modestly as *Supplements* to Hedwig's work, although it is clear from the title-page that Schwaegrichen wrote it. He also was the author of the part treating the mosses in Willdenow's edition of Linnaeus' *Species Plantarum*, which was not completed.

Moreover he published papers in periodicals, added parts on mosses to some travel accounts and published independently on hepatics, on plants and insects around Leipzig, and a text-book on natural history for schools. He had a well-known collection of insects and birds.

He was commemorated in the generic names *Schwaegrichenia* Sprengel 1817, probably a synonym of *Anigosanthus* Labillardière (*Amaryllidaceae*), and *Schwaegrichenia* Reichenbach, a superfluous name for *Tetragastris* J. Gaertner (*Bursseraceae*), and in some specific names of *Musci*.

Refs.: Wunschmann, E.: *Allg.Deutsche Biogr.* 33: 175. 1891;
Florschütz, P.A.: Christian Friedrich Schwaegrichen (1775-1853) in: Hedwig, J.: *Species Muscorum frondosorum*. Facsimile ed. p.XIII-XIV. Weinheim, 1960.

1 *Species muscorum ... supplementum.*

4 supplements in 7 volumes [11 parts]. Leipzig, 1811-1842.

Titles: suppl.1 [vol.]1: "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN ACAD. LIPSIENSI, ACADEM. IMPERIAL. | NATURAE CURIOSORVM, REG. SCIENT. HOLM. SOCIETATISQVE LONDINENS. MEMBRI, | PHYSIOPHILOR. BEROL. TVRICENS., MEDICO-CHIRVRG. TVRIC., OECONOM. LIPS. ET | MARCHICO-POTSDAMIENSIS, MATHEMATICO-PHYSICAE ERFORDIENSIS SODALIS | SPECIES | MVSCORVM FRONDOSORVM | DESCRIPTAE ET TABVLIS AENEIS COLORATIS ILLVSTRATAE | OPVS POSTVMVM. | SVPPLEMENTVM PRIMVM | SCRIPTVM | A | FRIDERICO SCHWAEGRICHEN | MED. ET PHILOS. DOCT., BOTANICES ET HISTORIAE NATVRALIS PROFESSORE IN ACA-DEMIA LIPSIENSI, SOCIETAT. REG. PHYSIC. GOETTINGENS. MEMBR., REG. MONACENS. | CORRESP., PHYTOGRAPHIC. MOSCVENS., BOTANIC. RATISB., PHYSIOGRAPHIC. WETTERA-|VIENS., HEIDELBERGENS. OECON. LIPS. SODAL. | [copper-engraving of mountainous landscape with two botanizing boys, a third one standing looking through a microscope and a young lady making notations] | SECTIO PRIMA | TABVLIS AENEIS COLORATIS L. ILLVSTRATA. | [very long swelled rule] | LIPSIAE | SVMTV IOANNIS AMBROSII BARTH | MDCCCXI. | PARISIIS APUD TREVTTEL ET WÜRZ, RUE DE LILLE N°. 17.";

suppl.1 [vol.]2: "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN ACAD. LIPSIENSI, ACADEM. IMPERIAL. | NATURAE CURIOSORVM, REG. SCIENT. HOLM. SOCIETATISQVE LONDINENS. MEMBRI, | PHYSIOPHILOR. BEROL. TVRICENS., MEDICO-CHIRVRG. TVRIC., OECONOM. LIPS. ET | MARCHICO-POTSDAMIENSIS, MATHEMATICO-PHYSICAE ERFORDIENSIS SODALIS | SPECIES | MUSCORVM FRONDOSORVM | DESCRIPTAE ET TABVLIS AENEIS COLORATIS ILLVSTRATAE | OPVS POSTVMVM. | SUPPLEMENTVM PRIMVM | SCRIPTVM A | FRIDERICO SCHWAEGRICHEN | MED. ET PHILOS. DOCT., BOTANICES ET HISTORIAE NATVRALIS PROFESSORE IN ACA-DEMIA LIPSIENSI, SOCIETAT. REG. PHYSIC. GOETTINGENS. MEMBR., REG. MONACENS. | HARLEMENS., PHYTOGRAPHIC. MOSCVENS., BOTANIC. RATISB., PHYSIOGRAPHIC. WETTERA-|VIENS., HEIDELBERGENS. IENENS. OECON. LIPS. SODAL. | [copper-engraving, identical with that in suppl.1 [vol.]1] | SECTIO POSTERIOR | TABVLIS AENEIS COLORATIS LI. ILLVSTRATA. | [very long swelled rule] | LIPSIAE | SUMTU IOANNIS AMBROSII BARTH | MCCCXVI. | PARISIIS APUD TREVTTEL ET WÜRZ, RUE BOURBON N°. 17.";

suppl.2 [vol.]1(1): "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN ACAD. LIPSIENSI, ACADEM. IMPERIAL. | NATURAE CURIOSORVM, REG. SCIENT. HOLM. SOCIETATISQVE LONDINENS. MEMBRI, | PHYSIOPHILOR. BEROL. TVRICENS., MEDICO-CHIRVRG. TVRIC., OECONOM. LIPS. ET | MARCHICO-POTSDAMIENSIS, MATHEMATICO-PHYSICAE ERFORDIENSIS SODALIS | SPECIES | MUSCORVM FRONDOSORVM | DESCRIPTAE ET TABVLIS AENEIS COLORATIS ILLVSTRATAE | OPVS POSTVMVM. | SUPPLEMENTVM SECNDVM | SCRIPTVM A | FRIDERICO SCHWAEGRICHEN | MED. ET PHILOS. DOCT., HISTORIAE NATVRALIS ET BOTANICES PROFESSORE IN ACADEMIA | LIPSIENSI, SOCIETAT. HIST. NAT. LIPS. DIRECTORE, SOCIETT. IMPER. LEOPOLDINO-CAROLINAE, | MOSCOVIENSIS, REGIAE GOETTINGENS., MONACENS., LINNEANAE PARISIENS., PHYSICO-MED. | ERLANGENS., DRESDANAE, NAT. SCRUT. HALENS., HARLEMENS., HEIDELBERG., HARBURG., | WETTERAV., OSTERLAND., RATISBON., PHYTOGRAPH. MOSCOVIENS., MINERALOG. DRESDENS., | IENENS., OECONOM. MARCHIAE POTSDAMENS. ET LIPS. ALIARVMQVE SODALI. | [copper-engraving, identical with that in suppl.1 [vol.]1] | TABVLIS AENEIS L. ILLVSTRATA. | [very long swelled rule] | LIPSIAE | SUMTU IOANNIS AMBROSII BARTH | MDCCCXXIII. | PARISIIS RUE BOURBON N°. 17. APUD TREVTTEL ET WÜRZ, | LONDINI SOHO SQUARE 30. APUD TREVTTEL ET WÜRZ, TREVTTEL FILIUS ET RICHTER.";

suppl.2 [vol.]1(2): "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN ACAD. LIPSIENSI, ACADEM. IMPERIAL. | NATURAE CURIOSORVM, REG. SCIENT. HOLM. SOCIETATISQVE LONDINENS. MEMBRI, | PHYSIOPHILOR. BEROL. TVRICENS., MEDICO-CHIRVRG. TVRIC., OECONOM. LIPS. ET | MARCHICO-POTSDAMIENSIS, MATHEMATICO-PHYSICAE ERFORDIENSIS SODALIS | SPECIES | MUSCORVM FRONDOSORVM | DESCRIPTAE ET TABVLIS AENEIS COLORATIS ILLVSTRATAE | OPVS POSTVMVM. | SUPPLEMENTVM SECNDVM | SCRIPTVM A | FRIDERICO SCHWAEGRICHEN | MED. PHILOS. ET CHIRVRG. DOCT., HIST. NATVRALIS ET BOTANIC. PROFESS. ET FACUL-TATIS MED. ASSESS. IN ACADEMIA LIPSIENSI, SOCIETATIS NAT. SCRUT. LIPS. DIRECTORE, | SOCIETT. IMPER. LEOPOLDINO-CAROLIN. ET MOSCOVIENSIS, REGIAE HARLEMENS., MONA-CENS., LINNEANAE LONDIN. ET PARISIN., PHYSICO-MED. ERLANGENS. ET DRESD., NAT. |

CURIOS. ALTENBURG., BEROLINENS., FRANCOFURTANAE SENKENBERGENS., GOETTIN-|GENS.,
HALENS., HEIDELBERG., MARBURG., OSTERLAND., RATISBON., WETTERAV., | PHYTOGRAPH.
MOSCOV., WERNERIAN EDINENS., MINERALOG. DRESDENS., JENENS., | OECON. REGIAE
MARCHICAE POTSDAMENS., DRESD. ET LIPS., SOC. PHARMACEUT. GERMAN. | BOR. ETC.
SODALI. | [copper-engraving, identical with that in suppl.1 [vol.]1] | TABULIS
AENEIS L. ILLUSTRATUM. | [very long swelled rule] | LIPSIAE | SUMTU IOANNIS
AMBROSII BARTH. | MDCCCXXIV. | PARISIIS RUE BOURBON N°. 17. APUD TREUTTEL ET
WÜRTZ. | LONDINI SOHO SQUARE 30. APUD TREUTTEL ET WÜRTZ, TREUTTEL FILIUM ET
RICHTER.";

suppl.2 vol.2(1): "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN
ACAD. LIPSIENSI. ACADEM. IMPERIAL. | NATURAE CURIOSORUM, REG. SCIENT. HOLM.
SOCIETATISQUE LONDINENS. MEMBRI. | PHYSIOPHILOR. BEROL., TURICENS., MEDICO-
CHIRURG. TURIC., OECONOM. LIPS. ET | MARCHICO-POTSDAMENSIS, MATHEMATICO-
PHYSICAE ERFORDIENSIS SODALIS | SPECIES | MUSCORUM FRONDOSORUM | DESCRIPTAE
ET TABULIS COLORATIS ILLUSTRATAE | OPUS POSTHUMUM | SUPPLEMENTUM SECUNDUM |
SCRIPTUM | A | FRIDERICO SCHWAEGRICHEN | MED. PHILOS. ET CHIRURG. DOCT., HIST.
NATURALIS ET BOTANIC. PROFESS. ET FACUL-|TATIS MED. ASSESS. IN ACADEMIA
LIPSIENSI, SOCIETATIS NAT. SCRUT. LIPS. DIRECTORE, | SOCIETT. IMPER. LEOPOLDINO-
CAROLIN. ET MOSCOVIENSIS, REGIAE HARLEMENS., MONA-|CENS., LINNEANAE LONDIN. ET
PARISIN., PHYSICO-MED. ERLANGENS. ET DRESD., NAT. | CURIOS. ALTENBURG.,
BEROLINENS., FRANCOFURTANAE SENKENBERGENS., GOETTIN-|GENS., HALENS., HEIDELBERG.,
MARBURG., OSTERLAND., RATISBON., WETTERAV., | PHYTOGRAPH. MOSCOV., WERNERIAN
EDINENS., MINERALOG. DRESDENS., JENENS., | OECON. REGIAE MARCHICAE POTSDAMENS.,
DRESD. ET LIPS., SOC. PHARMACEUT. GERMAN. | BOR. ETC. SODAL. | [copper-engraving,
identical with that of suppl.1 [vol.]1] | VOLUMEN SECUNDUM. | TABULIS AENEIS
L. ILLUSTRATUM. | [very long swelled rule] | LIPSIAE | SUMTU IOANNIS AMBROSII
BARTH. | MDCCCXXVI. | PARISIIS RUE BOURBON N°. 17. APUD TREUTTEL ET WÜRTZ. |
LONDINI SOHO SQUARE 30. APUD TREUTTEL ET WÜRTZ, TREUTTEL FILIUM ET RICHTER.";

suppl.2 vol.2(2): "IOANNIS HEDWIG | MED. DOCT. AC PROFESSORIS BOTANICES IN
ACAD. LIPSIENSI, ACADEM. IMPERIAL. | NATURAE CURIOSORUM, REG. SCIENT. HOLM.
SOCIETATISQUE LONDINENS. MEMBRI. | PHYSIOPHILOR. BEROL. TURICENS., MEDICO-
CHIRURG. TURIC., OECON. LIPS. ET | MARCHICO-POTSDAMENSIS, MATHEMATICO-PHYSICAE
ERFORDIENSIS SODALIS | SPECIES | MUSCORUM FRONDOSORUM | DESCRIPTAE ET TABULIS
AENEIS COLORATIS ILLUSTRATAE | OPUS POSTHUMUM | SUPPLEMENTUM SECUNDUM | SCRIPTUM
| A | FRIDERICO SCHWAEGRICHEN | MED. PHILOS. ET CHIRURG. DOCT., HIST. NATURALIS
ET BOTANIC. PROFESS. ET FACUL-|TATIS MED. ASSESS. IN ACADEMIA LIPSIENSI,
SOCIETATIS NAT. SCRUT. LIPS. DIRECTORE, | SOCIETT. IMPER. LEOPOLDINO-CAROLIN.
ET MOSCOVIENSIS, REGIAE HARLEMENS., MONA-|CENS., LINNEANAE LONDIN. ET PARISIN.,
PHYSICO-MED. ERLANGENS. ET DRESD., NAT. | CURIOS. ALTENBURG., BEROLINENS.,
FRANCOFURTANAE SENKENBERGENS., GOETTING-|GENS., HALENS., HEIDELBERG., MARBURG.,
OSTERLAND., RATISBON., WETTERAV., | PHYTOGRAPH. MOSCOV., WERNERIAN EDINENS.,
MINERALOG. DRESDENS., JENENS., | OECON. REGIAE MARCHICAE POTSDAMENS., DRESD. ET
LIPS., SOC. PHARMACEUT. GERM. | BOR. ETC. SODAL. | [copper-engraving, identical
with that of suppl.1 [vol.]1] | VOLUMEN SECUNDUM. | TABULIS AENEIS L.
ILLUSTRATUM. | [very long swelled rule] | LIPSIAE | SUMTU IOANNIS AMBROSII
BARTH. | MDCCCXXVII. | PARISIIS RUE BOURBON N°. 17. APUD TREUTTEL ET WÜRTZ. |
LONDINI SOHO SQUARE 30. APUD TREUTTEL ET WÜRTZ, TREUTTEL FILIUM ET RICHTER.";

suppl.3 vol.1(1)-2(2): "IOANNIS HEDWIG | SPECIES | MUSCORUM FRONDOSORUM |
DESCRIPTAE ET TABULIS AENEIS COLORATIS ILLUSTRATAE | OPUS POSTHUMUM |
SUPPLEMENTUM TERTIUM | SCRIPTUM | A | FRIDERICO SCHWAEGRICHEN | PROF. LIPSIENSI
[vol.2(1)-(2): PROF. HIST. NAT. LIPSIENSI] | VOLUMEN PRIMUM. [vol.2(1)-(2):
VOLUMEN SECUNDUM] | TABULIS AENEIS L. ILLUSTRATUM. | [full swelled rule]
[vol.1(2) & vol.2(1)-(2): very long swelled rule] | LIPSIAE | SUMTU IOANNIS
AMBROSII BARTH. | MDCCCXXVII. [vol.1(2): MDCCCXXVIII.] [vol.2(1): MDCCCXXIX.]
[vol.2(2): MDCCCXXX.] | PARISIIS RUE BOURBON N°. 17. APUD TREUTTEL ET WÜRTZ. |
LONDINI SOHO SQUARE 30. APUD TREUTTEL ET WÜRTZ, TREUTTEL FILIUM ET RICHTER.";

suppl.4(1): "IOANNIS HEDWIG | SPECIES | MUSCORUM FRONDOSORUM | DESCRIPTAE ET
TABULIS AENEIS COLORATIS ILLUSTRATAE | OPUS POSTHUMUM | SUPPLEMENTUM QUARTUM |
SCRIPTUM | A | FRIDERICO SCHWAEGRICHEN | PROF. HIST. NAT. LIPSIENSI. | [full
swelled rule] | LIPSIAE | SUMTU IOANNIS AMBROSII BARTH. | MDCCCLII. |
PARISIIS RUE DE LILLE NO. 17. APUD TREUTTEL ET WÜRTZ. | LONDINI PATERNOSTER
ROW NO. 39. APUD LONGMAN, BROWN, REES AND LONGMANS."

Collation: 4° [λ-numbers may refer to more than 1 leaf (see *Bibl. notes*):

suppl.1 [vol.] 1: *⁴ 2*⁴ A-2A⁴ 2B² (\$1 signed, * inferred);
 I-V VI-XVI 1 2-196 (XV);

suppl.1 [vol.] 2: *¹ 2*² A-2U⁴(*Y₃ *2C₁) 2X² 2Y-2Z⁴ 3A² *⁴;
 I-V VI 1 2-348 353 354-373 [=369] 374 [=370]
 (VI as 'VII', 369 as '379');
 suppl.2 [vol.] 1(1): *⁴(-w₄ =M₁?) A-K⁴ L-M²(-M₂); I-V VI 1 2-86;
 suppl.2 [vol.] 1(2): *² N-Z⁴ 2A² *¹ 2B⁴ (2B₂ signed Bb, 2B₁ unsigned);
 i-iv 87 88-186 187-188 (180-182);
 suppl.2 vol. 2(1): *² A-K⁴; i-iv 1 2-79 80;
 suppl.2 vol. 2(2): *² L-2C⁴ 2D²(-2D₁); i-iv 81-210 (173 176-177);
 suppl.3 vol. 1(1): *² 1⁴ 2-4² 5⁴ 6-82(-82) 9⁴ 10² 11⁴ 12-152(-142)
 16⁴ 17-182; 46 leaves (inferred indicators: i-iv λ201-275
 except (42): 1 2-4, (9⁴): 2 22-28, and (11⁴): 3 1 32-38);
 suppl.3 vol. 1(2): *² 19-212 22⁴(-22₄) 23-252(-252) 26⁴ 27-402(-282 -342
 -362 -382 -392); 43 leaves (inferred: i-iv λ226-250);
 suppl.3 vol. 2(1): *² 1-102 11⁴ 12-171 18-272; 40 leaves (inferred:
 i-iv λ251-275 v-vi);
 suppl.3 vol. 2(2): *² 22-422(*262); 44 leaves (inferred: i-iv λ276-300 v-x);
 suppl.4 (1): *² 2*² 1-11⁴ 12²; 50 leaves (inferred: i-viii
 λ301-325 ix-x).

Contents:

suppl.1 [vol.] 1: I title; II □; III dedication to C.R. Thunberg (1743-1822) and O. Swartz (1760-1818), botanists; IV □; V-XIV text of the dedications; XV-XVI preface: "EDITIONIS RATIO", dated: "Calendis Junii MDCCCXI."; 1-196 text, descriptions of genera, species and some varieties of *Musci*, *Phascum - Fioranum*;

suppl.1 [vol.] 2: I title; II □; III dedication to H.A. Schrader (1767-1836) and C. Sprengel (1766-1833); IV □; V-VI preface: "PROOEMIUM.", dated: "Decembri MDCCCXV."; 1-348 text, descriptions of mosses concluded, *Leucodon - Weissia*, including *Hypnum* and *Neckera*; 353-373 index to the binomials in Hedwig: *Spec. Musc.* and Suppl.1, with references to pages and plates; 374 errata or addenda;

suppl.2 [vol.] 1(1): I title; II □; III part-title: "SECTIO PRIOR. | [short rule] | TITULUS ET PRAEFAT. I - VI. | TEXTUS PAG. 1 - 86. | TABULAE CI - CXXV. | [short swelled rule]"; IV □; V-VI preface, dated: "Hamburgi. die octavo Novembris MDCCCXII."; 1-86 text, *Phascum - Drepanophyllum*;

suppl.2 [vol.] 1(2): i volume-title; ii □; iii part-title: "SECTIO POSTERIOR. | [short rule] | TEXTUS PAG. 87 - 179. | TABULAE CXXVI - CL. | [short swelled rule]"; iv □ [in NYBG copy with a slip with printed binders instructions: "NB. Die Besitzer von Hedwig Species Suppl. II. Sect. IMA werden gebeten, | beim Zusammenbinden beider Sectionen sich des Titels zu Sect. IIda | als des richtigen Haupttitels des ganzen Supplem. IIdi zu bedienen."]; 87-179 text, *Voittia - Dawsonia*; 180 □; 181-186 index to suppl.2; 186 one correction; 187-188 announcement of the publisher of the whole work, including Hedwig: *Species Muscorum*, giving some details, and also mentioning Hedwig: *Theoria generationis ...*;

suppl.2 vol.2(1): i volume-title 1826; ii □; iii part-title: "SECTIO PRIOR. | [short rule] | TEXTUS PAG. 1-79. | TABULAE CLI-CLXXV. | [short rule] | (Ab auctore finita d. XXVIII. Aprilis MDCCCXXVI.)"; iv □; 1-79 text, *Polytrichum - Gymnostomum tortula*; 80 □;

suppl.2 vol.2(2): i volume-title 1827; ii □; iii part-title: "SECTIO SECUNDA. | [short rule] | TEXTUS PAG. 81-210. | TABULAE CLXXVI-CC. | [short rule] | (Ab auctore finita calendis Aprilis MDCCCXXVII.)"; iv □; 81-172 text, *Gymnostomum involutum - Hypnum leptocarpon*; 173-175 epilogue, dated: "calendis Aprilis MDCCCXXVII."; 176 □; 177-210 index to Hedwig: *Spec. Musc.* and Suppl.1-2, with references to pages and plates;

suppl.3 vol.1(1): i volume-title 1827; ii □; iii part-title: "SECTIO PRIMA. | [short rule] | TABULAE CCI-CCXXV. cum descriptionibus per eosdem | numeros distinctis. | [short rule] | (Ab auctore finita calendis Novembris MDCCCXXVII.)"; iv □; λ201-225 text, *Schlotheimia cirrosa - Hypnum plumosum*, Versos □: 32 16, 18, 3;

suppl.3 vol.1(2): i part-title: "SECTIO SECUNDA | [short rule] | TABULAE CCXXVI-CCL, cum descriptionibus per eosdem | numeros distinctis. | [short rule] | (Ab auctore finita oalendis Aprilis MDCCCXXVIII.)"; ii □; iii volume-title 1828; iv □; 1226-250 text, *Hypnum nipalense* - *Peromnium radiolosum*, (versos □: 252 272 302 472);
 suppl.3 vol.2(1): i part-title: "SECTIO PRIMA | [short rule] | TABULAE CCLI-CCLXXV, cum descriptionibus per eosdem | numeris distinctis."; ii □; iii volume-title 1829; iv □; 1251-275 text, *Dicranum dicarpon* - *Hookeria incurva*, (versos □: 173 182); v addendum and errata (already effected in print in the copies I checked on this point); vi □;
 suppl.3 vol.2(2): i volume-title 1830; ii □; iii part-title: "SECTIO SECUNDA | [short rule] | TABULAE CCLXXVI-CCC, cum descriptionibus per eosdem | numeros distinctis."; iv □; 1276-300 text, *Hookeria swartzii* - *Hypnum arbuscula*, (versos □: 242 262 282 291 302 342 402); v-ix index to binomials of suppl.3, with a repeated correction at the end; x □;
 suppl.4(1): i part-title: "SECTIO PRIMA | [short rule] | Tabulae CCCI - CCCXXV, cum descriptionibus per eosdem | numeros distinctis."; ii □; iii volume-title; iv □; v-viii preface: "PROOEMIUM."; 1301-325 text, *Andreaea subulata* - *Diphysetium longifolium*, (versos □: 13 14 21 24 33 42 43 62 61 63 74 81 83 91 101 102 104 111 112 114); ix-x index; x imprint.

Plates: 326 hand-colored copper-engravings of mosses with details, numbered:
 suppl.1 [vol.]1: "I"- "III" "III*" "IV"- "XLIX" [vol.]2: "L"- "C"
 suppl.2 [vol.]1(1): "CI"- "CXXV" [vol.]1(2): "CXXVI"- "CL"
 vol. 2(1): "CLI"- "CLXXV" vol. 2(2): "CLXXVI"- "CC"
 suppl.3 vol. 1(1): "CCI"- "CCXXV" vol. 1(2): "CCXXVI"- "CCL"
 vol. 2(1): "CCLI"- "CCLXXV" vol. 2(2): "CCLXXVI"- "CCC"
 suppl.4 (1): "CCCI"- "CCCXXV"
 (some numbers corrected by hand in all copies checked); binomials below figures of species concerned; plate-mark: 167 x 131 mm. (pl.1).

Artists: Fricke, Friedrich August (....-1858), Germany (biogr.: Bénézit ed.3, 4: 86. 1956): pls.137 148 155-157 (Stafi, *Tax.Lit.* n.1209 states: pls.151-175); Ludwig, C., Germany: pls.1-49 51 54 56-100 122 125; Strauch, C., Germany: pl.140 (in reviews he is indicated for more plates); unsigned: remaining plates.

Engravers: Fricke, Friedrich August (see above): pls. 137 148 155-157; Strauch, C.: pls.1-3 3* 4-49 51 56-100 102-105 107-111 113-123 125 142 145 146; up to pl.47 a number of pls. are signed: "C. Strauch sc. & col."; unsigned: remaining plates.

Paper: ordinary paper state: leaf height 266 mm. (U copy, uncut); laid (suppl.1-2), chains horizontal, or wove (suppl.3-4); wm.:
 "[crowned shield with fleur-de-lis] | 4 = I F B [outline]": suppl.1 [vol.]1, [vol.]2: 2C-2M 20;
 "[post-horn] = R": suppl.1 [vol.]1: R (CM copy), [vol.]2: 2N 2P-2U [this set bluish paper] 2Y;
 "[crowned shield with post-horn] = VAN DER LEY": suppl.1 [vol.]2: * A-2B;
 "[fleur-de-lis] | [bend] = W" [see Heawood 22-24]: suppl.2 [vol.]1: * A-2B, suppl.2 vol.2(1): A-K;
 "[large crowned shield with post-horn] | 4 = G J F [outline]": suppl.2 vol.2(2): L-2A;
 "[same mark with G J F [outline], also below shield and 4]": suppl.2 vol.2(2): * 2B-2C Y, cancellans;
 "J WHATMAN | LONDON [outline along long side of sheet, possibly twice per sheet]": suppl.3 vol.1 (majority);
 "F B & C [outline, in lower right corner of sheet]": suppl.4;
 expensive paper state: leaf height 255 mm. (NYBG copy); wove; wm.:
 "M de[or &?] I. A. HUBER [outline]": suppl.1 [vol.]1, [vol.]2: A-2C;
 "H:OSER.SUPER.FEIN.GROSS. | MEDIAN.POST. [outline, along long side of sheet]": suppl.1 [vol.]2: 2D-2U;
 "[part of eagle with star?] | [letters] BASEL": suppl.1 [vol.]2: Y3 cancellans, 2G; cancellans;
 "F [or E] [at long side of sheet]": suppl.2 vol.2(2);

plate paper: ordinary paper state: laid; wm.:
 "[figure on globe] | VL = VAN DER LEY [in another mold with capital C in
 the globe]": 1-49, majority of suppl.2 [vol.1];
 "[fleur-de-lis] = H F T": 50-98;
 "[Pro Patria] = T [script]" (chains vertical): 99-100;
 individual plates on quarter-sheets only showing a part of the wm.;
 wove: suppl.2 vol.2 - suppl.4; wm. (mostly from CH copy):
 "J WHATMAN | TURKEY MILL": 177 191 201-243 251-300;
 "J WHATMAN [in full over quarter-sheet]": 244-250;
 "J WHATMAN | 1840": suppl.4;

expensive paper state: wove; thinner and smoother than text paper (of the
 same state); wm.: absent in suppl.1-2;
 "J WHATMAN | TURKEY MILL | 1826": suppl.3; } see *Bibl.notes.*
 "J WHATMAN | 1840": suppl.4;

Printer: no imprint in suppl.1-3; Reclam Jr., Ph.: suppl.4.

Publisher: Barth, Johann Ambrosius, Leipzig (see Bridel n.4).

Dates and announcements [supplement (S), volume (V), part (P)]:

S	V	P	number of pages	plates	date t.-p.	last date	publ. date	source
1	1		76+196	1-49 3*	1811	1 Jun.	Jul.1811	<i>Mag.Encycl.</i> (see <i>Reviews</i>)
1	2		6+370	50-100	1816	Dec.1815	bef.9 May 1816	<i>Leips.Lit.Zeit.</i> (Sayre 53)
2	1	1	6+ 86	101-125	1823	{ 8 Nov. 1822 }	1823, trim.1-3	letter from Arnott to Brongn. (21 Nov.1823)
2	1	2	4+102	126-150	1824	-	1824	t.-p.
2	2	1	4+ 80	151-175	1826	28 Apr.	{ bef.May? bef.Oct. May?	<i>Allg.Repert.</i> (see <i>Reviews</i>) <i>Linnaea</i> 1(3): 469. 1826.
2	2	2	4+130	176-200	1827	1 Apr.	May?	<i>Allg.Repert.</i> (see <i>Reviews</i>)
3	1	1	92	201-225	1827	1 Nov.	{ Nov.or Dec.? bef.Apr.1828	Stafl. TL n.1209. <i>Linnaea</i> 3(2)Lit.Ber.:51.1828.
3	1	2	86	226-250	1828	1 Apr.	bef.Dec.1828	<i>Linnaea</i> 3(4)Lit.Ber.175.1828.
3	2	1	80	251-275	1829	-	Jan.1829	<i>Isis</i> (Oken) 22(1): 66-68.1829.
3	2	2	88	276-300	1830	-	1830	t.-p.
4	1		100	301-325	1842	-	15-18 Jun.	Stafl. TL n.1209.

Reviews and announcements:

- suppl.1 [vol.1]: *Mag.Encycl.* 1811⁴(7):161-162.1811 Jul."paroitra dans un mois";
Leips.Lit.Zeit. 1812 Apr.22 (fide Sayre);
 suppl.2 [vol.1] 1(1): *Flora* 8²(*Ergänz.Bl.*): 1-23. 1825 Jul.;
Isis(Oken) 16(6): 655-660. 1825 May?;
 suppl.2 vol. 2(1): *Allg.Repert.Neuest.In-Ausl.Lit.* 1826²(3):161-162.1826 May 15?;
Bull.Sci.Nat. 14(5): 98-99. 1828;
 suppl.2 vol. 2(2): *Allg.Repert.Neuest.In-Ausl.Lit.* 1827²(4):247-249.1827 Jun.17;
Isis(Oken) 20(12): 1043-1053. 1827; 21(3/4): 264. 1828;
Flora 11(4): 63. 1828;
Linnaea 2(4): 681. 1827 Dec.;
 suppl.1-2:
Flora 11²(*Ergänz.Bl.*): 1-39. 1828 Feb.;
 suppl.2 vol. 2(2): *Jahresber.K.Schwed.Akad.Wiss.Fortschr.Bot.* 1826 & 1827: 25.1839;
 suppl.3 vol. 1(1):
 suppl.3 vol.1(1-2): *Isis*(Oken) 22(1): 66-68. 1829 Jan.;
Flora 13²(*Ergänz.Bl.*): 1-18. 1830;
 Müller, C.: *Bot.Zeit.* 1: 601-604. 1843 Sep.1.

Bibliogr.studies: Sayre, G.: *Dates of publ.* 38, 41, 53, 59. 1959;
 Stafleu, F.A.: *Taxonomic literature* n.1209. 1967.

Refs.: BMNH 810, 1874	Heins.7(1): 334	Krüg. 241	Pr.ed.1 n.4262
Brun.3: 77	Jacks. 153	Linn.Soc. 346, 694	Pr.ed.2 n.3885
Cat.Juss. n.2299	Kew 264, 565	Milt. 484, 486	Teyl. 411
E.As.Bot. 65, 441	Krieg 1: 306	Niss. n.831	Un.Edinb.2: 296
Graesse 3: 229	2: 227		3:1531.

Bibl. notes. Of this important work 11 parts were published, each with a title-page. However, the titles of the first parts of all volumes of Suppl.2 and 3 were to be replaced by the titles of the second parts; the latter titles were meant to serve as volume-titles. I saw only a few copies in which the original titles of the first parts were preserved (one copy in PC). For the purpose of dating and of checking the contents of the parts these titles are valuable. Their dates have to be accepted in nomenclature as long as proof of another date is absent.

I definitely want to include such title-leaves in the concept of the ideal copy for the purpose of botanical bibliography; it was an integral part of the book as long as the second part had not yet appeared, in the same way as the title of the first part of Suppl.4 still belongs to the ideal copy in the concept of descriptive bibliography anyway, although it might have been canceled if a second part had been published.

Bibliographically this work is also interesting for the shift from laid to wove paper. Suppl.1 and 2 of the normal state are printed on laid paper, Suppl.3 and 4 on wove paper; the plate paper shifted earlier. I have not been able to study sufficiently the difference between the paper of the expensive paper state and the normal state after the shift; apparently the source of the plate paper did not differ (compare the watermarks in the plate paper), but the size and perhaps the quality too probably were different.

The collation of Suppl.3 is complicated, because signatures as well as page numbers are absent. The text pages can be identified by the plate numbers only, stated in the head-title and repeated in the direction-line (except for the treatment of some genera, which have short series of page-numbers and the references to the plate-numbers in the text only). This suggests a lambda-treatment. However, I preferred the collation with inferred signatures throughout to show the conjugacy of the leaves, which would make a lambda-treatment very complicated.

Another difficulty is that on many plates two species are figured, in the text differentiated by an additional letter a or b to the plate-number. On the other hand I did use the plate-numbers preceded by the sign λ in the place of page-numbers, since the former have to be used in references to the text. I did not work out these references to the same detail as I did for other works; instead a statement of the correct sum-total of unnumbered leaves precedes the λ -numbers.

In the collation of these inferred signatures I used another unorthodox feature by reporting in Suppl.3 vol.2(1) the signatures 72-77 with one leaf only. My reason for this is that they were planned this way: a single leaf was printed as soon as a plate was ready, which I found indicated in a publishers announcement. It is even possible that they were printed in a quarter-sheet imposition. Anyway a collation with the second leaves all reported as missing is more cumbersome.

Cancels are very difficult to detect in this method of printing. In one case I have inferred a cancel on rather weak indications and more cancels may have been present since the changes indicated on the page with addendum and errata in Suppl.3 vol.2(1) are corrected in print in the copies I examined.

The plates have a number of changes. Some numbers were changed in ink by hand, or by erasures: 186 from 187, 260 from 261, 262 from 253 or a similar number, 263 from 262, 264 from 261 (the ink line extends beyond the plate-mark). The text still refers to pl.187 instead of the new number 186; the text references to pls.195 and 196 are interchanged.

A number of names originally engraved on the plates were changed; a cancellans slip of paper with another (engraved?) name was pasted over the name concerned: pl.178 *Splachnum* "Adamsianus" was pasted over "paradoxum"; pl.214 *Bryum* "cellulare" over "vesiculare"; pl.216 "Aulaecomnion" over "Aulaecomnion"; pl.224 "Bryum" (paradoxum) over "Hypnum"; a few names were changed by hand from the original engraving: pl.259 *Hypnum* "oxypoma" and *E. "loxense"*; here I was unable to decipher the original version.

Bot.notes. Major work of bryology, treating in Suppl.1 all species anew which were present in Hedwig's *Species muscorum*. Though Schwaegrichen maintained Hedwig's name on all title-pages, the work can be considered a new work written by Schwaegrichen, for which reason I prefer to have the main entry under his name, instead of under Hedwig's name.

Many new and rare species were described and figured in this work, and Schwaegrichen was able to found a number of new genera, as well for European mosses (*Aulacomnium*) as for tropical mosses. Hedwig's high standards of giving microscopical details of the peristome were maintained; for many species leaves were figured with an indication of leaf cells, which later played a more significant role in bryotaxonomy.

Schwaegrichen did not propose changes in the Hedwigian classification which he followed; he treated the genera without any indication of groups or higher ranks, as Arnott and Bridel and Chevallier were doing in this period.

SOMMERFELT, Søren Christian [Lat.: Severin Christianus]

Biogr. Born 1794 Apr. 9, Sukkestad, distr. Toten near Akershus, Christiansamt, Norway. Died 1838 Dec.29, Ringebo, Norway.

S.C. Sommerfelt studied theology in Copenhagen from 1812, achieved the degree Cand. theol. in Christiania (now Oslo) 1817, became minister in Saltal 1818, and finally in Ringebo (Gudbrandsdal) in 1827. He botanized often in his region and published a number of botanical articles and the exsiccata treated below.

He was commemorated in the generic names *Sommerfeltia* Lessing 1832, *nom.cons.* (*Compositae*), *Sommerfeltia* Floerke 1827, *nom.ref.*, possibly a synonym of *Solorina* Acharius (*Lichenes*), and *Sommerfeldtia* Schumacher 1827, replaced by *Drepanocarpus* G.F.W. Meyer (*Leguminosae*).

Refs.: Bot. Notis. 1839: 9-12. 1839.

Krok: *Biblioth. Bot. Suec.* 660. 1925.

1 Centuriae plantarum cryptogamarum norvegicarum.

2 fasc. Christiania [now Oslo], 1826-1827 [exsiccata].

Title: Centuriae plantarum cryptogamarum norvegicarum, quas collegit et edidit S. Chr. Sommerfelt. Centuria I. Christiania 1826 [Centuria II. Lips. 1827].

Collation etc.: 4°; no copy seen.

Specimens: 100 specimens per fascicle.

Printer: Grøndahl, Chr., Christiania [now Oslo], Norway.

Publishers: the author; and the printer?

Dates: fasc.I: 1826; fasc.II: 1827.

Reviews: Sommerfelt, S.C.: *Anmeldelse*. [in:] *Mag.Naturvid.* 7(1): 158-161. 1826. (complete list of species);

Wikström: *Årsber.Framst.Bot.År 1826*: 256. 1827.

Refs.: Krüg. 211 (I. Lips. 1827) Milt. 473 (II. Lips. 1827).

Note. Cryptogamic exsiccata, in fasc.1 containing 6 *Filices*, 26 *Musci frondosi*, 9 *Musci hepatici*, 35 *Algae Lichenosae*, 9 *Algae aquaticae*, and 15 *Fungi*. According to Wikström (1826) the specimens were carefully chosen and provided with a name-label.

2 Supplementum florum Lapponicarum ...

Christiania [now Oslo], 1826.

Title: "Supplementum | Florae Lapponicae | quam edidit | Dr. Georgius Wahlenberg | auctore | Sev. Christiano Sommerfelt | Sacri verbi ministro | reg. soc. scient. Nidrosiensis sodali | [thin rule] | cum tabulis coloratis III | [long thick and thin rules] | Christianiæ. | Typis Borgianis et Grøndahlianis. | 1826."

Collation: 8°: π^8 1-19⁸(±17, ±57) 20⁴ 21² 22⁸; i-iv I II-XII 1 2-331 332 (305 as '307', 317-319).

Contents: i title; ii \square ; iii dedication to Christian Sommerfelt, the author's father; iv \square ; I-XII preface, dated: "XII Martii a. MDCCCXXVII"; 1-316 text, descriptions of plant species not mentioned by Wahlenberg: *Flora Lapponica*, for Lapland, including a number of new species, especially in cryptogams; 317 addendum; 318 \square ; 319-331 index of accepted generic and specific names and of selected synonyms; 332 corrections. RT: in text: names of Linnaean groups of plants, e.g.: "54 CRYPTOGRAMIA. | MUSCI 55". Language: Latin.

Plates: 3 copper-engravings, possibly with stipple-engraving, a number of partial figures in different colors (à la poupée), surfaces hand-colored; numbered: "Tab. I" - "Tab. III", illustrating cryptogams, including details; two or three species per plate, Latin binomial at bottom: pl.1: *Weissia longipes*, *Orthotrichum subrepens*; pl.2: *Leskea norvegica*, *Hypnum arcticum*; pl.3: *Jungermannia scutata* (uncolored), *Lecanora limbata* and *Mitrella globosa*; plate-mark: 167 x 109 mm. (pl.2).

Artist: Boeck, C.

Engraver: Bagge.

Paper: not studied.

Printers: Borg and Grøndahl, Christiania [now Oslo], Norway.

Publisher: Grøndahl, the printer (see *Mag.Naturvid.* 7(1): 184. 1826).

Date: 1826 (t.-p.); after 12 Mar. (pref.).

Reviews and announcements:

Mag.Naturvid. 7(1): 184. 1826 (has been printed); 8(1): 163-170. 1828;

R[aspail]: *Bull.Soc.Nat.* 12(10): 238. 1827;

Wikström: *Åreberätt.Framst.Bot.År 1826*: 251-256. 1827;

Danske Litteraturtid. 1827 (6).

Refs.: Arn.Arb.1: 659	Graesse 7: 409	Linn.Soc. 720, 798	Pr.ed.1 n.9743 Pr.ed.2 n.8767 Wikstr. 239.
BMNH 1970, 2249	Kew 646	Mass.HS-H 295, 326	
Bradl.1: 353 ^a	Krok 743, 660	Mass.HS-M 3: 380, 594	
Brun.5: 1399	Krüg. 123, 124	Niss. n.2092	

Bibl.notes. This book has the plates delicately drawn and beautifully printed in color, and the coloring finished by hand. It represents the first complete color-printing of mosses which came to my attention, though the process of color-printing came into use much earlier (see T.F.G. Nees n.2 for color-prints of germinating mosses).

The cancellanda were clearly visible in the uncut PC copy.

The author is Sommerfelt, as clearly stated on the title-page, but in many references the book will be found under the name of Wahlenberg.

Bot.notes. Extensive lists of additions to the Lapland flora, compared with Wahlenberg's book; occasionally new species were proposed, particularly in the cryptogams.

3 Bemaerkninger ved Supplementum Florae Lapponicae.

Mag. Naturvidensk. 8(1): 163-166. 1827.

Title, collation etc.: no copy seen.

Date: vol.-title: 1828; fascicle probably 1827.

Review: Wikström: *K.Vet.Acad.Bot.Åreber.* 1828: 264-265. 1829.

Refs.: Pr.ed.1 n.9743, ed.2 n.8767 RSC 5: 748.

Notes. The indications in Wikström: *Consp.* 239. 1831, are puzzling. The pages of the fascicle are indicated as dissertatio, as from "Aargang" 1827; the title only as from 1828. This obviously refers to a separate, but the date 1828 makes it questionable whether the fascicle of the periodical already appeared in 1827.

SPRENGEL, Curt Polycarp Joachim

Biogr. Born 1766 Aug. 3, Boldekow near Anklam, Pomerania, Germany.

Died 1833 Mar. 15, Halle, Germany.

C.P.J. Sprengel learned other languages early and easily; he began the study of theology in 1785, changed soon to medicine, and received his doctor's degree in 1787. He published on botany and on medicine, especially historical studies. After having practiced as a physician for a couple of years, he became in 1789 professor extraordinarius at Halle and in 1795 ordinarius; in this position he could stop practicing. In 1797 he also lectured botany and he directed the botanical garden. He wrote on plant anatomy, of which study some ideas could stand the test of time.

In 1820 Sprengel published *Grundzüge des wissenschaftlichen Pflanzenkunde*, for which he had translated large parts of A.P. de Candolle's *Théorie élémentaire de la botanique*, 1813. Out of recognition Sprengel published his German work under joint authorship, placing the name of de Candolle first. A.P. de Candolle strongly resented this since he did not want to be responsible for some important views expressed by Sprengel. After a long period of silence Sprengel again began correspondence 'collection of letters in the Conservatoire Botanique, Genève] and apparently the bad feelings of de Candolle were not permanent, since more letters of Sprengel followed.

Sprengel's herbarium came after his death to his son Anton; after the latter died in 1851, the herbarium was divided and sold in several parts. An important part came to the bryologist Carl Müller of Halle (1818-1899); this collection was bought by the Bot. Museum at Berlin in 1890 and was lost in World War II. For the location of the other parts, see Stafleu, *Taxonomic literature* (1967).

He was commemorated in the generic names *Sprengelia* J.E. Smith 1794 (*Epacridaceae*), *Sprengelia* J.A. Schultes 1809 (*Sterculiaceae/Byttneriaceae*) and *Curtia* Chamisso & Schlechtendal 1826 (*Scrophulariaceae/Gentianaceae*).

Refs.: Sprengel, C.: *Opuscula Academiae* 7-12. 1844 (not seen).

Seemann: *J. Bot.* 1: 352. 1863 (herb.).

Wunschmann, E.: *Allg. Deutsche Biogr.* 35: 296-298. 1893.

Stafleu, F.A.: *Taxonomic literature* 455. 1967.

1 *Systema vegetabilium.*

5 vols. in 6 parts. Göttingen, 1825-1828.

Titles: "CAROLI LINNAEI, | EQUITIS STELLAE POLARIS, ARCHIATRI REGII, PROF. MED. ET | REI HERB. IN UNIVERS. UPSAL. | SYSTEMA | VEGETABILIIUM. | EDITIO DECIMA SEXTA, | CURANTE | CURTIO SPRENGEL, | EQUITIS STELLAE POLARIS ET AQUILAE RUBRAE, PROF. MED. | ET REI HERB. IN UNIVERS. HAL. [vol.5: last 2 lines replaced by: EQUITIS STELLAE POLARIS, AQUILAE RUBRAE ET LEONIS BELGICI, | PROF. MED. ET REI HERB. IN UNIVERS. HAL.] | [long rule] | VOLUMEN I. | CLASSIS 1-5 [vol.2: VOLUMEN II. | CLASSIS 6-15.] [vol.3: VOLUMEN III. | CLASSIS 16-23.] [vol.4(1): VOLUMINIS IV. PARS I. | CLASSIS 24.] [vol.4(2): VOLUMINIS IV. PARS II. | CURAE POSTERIORES.] [vol.5: VOLUMEN V. | SISTENS | INDICEM | GENERUM, SPECIERUM ET SYNONYMORUM, | AUCTORE | ANTONIO SPRENGEL | PH.D., LL.AA.M.] | [full swelled rule] | GÖTTINGAE, | SUMMIBUS LIBRARIIS DIETERICHIANAE. | 1825. [vol.3: 1826.] [vol.4(1)-(2): 1827.] [vol.5: 1828.]"

Collation: 8*:

vol.1: π^2 2 π^1 A-30⁸(A₄ *2E₅ *2L₃ *2S₄ *2T₇) 3P⁶ 3Q⁸ 3R² (\$1-2 signed);
I-V VI 1-3 4-992 (7 9 24 30 125 139 365 376 501 536 973);
vol.2: π^1 A-3H⁸(L₄ *O₆ *P₆ *S₂ *2Q₂ *2U₆) 3N⁶; i-ii 1-3 4-939 940
(17 164 166 170 177 263 265 274 285 442 447 471 475 557 567
675 687 845 850 919);
vol.3: π^2 A-3H⁸(F₇ *2B₅ *2G₅ *2H₃ *2I₄) 3N⁴; i-iv 1-3 4-936 (14 149
157 330 332 363 369 675 684 756 765 892 897 913-914 920);
vol.4(1): π^2 A-2N⁸(H₂ *Z₇) 2O⁶ 2P²; i-iv 1-3 4-592 (8 135 140
237 239 311 315 376 383 581);
vol.4(2): π^1 A-2B⁸(A₆ *B₈ *H₁ *K₂ *L₁ *M₆ *Q₁ *R₈) 2C⁶(-2C₁) (2C₂-2C₃
signed 'Cci'-'Cc2'); i-ii 1-4 5-410 (129-130 245-246 319-320 336
348 386 403);
vol.5: π^1 A-2Z⁸ 3A⁶ X¹; i-ii 1 2-749 750 (368-384 as '366'-'382').

Contents: vol.1: I title; II □; III-IV dedication to Grand Duke Carl August von Sachsen-Weimar etc.; V-VI preface; VI corrigenda; 1 half-title; 2 □; 3-972 text, descriptions of genera and species in Linnaean classes, *Monandria* - *Pentandria*; 973-992 index of generic names; 992 imprint;

vol.2: i title; ii □; 1 half-title; 2 □; 3-918 text, classes *Hexandria* - *Tetradynamia*; 919-939 index; 940 imprint;

vol.3: i title; ii □; iii dedication to Alexander von Humboldt, explorer and scientist; iv □; 1 half-title; 2 □; 3-919 text, classes *Monadelphia* - *Polygamia*; 920-936 index; 936 imprint;

vol.4(1): i title; ii □; iii announcement concerning part 2; iv □; 1 half-title; 2 □; 3-580 text, class *Cryptogamia*, including *Musci frondosi* (135-216) and *Musci hepatici* (218-236); 581-592 index; 592 imprint;

vol.4(2): i title; ii □; 1 half-title: "CURAE POSTERIORES | IN | SYSTEMA VEGETABILUM."; 2 □; 3 section-title: "AD | VOLUMEN I."; 4-128 additions to vol.1; 129 section-title: "AD | VOLUMEN II."; 130-244 additions to vol.2; 245 section-title: "AD | VOLUMEN III."; 246-318 additions to vol.3; 319 section-title: "AD | VOLUMEN IV."; 320-335 additions to vol.4(1), including *Musci* (321-324) and *Hepaticae* (324-326); 336-347 additions to vol.1-3; 348-385 authors cited, with biographical notes and titles of publications; 386-402 index of generic names; 403-410 appendix, headed: "APPENDIX. | [short rule] | HENRICI SCHOTT | FASCICULUS PLANTARUM BRASILIENSIS", introductory note (403) and descriptions of 77 new species in the classes 1-22, by H. Schott; 410 imprint;

vol.5: i title; ii □; 1-749 index of names of genera and species in vol.1-4; 750 addenda and corrigenda, and imprint.

Paper: leaf height 196 mm. (U copy, cut); laid, chains vertical.

Printer: Gebauer, Halle, Germany.

Publisher: Dieterich, Göttingen, Germany.

Collaborators:

Schott, Heinrich (1794-1865): *Fasciculus plantarum Brasiliensium*:4(2): 403-410; Sprengel, Anton (1803-1851), son of the author: compiled the index, vol.5.

Dates:	vol.	title-date	publ.-date	source
	1	1825	{ late 1824 bef.28 Feb.	Stearn: <i>Fl.Males.</i> ser.1, 4(5): CCXIII. 1954; <i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1825 ¹ (4):250.1825;
	2	1825	{ Jan.-May bef.2 Jul.	Stafleu: <i>TL</i> n.1266, 1967; <i>Gött.Gel.Ans.</i> 1825 ² (88): 875-877;
	3	1826	Jan.-Feb.	<i>Linnaea</i> 1(2): 274. 1826 Apr.; <i>Isis</i> (Oken) 20(2): 133. 1826 (Feb.?);
	4(1)	1827	bef.7 Jan.	<i>Flora</i> 10(1): 14-15. 1827 Jan. 7;
	4(2)	1827	{ bef.15 May? trim.2 bef. Sep.	<i>Allg.Repert.Neuest.In- Ausl.Lit.</i> 1827 ² (5):329.1827; <i>Linnaea</i> 2(3): 486. 1827 Jul.; presented to the Linnean Society, London;
	5	1828	{ Jul.-Aug. sem.2	Stafleu: <i>TL</i> n.1266, 1967; <i>Linnaea</i> 3(4) <i>Lit.Ber.</i> : 178. 1828 (Dec.?); <i>Isis</i> (Oken) 21(12): 1218-1219. 1828 (Dec.?).

Bibliogr.studies:

Stearn, W.T. in: M.J. van Steenis-Kruseman: *Fl.Males.* ser.1, 4(5): CCXIII.1954
Stafleu, F.A.: *Taxonomic literature* n.1266. 1967.

- Reviews:** vol.1: *Allg.Repert.Neuest.In- Ausl.Lit.* 1825¹(4): 250-253. 1825 Feb.28;
Isis (Oken) 16(2): 207-210. 1825 (Feb.?)
Flora 8(17): 269-271. 1825 May 7;
Gött.Gel.Ans. 1825²(88): 875-877. 1825 Jul.2;
Flora 8(41): 649-654 ['669'-'674']. 1825 Nov.7;
Linnaea 1(1): 102. 1826 (book publ. 1825 sem.1-3);
Loudon Gard.Mag. 1(2): 155-161. 1826;
vol. 2: *Isis* (Oken) 17(9): 1029-1031. 1825 (Sep.?)
vol. 3: *Isis* (Oken) 20(2): 133. 1827;
vol.4(1): *Isis* (Oken) 20(10): 835-836. 1827;
Flora 10(1): 14-15. 1827 Jan.7;
Bull.Sci.Nat. 17(4): 74-80. 1829;
vol.4(2): *Isis* (Oken) 21(3-4): 263-264. 1828;
vol.2-4(2): *Allg.Repert.Neuest.In- Ausl.Lit.* 1827²(5): 329-330. 1827 May 15-31;
vol. 5: *Isis* (Oken) 21(12): 1218-1219. 1828 (Dec.?)
Araber.Vet.Framet.Vet.Aoad. [6]: 2. 1830;
vol. 1-5: *Med.-Chir.Zeit.* 1829⁴(88): 161-167. 1829.
- Refs.:** BIRTH 1995 | Krok 430 | Pr.ed.2 n.5430, 8879 | Teyl. 141 n.69
Jacks. 111 | Pr.ed.1 n.6009 | Soulsb. n.616 | Utr. n.1334.

Supplement: Anton Sprengel published a supplement: *Tentamen supplementi ad Systematis vegetabilium ...*, 8^o, [iv], 35, [1] p., Göttingen, 1828. This thesis, defended on 20 Sep. 1828, is not treated here since it does not contain bryophytes (see Stafleu: *Tax.Lit.* n.1255).

Bibl.notes. This 16th edition of Linnaeus is treated here under the name of Sprengel for simplicity just as the full citation of new names or combinations can be shortened from Sprengel in Linnaeus, *Syst.Veg.* ed.16 to Sprengel, *Syst.Veg.*
The numerous cancels were studied in the uncut HBL copy, which has both cancellanda and cancellantia preserved. As stressed in some of the reviews, the work must have been compiled hastily, which explains the numerous cancels.

Bot.notes. This work is an important compilation of all species known to and accepted by Sprengel, treated with a conservative concept of generic and specific limits, that is, without recognizing many of the segregates proposed or adopted by many of his contemporaries. Many new combinations are present; the additions in the second part of vol.4 should be consulted too. The index was prepared by the author's son Anton Sprengel.

As expressed by Stafleu, this book marks the end of the Linnaean era, in which the Linnaean classification was considered to be sufficient for plant taxonomy (Stafleu, F.A.: *The great prodromus*, in: A.P. de Candolle: *Prodromus Systematis Naturalis Regni Vegetabilis* vol.1-8, reprint, Lehre 1966; p.11).

STEUDEL, Ernst Gottlieb

Biogr. Born 1783 May 30, Esslingen near Stuttgart, Württemberg, Germany.
Died 1856 May 12, Esslingen.

After education at his home town Steudel studied medicine and natural history at the University of Tübingen; he received his doctor's degree 25 Sep. 1805. After some traveling he settled as a physician in his home town, where he first became "Oberamts-Thierarzt" and in 1828 "Oberamts-Arzt".

He devoted much of his spare time to botany, compiling the *Nomenclator*, and with Hochstetter, the *Enumeratio* (see below); moreover he wrote articles on the taxonomy of *Graminae* and *Cyperaceae*. In 1825 he founded the "Württembergische(n) Naturhistorische(n) Reiseverein", which sent out collectors to different parts of Europe and later also outside of Europe, to collect natural history specimens which were distributed among the members in proportion to their shares.

He was commemorated in the generic names *Steudelago* O. Kuntze 1891, a synonym of *Exostema* L.C. Richard (*Rubiaceae*), *Staudelia* Sprengel 1822, considered a synonym of *Erythroxylon* L. (*Erythroxylaceae*), *Staudelia* Martius 1827, considered a synonym of *Leonia* Ruiz & Pavon (*Violaceae*), *Staudelia* C. Presl 1829, a homotypic synonym of *Adenogramma* Reichenbach (*Phytolaccaceae*), and *Studelella* Honda 1930 (*Rubiaceae*).

Ref.: Wunschmann, E.: *Allg. Deutsche Biogr.* 36: 151-152. 1893.

1 Nomenclator botanicus ...

[Ed.1] 2 parts. Stuttgart & Tübingen, 1821-1824.

Title: "NOMENCLATOR | BOTANICUS | ENUMERANS ORDINE ALPHABETICO | NOMINA ATQUE SYNONYMA | TUM GENERICA TUM SPECIFICA ET A LINNAEO | ET RECENTIORIBUS DE RE BOTANICA | SCRIPTORIBUS | PLANTIS PHANEROGAMIS [part 2: PLANTIS CRYPTOGRAMIS] | IMPOSITA. | [short swelled rule] | AUCTORE | ERNESTO STEUDEL, | MED. DR. | [full swelled rule] | STUTTGARDTIAE ET TUBINGAE. | SUMTIBUS I. G. COTTAE. MDCCCXXI. [part 2: SUMTIBUS J. G. COTTAE. MDCCCXXIV.]"

Collation: 8": part 1: π^1 2 π^6 3 π^2 x^1 A-2F 8 2 x^1 2G-3K 8 3L 4 (\$1,2 signed, A $_2$ signed 'A*'); I-III IV-XVII XVIII-XX 1 2-464 XXI-XXII 465-900 901-904 (53 as 'ES'; X-XI 98 130 261 288 332 349 387 424 455 459 503 548 559 581 672 676 712 823 861 867 891 894 897); part 2: $^+8$ 2 *2 (-2 *2) A-2E 8 2F 2 (-2F $_2$ = 2 *1 ?); I-III IV-XVIII 1 2-450 (V VII 159 182 195 223 230 284 307 363 407 443 449).

Contents: part 1: I title; II imprint; III-IX preface: "Praefatio.", dated Nov. 1820; X explanation of signs and abbreviations; XI-XVII names of cited authors; XVIII \square ; XIX-XX folded table of the pages and numbers of genera of the Linnaean classes in Roemer & Schultes, Persoon, Willdenow (*Species & Enumeratio*); 1-464 text, listing names of genera and species of phanerogams, A - *Lasiospermum*; XXI section title: "NOMENCLATOR | BOTANICUS. | [short thin rule] | Sectio II. | L - Z."; XXII \square ; 465-900 text, phanerogams concluded; 901-903 corrigenda; 904 \square ; part 2: I title; II imprint; III-IV preface, dated Sept. 1824; V-VI names of authors cited, followed by abbreviations used in part 2 [this list not present in HBL copy]; VII-XVIII systematic enumeration of cryptogamic genera and subdivisions in natural classification, presenting the systems of Nees von Esenbeck, of Fries, and of Persoon, for *Fungi*. of Agardh (*Species Algarum rite cognitae*) for *Algae*, of Acharius (*Synopsis methodica Lichenum* 1814), Fries (*K. Vetensk. Acad. Handl.* 1821(2): 520 etc.) and Agardh (*Aphorismi botanici* 8, 1822) for *Lichenes*, of Bridel (*Methodus nova muscorum*, Lipsiae 1822) for *Musci Frondosi*, no explicit source mentioned for *Hepaticae* (*Musci Hepatici*) and *Filices* (*Pteridoideae*), but including uncommon generic names of Willdenow for *Hepaticae*, and citing Willdenow and Sprengel for *Filices* and allies; 1-450 text, enumeration of names of genera and species of cryptogams.

Paper: leaf height 226 mm. (HBL copy, cut); partly laid, partly wove; laid paper: chains vertical, except folded table X which has chains horizontal; wm.: "I B [outline]"; part 1, part 2: A-L, Q; wove paper: wm.: "Beck[script]" in lower left or right corner of sheet: part 2: * 2* M-O 2A-2F.

Printer: Hopfer de l'Orme.

Publisher: Cotta, J.G., Stuttgart & Tübingen, Germany.

Dates: part 1: 1821 (t.-p.), bef. 28 Jun. (*Flora* 4(24): 377. 1821); part 2: 1824 (t.-p.), in or aft. Sep. (pref.); bef. 28 Oct. (*Flora* 7(40): 639-640.

Reviews: part 1: *Allg. Repert. Neuest. In- Ausl. Lit.* 1821³(1): 2-5. 1821 Jul. 15; 1824). *Allg. Hall. Lit. Zeit.* 1821(252); *Flora* 4(48): 749-754. 1821 Dec. 28; Sprengel: *Neue Entdeck. Pflanzensk.* 3: 293. 1822; *Gött. Gel. Ans.* 1823³(175): 1750-1751. 1823; *Isis* (Oken) 15(9): 965. 1824 (reply of Steudel: *Isis* (Oken) 16(1): 124-128. 1825); part 1-2: *Isis* (Oken) 20(2): 132. 1827.

Refs.: Arn. Arb. 1: 688	E. As. Bot. 472	Krüg. 67	Pr. ed. 1 n. 9925
BMNH 2018	Heins. 7(2): 346	Lindl. Libr. 415	Pr. ed. 2 n. 8965
BMNH-S 1274	Jacks. 15	Linn. Soc. 732	Soulsb. n. 35, 922
Bradl. 1: 77a	Kew 590	Milt. 405	Stafl. TL n. 1271.
Cat. Juss. n. 553			

Bibl. notes. This work is interesting for the mixture of laid and wove paper. The HBL copy has in part 1 a section-title 'L-Z' still conjugate with the title for the phanerogamous part [1]; this suggests that another section-title for the section 1, letters A-*Lasiospermum*, had been present, which was discarded in the copies I saw. The break between these sections is uncertain, since

the letter L does not begin on a new gathering; the beginning of the next gathering is taken as the break. I did not find evidence for different dates of publication of these two sections, though the section-title would be an indication. Each direction-line gives the numbers of (accepted?) genera as well as species up to that line. The total numbers are: *Phanerogamae*: 3376 genera and 39,684 species; *Cryptogamae*: 557 genera and 10,965 species. In part 2 a stop-press addition on *3v apparently was made, which I saw in the M copy and which is absent in the HBL copy.

Bot. notes. Compilation of botanical names of plants, with the drawback that the original places in books or periodicals, where the names were published, were not stated. Taxonomic opinion evaluations are given without any motivation, which easily could be criticized. Nevertheless, for its time it was very useful, and for some groups even until recently a help for tracing names to a certain period. A second edition was published 1840-41, in which no cellular cryptogams were listed. Therefore, the 2nd edition is not treated here. The precise dates are listed by Stafleu, *Tax. Lit.* n. 1271. 1967.

STEUDEL, Ernst Gottlieb & HOCHSTETTER, Christian Ferdinand

1 Enumeratio plantarum Germaniae Helvetiaeque indigenarum ...

Stuttgart & Tübingen, 1826.

Title: "ENUMERATIO | PLANTARUM | GERMANIAE HELVETIAEQUE | INDIGENARUM, SEU |
PRODROMUS, | QUEM | SYNOPSIS PLANTARUM GERMANIAE HELVE-|TIAEQUE EDITURI
BOTANOPHILISQUE ADJU-|VANDAM COMMENDANTES | SCRIPSERUNT | E. STEUDEL, MED. DR.
| ET | CH. F. HOCHSTETTER, PROF. | [short swelled rule] | [very long swelled
rule] | STUTTGARTIAE ET TUBINGAE. | SUMTIBUS J. G. COTTA. MDCCCXXVI."

Collation: 8°: π^4 1-21⁸ 22-23⁴ (\$2 signed \$*); I-III IV-VIII 1 2-352
(93 as '95', 275 [in some copies, W] as '27', 316 as '816', 332 347).

Contents: I title; II \square ; III-VIII preface: "Praefatio.", dated: "mense Julii 1826";
1-331 text, enumeration of German and Swiss plant species (and some varieties)
in the modified Linnaean classification, names with author citations, life-
form, flowering time and habitat, rarely with indication of the region where
the plant occurs; 332-340 additions and corrections; 347-352 index of
generic names. No RT. Language: Latin.

Paper: leaf height 219 mm. (HBL copy, cut); laid, chains vertical; wm.:
"N[script]o 1[outline]" in the center of the sheet, or "No 2".

Printer: no imprint.

Publisher: Cotta, J.G., Stuttgart & Tübingen, Germany.

Date: 1826 (t.-p.); in or aft. Jul. (pref.); bef. 7 Dec. (*Flora* 9(45): 719-720. 1826).

Reviews: *Flora* 9(45): 719-720. 1826; 11(7)-(8): 97-109. 1828;
Linnaea 2(1): 87. 1827 (Jan.);
Jen. Allg. Lit. Zeit. 1827(104): 350. 1827;
Allg. Hall. Lit. Zeit. 1827(209): 828. 1827; } (cited from Miltitz).

Refs.: Arn. Arb. 668	Heins. 7(2): 347	Krüg. 138	Pr. ed. 1 n. 9923 Pr. ed. 2 n. 8963.
BMNH 2018	Jacks. 293	Linn. Soc. 732	
Bradl. 1: 377b	Kew 590	Milt. 180	

Notes. Checklist of the names of plants occurring naturally in Germany and Switzerland, without citation of literature. A number of footnotes give extra information on species reduced to varieties by certain authors, or dubious species of some authors. Mosses are treated on p. 149-174; in the footnotes numerous names were cited from Schleicher, without descriptions or references to descriptions; a number of names of new species of *Orthotrichum* of R. Bruch are included in a footnote to p. 168, with the remark that these are not mentioned in Brid. *Bryol. Univ.* [vol. 1], these also not described [they appeared in the *Supplement* to vol. 1 of *Bryol. Univ.*, 1827]. (See for remarks by Hoppe: p. 20.)

STURM, Jacob

Biogr. Born 1771 Mar. 21, Nürnberg, Bavaria, Germany.

Died 1848 Nov. 28, Nürnberg.

Jacob Sturm was trained by his father as a copper-engraver, and concentrated on engraving natural history objects after having made a new plate of insects from specimens when a first plate by his father had not met approval. He began an insect collection which became an important one and which he used for many engravings, and of which he prepared a catalogue, which had several editions.

In 1796 he began his important work: *Deutschlands Flora*, which was divided in three Abtheilungen: I *Phanerogamiae*, II *Cryptogamiae* except *Fungi*, III *Fungi*; only Abth.II is treated below. In 1797 *Deutschlands Fauna* followed. He illustrated many other natural history books and papers, from which Nees, Hornschuch and Sturm, *Bryologia Germanica* is treated in its proper place in this thesis, and the other articles of C.G. Nees von Esenbeck. He was his own publisher, and he must have been very busy with all these occupations. In 1846 he received the degree of Dr.Phil. hon.causa from the University of Breslau. In the last part of his life he was helped by two sons, who continued his work after his death, e.g. *Deutschlands Flora*.

He was commemorated in the generic names *Sturmia* Hoppe 1799, a synonym of *Nibora* Adanson (*Gramineae*), *Sturmia* Reichenbach 1828, a homotypic synonym of *Liparis* L.C. Richard 1818 (*Orchidaceae*), and *Sturmia* C.F. Gaertner 1806, a synonym of *Antirrhoea* Jussieu (*Rubiaceae*).

Refs.: Hilpert: *Zum Andenken an Dr. Jacob Sturm*. Nürnberg, 1849 (not seen).

Wunschmann, E.: *Allg. Deutsche Biogr.* 37: 20-21. 1894.

1 *Deutschlands Flora ... Abtheilung II. Cryptogamen.*

[8] vols. in 31 fasc. [not completed]. Nürnberg, [1798] 1801-1839.

Titles (not transcribed): J. Sturm. *Deutschlands Flora in Abbildungen nach der Natur, mit Beschreibungen. II. Abtheilung Cryptogamen*. Nürnberg, gedruckt auf Kosten des Verfassers. [dates see table]; fasc.19/20, 22/23 and 26/27 with part-titles [all in gothic]: "Deutschlands Jungermannien | monographisch bearbeitet | von | A. J. C. Corda. | [very short rule] | 1. und 2. Heft [fasc.22/23: 3. und 4. Heft] [fasc.26/27: 5. und 6. Heft] | [full swelled rule] Nürnberg, 1830 [fasc.22/23: 1832] [fasc.26/27: 1835] [transcription from part of wrapper-title of fasc.22/23 and inferred for the other wrapper-titles, no wrapper seen of fasc.19/20]; fasc.24, 28/29 with part-titles: Laurer Die Flechten. 1.Heft [fasc.28/29: 2.Heft], 1832 [fasc.28/29: 1835]; fasc.30/31 with part-title: *Deutschlands Algen*. von A. C. J. Corda. 1. und 2. Heft.

Collation and dates: see table next page.

Contents: vol.1: i title; ii □; iii dedication to the "botanischen Gesellschaft | in | Regensburg"; iv text of the dedication; v-vi index in 2 columns; fasc.1-4: 4×16 leaves text, descriptions of the species pictured; vol.2: i title; ii □; iii-iv index; fasc.5-8: 4×16 leaves text; vol.3: i title; ii □; iii index [?]; fasc.9-12: 4×16 leaves text; vol.4: i title; ii □; iii-iv index (2 columns); fasc.13-16: 4×16 leaves text; vol.5: i title; ii □; iii-iv index; fasc.17, 18, 21, 25: 4×16 +6 leaves text; vol.6: 1-5 introduction, including the classification of Corda; 6 transverse printed table of genera, dated: "Prag im Dezember 1829"; 7-62 text; descriptions of *Hepaticae* by A.C.J.Corda: *Gymnomitrium* - *Pellia*, and of *Sphagnum* and *Andreaea*; I-II (48) announcement of books published by J.Sturm, dated 1830; 63-184 text, descriptions of *Hepaticae* continued; 185-186 supplementary remarks, criticisms of Hübener: *Hepat. Germ.*; vol.7: [not studied in detail] descriptions of *Lichenes* by J.F. Laurer; vol.[8]: [fasc.30/31]: [not studied in detail] descriptions of *Algae* by A.C.J. Corda.

Plates: 146 hand-colored copper-engravings of German species of cryptogams, *Fungi* excepted, unnumbered, except vol.6-8: vol.6: "I." - "XLVIII.", vol.7: 1-32, vol.8: 1-16; the other plates only identified by the binomial; plate-marks not measured, parts cut off in the copy examined; possibly 4 together engraved on one copper plate (see *Bibl.notes*).

Col- lation & dates: (see also Dates next page)	vol.	fasc.	date fasc.	collation: 8°	leaves	inferred pages	pls.	probable publ.-date
	1	1	1798	1-2 ⁸	[16]		16	
		2	1798	1-2 ⁸	[16]		16	bef. Mar. 1800
		3	1799	1-2 ⁸	[16]		16	bef. Jun. 1800
		4	1800	1-2 ⁸	[16]		16	21 Oct. 1800
	1		1801	π^4	[4]	<i>i-viii</i>		
	2	5	1802	1-2 ⁸	[16]		16	27 Dec. 1802
		6	1803	1-2 ⁸	[16]		16	aft. 1 Jul. 1803
		7	1805	1-2 ⁸	[16]		16	Mar. 1804
		8	1805	1-2 ⁸	[16]		16	1805
	2		1805	π^2	[2]	<i>i-iv</i>		
	3	9	1809	1-2 ⁸	[16]		16	bef. 20 Oct. 1809
		10	1809	1-2 ⁸	[16]		16	bef. 20 Dec. 1809
		11	1810	1-2 ⁸	[16]		16	28 Apr. 1811
		12	1811	1-2 ⁸	1-16		16	bef. 20 Mar. 1812
	3			π^1	[1]	<i>i-ii</i>		
	4	13	1812	1-2 ⁸	1-16		16	Mar.-Apr.? 1812
		14	1813	1-2 ⁸	1-16		16	bef. 1 Apr. 1813
		15	1815	1-2 ⁸	1-16		16	26 Sep.? 1813
		16	1818	1-2 ⁸	1-16		16	bef. 8 May 1816
	4		1818	π^2	[2]	<i>i-iv</i>		bef. 10 Nov. 1818
	5	17	1819	1-2 ⁸ 3 ⁴ 4 ² (-4 ₂)	1 2+2 3+7 4+7 5+7 6-16		16	25 Apr. 1819
		18	1829	1-2 ⁸	1-16		16	Easterfair 1829
		21	1832	1-2 ⁸	1-16		16	bef. Sep. 1832
		25	1833	1-2 ⁸ 3 ² (-3 ₂)	1+7 2-16		16	bef. Mar. 1833
	5		1833	π^2	[2]	<i>i-iv</i>		
					pages			
	6	19/20	1830	1-4 ⁸	7 2- 62	<i>I-II</i>	16	Autumn 1830
		22/23	1832	5-6 ⁸ 7 ⁴ 8 ²	63-106		16	Sep. 1832
		26/27	1835	9-13 ⁸	107-186		16	ca. Jul.? 1835
	7	24	1832	1-2 ⁸ 3 ⁴ 4 ²	7 2- 44		16	bef. Oct. 1835
		28/29	1835	5-8 ⁴ 9 ⁶ 10 ²	45-120		16	Sep.-Dec. 1832
	[8]	30/31	1839	1-3 ⁸ 4 ²	7 2- 52		16	bef. 30 Oct. 1835

Artists: Corda, A.C.J. (1809-1849): fasc.18: all 16 pls., vol.6: all 48 pls., and probably fasc.30/31 [not checked];
 Kaulfuss, Georg Friedrich (1786-1830): fasc.15: pl.[1]-[6] and possibly all, fasc.16: all 16 pls.;
 Laurer, Joh. Friedrich (1798-1873): vol.7: all 32 pls.;
 Sturm, Jacob, author of the first fascicles: all remaining plates.

Engraver: Sturm, Jacob; last fascicles by his sons (J.H.C.Friedrich (d.1862), J. Wilhelm (1808-1865)).

Wrappers: All wrappers seen (GH copy) except for fasc.19/20; front wrapper recto with title, verso blank or with an announcement: fasc.2: "Nachricht"; fasc.3: "Nachricht", dated: "im Juny 1799.", announcing that more than one species of the same genus would be treated in one fascicle; fasc.4: "Berichtigung", correction concerning *Bryum contortum* Wulf., which would appear under the name *Encalypta grandis* as a completely new species; fasc.9: announcement, continued over recto of back wrapper (the cryptogamic part is continued after an interruption and the new collaborator is Otto Christian Blandow from Waren (Mecklenburg), who contributed complete specimens and descriptions) dated: "März 1809"; fasc.12: "Nachricht", a list for correct binding in systematical order of plates and text of fasc.9-12, two columns of names, 1-44, going over to recto of back wrapper, 45-64; fasc.30/31: "Nachricht", concerning the part *Algen Deutschlands* by Corda, which would be continued in the next fascicles, accompanied by a preface [nothing more appeared]; back wrappers with index on verso, making these wrappers valuable, being the only means to establish the order of the species as published; rectos blank, except those on which the text of the verso front wrappers was continued, and fasc.26/27: errata.

Paper: laid, chains vertical; wm.:

"[post-horn] | G F C V [outline] = [17th century ship]": fasc.1-4 (except fasc.2 gath.2) 7-10 12 13 17-19/20, vol.1, 2, 4: gatherings *;
 "[crowned shield around post-horn] | G F M = R. B. S. WOLFGANG": fasc.2(gath.2) 5 6 11 13(* only) 14-16 21-30/31;
 plate paper: laid with "fils de soie", chains vertical; wm.: the 2nd mark above-mentioned: all pls. (possibly in the fascicles where text and plates have paper with the same mark a selection on thickness had been made, the slightly thicker paper reserved for the pls.); it was also offered with the plates on wove paper (not seen; announced in *Bryol.Germ.* vol.2(2), which see);
 wrapper paper: pink-colored; laid; wm.:
 "[crowned snake serpentine before a rod with two stalked flowers at the top and at bottom a decorated shield with letters C C | N in outline]": fasc.1-17 [not all wrappers of the copy checked did show the mark, but there is little doubt that it is all the same paper type];
 "[rod ending in clover leaf pattern with at both sides feather-like side branches tapering in length towards the point of the rod]": fasc.18;
 "[broad ornate arc with rosette below center]": fasc.21 and 24[?];
 no traces of chains in the wrappers of fasc.25 and 30/31, perhaps because the paper is too thick in fasc.25; the color of the last wrapper is definitely much deeper pink than of all others, and the "fils de soie" are more numerous.

Printer: no imprint.

Publisher: Sturm, Jacob, the author.

Collaborators: Blandow, Otto Christian (1778-1810), Waren (Mecklenburg): fasc.9-10, all descriptions signed; fasc.11: descriptions of *Trichostomum seturoides* and *Neckera complanata*;

Corda, August Carl Joseph (1809-1849): vol.6 (see *Titles*), and fasc.30/31;
 Funck, Heinrich Christian (1771-1839): fasc. 17, all descriptions signed except those of *Amphidium pulvinatum* and *Sphagnum subsecundum*;
 Hoppe, David Heinrich (1760-1846): fasc.4-6, many descriptions signed;
 Kaulfuss, Georg Friedrich (1796-1830): fasc.15-16, some new names signed;
 Laurer, Johann Friedrich (1798-1873): vol.7;
 Nees von Esenbeck, Christian Gottfried (1776-1858): fasc.17: *Amphidium pulvinatum* and *Sphagnum subsecundum*, names signed;
 Voit, Johann Gottlieb Wilhelm (1776-1813), physician at Schweinfurth: fasc.11-13, nearly all descriptions signed.

Dates: the dates of publication up to 1822 are derived from Sayre, *Dates of publ.* 1959, with one addition from an announcement, listed below together with other announcements; the latest dates in the volumes or wrappers have not been listed in the table because they are generally too early to be of help in the dating problems (see foregoing page).

Reviews and announcements:

fasc. 2: *J.Bot.* (Schrader) 1799, 2(2): 414-416. 1800;
 3: *J.Bot.* (Schrader) 1800, 3(1): 152-154. 1800;
 1-3: *Arch.Bot.Leipzig* 2(3): 439-441. 1801;
 4: *Arch.Bot.Leipzig* 2(3): 477. 1801;
 5: *Allg.Bot.Bibl.* (*Bot.Zeit.*) 1803¹(1): 12. 1803 Jan. 17 (exh. 27 Dec. 1802);
 15(?): *Iets* (Oken) 1(7): 1037. 1817;
 16: *Flora* 2 (4): 63. 1819 (recd. 7 Jan. 1819);
 17: *Flora* 2 (8): 120. 1819 Feb. 2 (wird ... erscheinen);
 18: *Flora* 13(17): 272. 1830 (cited from *Leips.Ostermesse Cat.*);
 19/20: *Flora* 13²(*Beil.* 3): 43. 1830 (recd.);
Iets (Oken) 24(5): 478-480. 1831;
Jahrb.Wiss.Krit. 1832²(53): 420-424. 1832;
Linnaea 7 (*Lit.Ber.*): 101. 1832;
 21-24: *Iets* (Oken) 26(10): 945. 1833;
 25: *Iets* (Oken) 27(4): 368-369. 1834;
 26/27: *Iets* (Oken) 28(6): 492. 1835;
 19/20
 22/23
 26/27) *Flora* 18²(*Lit.Ber.*) 5(10): 145-160. 1835; 5(11): 161-165. 1835;
 24, 28/29: *Linnaea* 10 (*Lit.Ber.*): 206-207. 1836.

Bibliogr. studies:

Sayre, G.: *Dates of publ.* 17(fasc.2-7), 36, 42, 43, 46, 53, 55, 59, 63, 71-73.
 Stafleu, F.A.: *Taxonomic literature* n.1275. 1967. 1959;

Refs.: Arn.Arb.1: 672	Cat.Juss. n.1741	Krdg. 148	Niss. n.1910
BMNH 2043	Graesse 6: 516	Mass.HS-H 303	Pr.ed.1 n.9979
Bradl.1: 375a	Jacks. 293	Mass.HS-M 3: 413	Pr.ed.2 n.9026
Brun.5: 573	Kew 594	Milt. 144	Teyl. 434.

Bibl.notes. The section described here is part of the complete set, which is indicated as having appeared up to 1861 (Bradley) and in 163 fascicles (Jackson). The collation is complicated in most copies, because the plates and their descriptions were delivered (as far as I could ascertain) in loose cut leaves, to facilitate systematical arrangement by the owners; in fact, the finished volumes indicated another arrangement than the original one in the fascicles.

Of the section 2 I studied a copy in original wrappers in the Gray Herbarium library, Harvard University, of which only the wrapper of fasc.19/20 was missing. These wrappers had important additional information, besides the year, especially the index on the back.

The format is another point on which diverse opinions are stated in the reference works. The small size would indeed bring the volumes in the range of 16°, or 24°, as is often stated, but scarcely in that of 12°, which also is indicated several times. The relation in size class may depend on the special criteria of the cataloguers, but the bibliographical format is with very little doubt 8°. This is indicated by the chain-lines as well as by the watermarks, which are exactly centered in the inner top corner of the leaves of the text; the wm.parts in the cut leaves of the same gathering do match. The only doubt, though small, was left because I did not see any deckle edges, so I could not reconstruct the actual sheet size. If the watermarks really were in the center of the half-sheets the bibliographical format is octavo. The sheet size must have been unusually small, the paper being supplied by one or a few paper-makers only, as is clear from the long period in which the same watermark appeared; in the plates the same mark was found throughout, and in the text only two marks, which is very unusual, in view of the disturbed political situation in Europe during the period. The wrappers show more variation; the small amount needed perhaps did not warrant maintenance of the type.

The gatherings were occasionally signed in the first fascicles, 1-2 in each fascicle anew. Later the signatures were dropped and leaf-numbers instead were inserted in the direction-lines of the rectos (fasc.12 and up); in fasc.17 numbers were used to indicate the text to the plates, though the plates remained unnumbered. In the parts with a special title (vols.6-8), finally, the pages were numbered. The volumes also had some irregularities: vol.5 deviated insofar as the constituent fascicles were not consecutive; vol.6, Corda's *Jungermanniaaceae*, consisted of 3 sets of 16 plates, and much more text than usual: 3 combined fascicles; vol.7, Laurer's *Lichenes*, did not come to more than 2 fascicles; and what supposedly would have formed vol.8 only had 1 fascicle: Corda's *Deutschlands Algen*; these parts remained unfinished, and therefore without volume-titles.

The plates apparently were engraved on much larger copper-plates than the final leaf size, probably the drawings of 4 leaves to one copper-plate. This is indicated by the dividing lines, which were engraved between the partial plates and are still visible on some plates. The absence of deckle-edges again made it impossible to determine the sheet- or copper-plate size. The place of the watermarks in the leaves of the plates might have been of help in mapping out the place of the partial plates on the copper-plate. However, apparently for the coloring, the leaves with the different species had been separated before being collected for individual copies of the book, and the resulting watermark fragments are more or less at random in one copy. A statistical analysis of a large number of copies would most likely give an idea of this distribution, but this was not possible to me.

Bot. notes. I included this title because of the peculiar problems it has for the botanical bibliographer, though it was not in the restricted period, but beyond it at both ends. Doubtless it was an important publication, if not alone for the number of new species proposed, or species illustrated for the first time. The plates were carefully executed, as can be expected from an engraver devoting all his time to natural history engraving.

The descriptions vary in their thoroughness, and later collaborators sometimes criticized their predecessors, even gave new treatments of the same species. The new species and new names have been inserted in *Index Muscorum*, except for a name in Corda's part on hepatics, where no mosses would be expected, but where nevertheless *Sphagnum* and *Andreaea* were included, the first with a new subgenus *Sphagnella*, p.17.

SYLLOGE PLANTARUM NOVARUM ...

2 vols. Regensburg, [1822-]1828.

Titles: "SYLLOGE | PLANTARUM NOVARUM | ITEMQUE | MINUS COGNITARUM | A |
PRAESTANTISSIMIS BOTANICIS | ADHUC VIVENTIBUS COLLECTA | ET | A SOCIETATE
REGIA BOTANICA | RATISBONENSI | EDITA. | CUM TABULA AENEA. [2: TOMUS
SECUNDUS | CUM TABULA LITHOGRAPHICA] | RATISBONAE, | TYPIS VIDUAE C. E.
BRECK. | 1824. [2: 1828.]"

Col- lation	vol.	gath.	pages	date	sources
8°	1	A ⁸	7- 16	1822 Jan.28	<i>Flora</i> 5(4): 64. 1822 Jan.28
		B ⁸	17- 32	1822 bef. Apr.7	<i>Flora</i> 5(13):208. 1822 (corrections)
		C-E ⁸	33- 80	1822	GRO copy bound with <i>Flora</i> vol.5
		F-P ⁸	81-240	1823 or 1824	
		Q ²	241-244	1824	
dates:		W ⁶	I-XII	1824 }	t.-p.
	2	A ⁸	7- 16	1825 bef. Nov. or Dec.	<i>Flora</i> 8 ² (Beil.3): 47. 1825
		B ⁸	17- 32	1825 late	
		C ⁸	33- 48	1826 Jan. or Feb.	v. Hall: <i>Bijdr. Natuurk. Wet.</i> 1(2):211.
		D-G ⁸	49-112	1826 after Feb.	v. Steenis (see below). 1826
		H-P ⁸	113-240	1827 or 1828	
		Q ⁸	241-256	1828	
		W ⁴	I-VIII	1828 }	t.-p.

Paper: leaf height 175 mm. (U copy, cut); laid, chains vertical; wm.:

vol.1: "L = R [outline]";

vol.2: "[two keys in double circle with inscription REGENSPURG and small fleurs-de-lis between circles] = LOSCHGZ" (U copy: sheets C-G, M-O).

Printer: Breck, Widow C.E., Regensburg, Germany.

Publisher: KÖn. Regensburger Botanischer Verein.

Bibliogr. studies: Steenis, C.G.G.J. van: *Fl. Males. Bull.* 1(4): 97-99. 1948 Sep.;
Stafleu, F.A.: *Taxonomic literature* n.552. 1967.

Bibl. notes. The decision to publish this title periodically was made in a session of the Regensburg botanical society on 10 Nov. 1821 (pref. vol.1). The first sheet was announced in the *Flora* fascicle of 28 Jan. 1822, as being issued with this fascicle. Data for the issue of other sheets are scarce; most probably the individual sheets were issued at irregular times with fascicles of *Flora*. The fact that in the GRO copy the first 5 sheets were bound with vol.5 of *Flora* makes it certain that these were issued with fascicles of this volume. This indicates the year 1822 for these 5 gatherings, except for the slight possibility that the last one of these 5 was issued with the last part of *Flora* 5 and actually appeared in 1823, as may be expected for the part with the full subject index to the completed volume of *Flora*. Possibly gatherings of vol.2 were issued in groups (see the 2 parts of the article of Schultz n.4).

I found a confirmation of my supposition of irregular publication in a letter from F.G. Eschweiler to Ad. Brongniart (PMusBC), dated 11 Dec. 1828, in which he wrote that he would send "deux volumes de Sylloge plantarum rariorum aut minus cognitarum, qui ont été publiés à fur et mesure avec la gazette [*Flora*] pendant les dernières années." Another confirmation can be read from the next letter, dated 2 Jan. 1829; it announced the shipment promised in the former letter, with an excuse for one gathering of the *Sylloge* which was lacking: "manque ... la feuille N du premier volume du Sylloge, que dans ce moment on n'a pu trouver, mais que je ne doute pas de pouvoir envoyer plus tard." In my opinion this is good evidence that the sheet N was published separately.

Another point is the fact that in the direction-line of gathering L of vol. 1 the word *Sylloge* appeared for the first time. This indicates a different printing time for the two gatherings K and L.

I compared the watermarks in the volumes of *Flora* with those in the *Sylloge* in the hope that some changes in watermark coinciding in the two periodicals might give more clues to dates. This hope was not realized; *Sylloge* vol. 1 had the same watermark as the corresponding volumes of *Flora* throughout and vol. 2 had a different watermark, not observed in *Flora* at all.

I trust that continued research will make more data available on this problem. The archives of the society mentioned probably contain valuable material.

Bot. note. This periodical contains many articles important for nomenclature; for bryological articles see Hornschuch n. 1 and Schultz n. 1 & n. 4.

TAYLOR, Thomas

Biogr. Born [date unknown], in India.

Died 1848 Feb. (early), Dunkerrion, Co. Kerry, Ireland.

Thomas Taylor was the son of Colonel Joseph Irwin Taylor. Up to his seventh year he spoke mainly Hindustani; after coming to Ireland in a vessel where nothing but Portuguese was spoken, he was sent to a school at Cork where French was the only language used. He studied at Trinity College, Dublin, and received the degree M.D. in 1814. In the same year he became a Fellow of the Linnean Society, London. He was professor of botany and natural history in the Royal Cork Scientific Institution. He became a honorary member of the Royal Irish Academy.

He was commemorated in the generic name *Tayloria* W.J. Hooker 1818 (*Musc.*, *Splachnaceae*).

Refs.: Boulger, G.S.: Thomas Taylor (d. 1848). In: *Diet. Natl. Biogr.* 55: 470-471. 1898.
Hooker, J.D.: *Ann. Bot.* 16: xxi-xxii. 1902.

1 *Musologia Britannica*. 1818, 1827.

See Hooker & Taylor n. 1 & n. 2.

WAHLENBERG, Georg [from 1804: Göran]

Biogr. Born 1780 Oct. 1, Skarphyttan, Värmland, Sweden.

Died 1851 Mar. 22, Uppsala, Sweden.

Wahlenberg studied medicine and botany at the University of Uppsala from 1792, and received the degree of Dr. Med. there in 1806. In this year he became botanical demonstrator in the same University. He traveled in different parts of Europe, as a result writing important floras, such as a flora of the Carpathian Mountains, of Lapland, and finally of Sweden. Receiving the title of professor in 1826, he became professor of medicine and botany in 1829 (in the place of Thunberg).

He was commemorated in the generic names *Wahlenbergia* Schrader 1821, *nom. cons.* (*Campanulaceae*), *Wahlenbergia* Blume 1823, a synonym of *Taraxacum* Gaertner (*Rubiaceae*), *Wahlenbergia* Schumacher 1827, a synonym of *Enhydra* Loureiro (*Compositae*), and *Wahlenbergia* R. Brown 1831, a synonym of *Dichapetalum* Thouars (*Chailletiaceae*).

Refs.: *Bot. Notis.* 1851 (3): [insert]. 1851 (death notice in the index referred to as on p. 64, however, the HBL copy has the death announcement in a black frame at one side of an unnumbered leaf).

Krok: *Biblioth. Bot. Suec.* 741. 1925.

1 Flora Suecica ...

[Ed.1.] 2 parts. Uppsala, 1824 [1825?]-1826.

Titles: "FLORA SVECICA | ENUMERANS | PLANTAS SVECIAE INDIGENAS | CUM SYNOPSI CLASSIUM ORDINUMQUE, CHARACTERIBUS | GENERUM, DIFFERENTIIS SPECIERUM, SYNONYMIS CITATIONIBUSQUE | SELECTIS, LOCIS REGIONIBUSQUE NATALIBUS, DESCRIPTIONIBUS | HABITUALIBUS NOMINA INCOLARUM ET QUALITATES PLANTARUM | ILLUSTRANTIBUS | POST LINNAEUM EDITA | A | GEORGIO WAHLENBERG | BOTANICES DEMONSTRATORE UPSALIENSI. | [short rule] | PARS PRIOR [2: PARS POSTERIOR] | [short rule] | [full rule] | UPSALIAE, | SUIS IMPENSIS EXCUEBANT PALMBLAD & C. | [following 5 lines in two columns; column 1:] ARGENTORATI apud TREUTTEL | & WÜRTZ. | CHRISTIANIAE apud HARTMAN. | HAFNIAE apud GYLDENDAL. | LIPSIAE apud BROCKHAUS. 'column 2: LONDINI ap. TREUTTEL & WÜRTZ, | TREUTTEL filium & RICHTER. | PARISIIS ap. TREUTTEL & WÜRTZ. | TIGURI (ZÜRICH) apud ORELL, | FÜESLI & co. [end of columns] | [short rule] | MDCCCXXIV. [2: MDCCCXXVI.];

volume-title: "FLORA SVECICA | ENUMERANS | PLANTAS SVECIAE INDIGENAS | POST LINNAEUM EDITA | A | GEORGIO WAHLENBERG | [short rule] | IN DUAS PARTES DISPERTITA. | [short rule] | [full swelled rule] | UPSALIAE | SUIS IMPENSIS EXCUEBANT PALMBLAD & C. | [very short rule] | 1826."

Collation: 8°: part 1: π^2 1-26⁸ 27⁴ 27b²; i-iv 1 2-428;
part 2: π^1 2 π^1 a-e⁸ f⁴ 28-66⁸ 67-69⁴ 70⁸ 71-73⁴ 74²(-74₂)
(\$1 signed, a-f signed in italics, gatherings in 4s signed \$1, 74 signed 74¹); i-iv I II-LXXXVIII 429-1117 1118
(XXV 1043 1078 1085 1103, 550 in inner corner).

Contents: part 1: i part-title; ii □; iii-iv preface, dated: "Calendis Octobribus MDCCCXXIV."; 1-428 text, descriptions of Swedish plant genera, species and varieties, in the Linnaean classification, with keys to the genera within the orders, species and varieties with citations, habitats and distributions in Sweden, often with localities, classes *Monandria* - *Tetradynamia*;

part 2: i title; ii □; iii part-title; iv □; I-XXIV preface: "RATIO OPERIS.", dated: "mense Februarii 1826."; XXV-LXXX introduction, concise description of Sweden and its vegetation, headed: "CONSPECTUS | REGNI ET VEGETATIONIS.", including an enumeration of the groups and their genera in the natural classification: LXVIII-LXXX, headed: "DESIGNATI METHODI NATURALIS."; LXXXI key to the Linnaean classes; LXXXII-LXXXVIII list of the genera of which some species belong to other Linnaean classes or orders than the majority, with the number before the generic name, and where necessary the numbers of the species after this name; 429-1042 text concluded, classes *Monadelphia* - *Cryptogamia* (class 24); 1043-1076 additions, emendations and corrections, including descriptions of occasional new species (varieties), e.g. *Boletus benzoinus*; 1077 latest additions: "Addenda ulteriora | post impressionem primae plagulae addendorum | accepta."; 1078-1084 list of adventitious, dubious or too imperfectly known plants, not included in the text; 1085-1102 index of Swedish plant names; 1103-1117 index of Latin names of genera; 1118 □. RT: text: names of Linnaean class (left page) and order (right page) in italic capitals; introduction and addenda etc.: chapter heading in capitals, except vol.1: π , vol.2: f, and indexes, which do not have a RT. Language: Latin.

Table: 1 folded table, numbered: "ad pag. LXVIII.", with printed table of numbers of species of *Phanerogamia* in different natural plant families for Scania and Lapponica sylvatica.

Paper: leaf height 208 mm.; wove; no wm.

Printer: no imprint.

Publisher: Palmblad & Co., Uppsala, Sweden.

Dates: part 1: 1824 (t.-p.); after 1 Oct. (pref.); offered for sale in Stockholm the first days of May 1825 (*Mém. Soc. Linn. Paris* 4(3): 52. 1826); (t.-p.); in or after Feb. (pref.); after or about 28 Jun. 1826 (*Flora* 9(24): 377. 1826: ready, but not yet published).

- Reviews:** part 1: G[uilleni]n: *Bull. Sci. Nat.* 5(6): 237-241. 1825;
Svensk Litt. Tidn. 1824(82): 654-656. (1824 or early 1825?); ¹⁾
 Wikström: *Årsber. Framst. Bot.* 1824: 519-522. 1825; ¹⁾
 part 1-2: *Linnaea* 1(4): 642-643. 1826;
 Fries: *Svea Tidkr. Vet. Konst.* 1827(11): 66-83. 1827; ¹⁾
 part 2: Wikström: *Årsber. Framst. Bot.* 1826: 175. 1827; ¹⁾
Stockholms-Posten 1830(49), (50), 1 & 2 Mar. 1830. ¹⁾
¹⁾ derived from Wikström: *Consp. Litt. bot. Suecia* ... Stockholm, 1833.

Refs.: Arn. Arb. 1: 727	Graesse 7: 409	Pr. ed. 1 n. 10890
BMNH 2249	Krüg. 122	Pr. ed. 2 n. 9916
Bradl. 1: 353a	Lindl. Libr. 260	Soulsb. Add. 829c
Brun. 5: 1399	Linn. Soc. 798	Un. Edinb. 3: 1100
Cat. Juss. n. 1804	Milt. 178	Wikstr. 278-280.

Bibl. notes. The part-title of part 2 apparently was printed from standing type of the title of part 1 (broken letters identical). From the three title-pages often one or two have been discarded, in connection with the binding of the book in two volumes or in one. In the latter case the introduction was bound before part 1, in the first case sometimes too.

A prospectus for the work was issued in 1823, see *Isis* (Oken) 1823(10), *Lit. Anz.* 14, 1823. I have not yet seen a copy; according to the review the work was planned to have 40 sheets (actually 76 appeared). In July 1824 it was still expected that the work could be published in the summer of 1824: *Flora* 7(28): 443. 1824 Jul. 28.

A second edition appeared in 1831-33 with page-numbers up to XCVIII and 1134, being corrected and augmented.

Bot. notes. A thorough Swedish flora in the traditional Linnaean classification, nevertheless made more useful by the presence of keys to the genera; in the introduction the reasons for retaining the Linnaean classification are explained.

A few new species and a number of new varieties were proposed by Wahlenberg in this flora, and also a number of new combinations were introduced.

Musci are treated on p. 695-795 (including *Hepaticae*) and p. 1073-1075 (one doubtful species of *Hepaticae* on p. 1084).

According to Wikström, *Consp.* 279. 1831, a medal of the Swedish Royal Academy of Sciences was awarded to Wahlenberg for this book on 31 Mar. 1827.

ZENKER, Jonathan Carl

Biogr. Born 1799 Mar. 1, Sundremda, Sachsen-Weimar, Germany.

Died 1837 Nov. 6, Jena, Germany.

Zenker received the first lessons from his father, a minister. In 1813 he studied at the gymnasium, Weimar, and he entered the University at Jena in autumn 1818 to study theology. This did not satisfy him; he was more interested in natural history. After a long hesitation he decided to change to natural history and medicine.

In 1823 he went as a mentor of a young Hamburger to Dresden, where he continued his studies at the medico-surgical school. After going back to Jena, he received the degree of Dr. Phil. and soon after of Dr. Med. In the same year he qualified for "Privatdocent" in natural history at the University. He soon published his first zoological books, which later were followed by palaeontological publications. He was nominated extraordinarius professor at the philosophical "Facultät" of the University in 1828, and ordinarius professor at the medical "Facultät" in 1836. He became a member of the Academia Caesarea Leopoldino-Carolina in 1833.

He was commemorated in the generic names *Zenkeria* Trinius 1837 (*Gramineae*), *Zenkeria* Arnott 1838, a synonym of *Apuleia* Martius, *nom. cons.* (*Leguminosae*), and *Zenkeria* Reichenbach 1841, a homotypic synonym of *Parmentiera* A.P. de Candolle (*Bignoniaceae*).

Refs.: *Flora* 21(1): 16. 1838 Jan. 7.

Hess, W.: *Allg. Deutsche Biogr.* 45: 62. 1900.

ZENKER, Jonathan Carl & DIETRICH, Friedrich David

[Biogr.: see D.K.F. Dietrich]

1 *Musci Thuringici*.

4 fasc. Jena, 1821-1825 [exsiccata].

Title: fasc.1: "*Musci Thuringici*. [short swelled rule] Fasc. I. [long swelled rule] Jenae, apud August Schmid. 1821."; fasc.2: *Musci Thuringici vivis exemplaribus exhibuerant et illustraverant* I. C. Zenker et F. D. Dietrich, Jenae apud Schmid, fasciculus 2dus. 1822 (cited from *Isis*(Oken) 1822(6): 663-665. 1822); fasc.3-4: no indication.

Collation: 8°: fasc.1: *¹ *⁴; i-ii 1-8; fasc.2-4: not seen.

Contents: i engraved title; ii []; 1-2 preface, unheaded, signed: "Jenae mense Augusto | MDCCCXXI."; 3-8 text, descriptions of 25 species of mosses and hepatics; fasc.2-4 not seen. Language: Latin.

Specimens: 25 specimens per fascicle, in total numbered 1-100; fasc.1: 25 specimens pasted to rectos of 20 leaves, with printed labels pasted on the same leaf, with only information: number, binomial and author, e.g.: "4. *Fontinalis antipyretica*. L." [capital L 3 mm. high].

Wrappers: fasc.1: front wrapper: recto: title within frame, verso: Latin quotations; back wrapper: same decorated frame as front, with a floral center-piece.

Paper: fasc.1: leaf height 203 mm. (NYBG copy, cut); wove; wm.: "J WHATHAM | 1820 [outline]"; fragment in text part; wrapper paper: outside pink-colored, thin; laid, chains vertical.

Publisher: Schmid, August, Jena, Germany.

Dates: fasc.1: 1821 (t.-p.); after Aug. (pref.); bef. 15 Nov. (*Allg.Repert.Neuest.In- Ausl.Lit.* 1821⁴, (3): 171-172. 1821); fasc.2: 1822 (t.-p.); about Jun. (*Isis*(Oken) 10(6): 663-665. 1822); sem.2 (Hinrichs: *Verseichn.Neuer Büch.*, from Sayre 67); bef. 20 Dec. (*J.Gén.Litt.Étrang.*, from Sayre 67); fasc.3: 1823 (t.-p.); bef. 15 Jul. (*Allg.Repert.Neuest.In- Ausl.Lit.* 1823², (1): 14. 1823); fasc.4: 1825 (reported by Krüger and Heinsius; no other information).

Reviews: fasc.1: *Allg.Repert.Neuest.In- Ausl.Lit.* 1821⁴(3): 171-172. 1821; *Isis* (Oken) 10(2): 211-212. 1822 (list and sample of 1 description); fasc.2: *Isis* (Oken) 10(6): 663-664. 1822 (ca. Jun.); fasc.3: *Allg.Repert.Neuest.In- Ausl.Lit.* 1823³(1): 14. 1823 (list); *Isis* (Oken) 14(3): 338-339. 1824 (ca. Mar.).

Refs.: Heins.7(2): 111 Krüg. 111
Kew 681 (fasc.1 only) Milt. 282 (fasc.1-3).

Bibl.notes. Exsiccata in book form, with descriptions in text part, and not much information on the labels; specimens interspersed in herbaria without annotations as to source will be difficult to identify. The text part was worth being preserved and will be found in some botanical libraries.

Bot.notes. Exsiccata with an occasional new species or new name: *Sphagnum praemorsum* (fasc.1 n.18, p.6), with a valid description and the locality indication: "in ericetis elatioribus prope Bollwerk (Jen.) primum 4 Aug. 1821 fructiferum collegimus."; *Hypnum scalare* (fasc.2 n.26) is a new name for *Hypnum crista-castrensis* [L.] Hedwig, hence illegitimate, but blocking the later use of the name for another species.

CORRECTIONS AND ADDITIONS

ARNOTT n.2, p.42:

Date: bef. 10 Apr. 1824 (see *Mém. Soc. Hist. Nat. Paris*, p. 180)

Note. After sending the part with the treatments of Arnott's publications to the printer, I ascertained from *Bibliogr. France* the dates on which the journal was announced, which is much later than I expected from the correspondence between Arnott and Ad. Brongniart. Probably the separate of the article in the *Memoirs of the Wernerian Natural History Society* will have priority over this article.

ARNOTT n.6, p.46:

Date: bef. 9 Nov. 1826 (see *Mém. Soc. Hist. Nat. Paris*, p. 180).

Note. Announcement in *Bibliogr. France* much later than the date of the wrapper. I do not know the reason for this delay.

BRIDEL n.1, p.61:

Reviews: add:

vol. 1-2(2): *Allg. Bot. Bibl. (Bot. Zeit.)* 1802³(13): 193-206. 1802 Jul. 2;
(14): 209-218. 1802 Jul. 16;
(15): 225-235. 1802 Jul. 30.

BRIDEL n.5, p.67:

Bibl. notes. Add after line 17:

The publication of vol. 1 in 1826, at least before 7 Dec., and without its supplement, is confirmed by the remark in Steudel & Hochstetter, *Enum. Pl. Germ. Helvet.*, p. 168, footnote, stating that the *Orthotrichum*-species of Bruch are missing.

DIETRICH, F.G. n.1, p.94:

Dates: add:

vol. 1: before 29 Oct. 1802 (*Allg. Bot. Bibl. (Bot. Zeit.)* 1802⁴(21): 325. 1802).

FUNCK n.1, p.117:

Dates: correct:

fasc. 26: 1 Apr. 1819 (*Flora* 2(16): 247-248. 1819 states that a copy was shown in a meeting on that day).

SUMMARY

In my work for the *Index Muscorum* it became apparent that dating problems existed for publications of the years 1825-1827, which were important for the nomenclature of *Musci*. The article by Arnott, *Nouvelle disposition méthodique des espèces de mousses*, was indicated from 1825 in some sources, but the copy of the periodical consulted had the title-date 1827 and the fascicle concerned probably was issued in 1826. Bridel, *Bryologia universa*, had the internal date 16 Dec. 1826 in the preface, usually bound with vol.1; the year 1826 for this volume, therefore, could be doubted. Moreover a supplement to the same volume was apparently published later than the main text, but the date 1827, assigned to this part in the preparation of *Index Muscorum*, was not fully confirmed. Some of the 11 parts of Schwaegrichen, *Species Muscorum ... Supplementum*, had to be dated with more precision, in connection with other works, than was possible during the work for the *Index Muscorum*.

Within the framework of the project *Bibliographia Huntiana* of the Hunt Botanical Library, Pittsburgh, Pa., it was possible to select a chapter of botanical bibliography, and the bryological publications of these three years were chosen with the literature related thereto. An effort was made to trace every book containing names of *Musci*. Articles in periodicals were not checked as thoroughly as the books. To bridge the gap between 1825 and 1821, the last year studied by Dr. Sayre in her *Dates of publications treating Musci* ... , bryological publications of the years 1822-1824 were studied too, but no effort was made to treat this period exhaustively.

The publications included in this thesis are described according to the method of descriptive bibliography, as developed by W.W. Greg, F. Bowers, and for botanical books by Allan Stevenson. This method is adapted to the problems of the books of the period, by omitting the description of some features (binding, type-font) and by using page references in the descriptions of the contents instead of signature references. Some refinements in the method are proposed and applied. A new key for determination of books of handmade paper, especially laid paper, is included.

Information concerning the dates of publication was derived from the references to reviews and announcements in contemporaneous periodicals, collected by a team of workers of the Hunt Botanical Library; I checked the original sources in many cases which might be critical. Moreover I studied several manuscript collections in botanical libraries and in archives. Completeness in these two fields, reviews and manuscripts, of course, is impossible, but some important sources remained untapped because of time restrictions.

The result is the first analytical bibliography of all publications on a plant group of a certain period, at least to my knowledge. A considerable number of dates of publication are given with more precision than was the case up to now. Some of the important solutions to special problems or new points which came to light are enumerated below.

1. The article of Arnott was published in no less than 5 variants. The first one certainly is the quarto separate, which has the title-date 1825. My research made it probable that this was issued in January 1826. The later variants may be of importance because of indirect references to Schwaegrichen and Gaudichaud.

2. The two volumes of Bridel: *Bryologia universa*, were indeed published in 1826 and 1827, as the titles indicate; however, the supplement to vol.1 and the preliminaries were published together with vol.2.

3. The several parts of Schwaegrichen's supplements are placed in the chronological order with the other important publications. For some parts, however, more accurate dates would be welcome.

4. The relative dates of Greville: *Flora Edinensis*, and the relevant fascicle of his *Scottish cryptogamo flora* were better established than those used in the *Index Muscorum*.

5. The contents of the fascicles of a number of books and periodicals were determined, mainly with the help of internal bibliographical evidence. These were in several cases not known to the last details, e.g. Hooker: *Musci exotici* and *Exotica flora*. Off-sets of fascicle-titles in a particular copy of the latter work were helpful in establishing the breaks and dates of some fascicles.

6. Some publications were found, of which the new names of *Musci* were overlooked in the bryological literature (Cambessèdes, Chevallier).

7. The first color prints of mosses, to my knowledge, are indicated: of protonema in T.F.L. Nees von Esenbeck, 1824, and of complete plants in Sommerfelt, 1826, and Chevallier, 1826.

8. Of several books cancellantia are described which were not yet indicated before, including some in the starting-point book, Hedwig: *Species Muscorum frondosorum*.

9. Wove paper, originally used for expensive paper states of books, apparently became available in larger quantities and at relatively lower prices in the period treated, since several books show a shift from laid to wove paper. Machine-made paper was not yet often used for books; I only saw this paper type with certainty in the *Transactions of the Linnean Society [London]* of 1827 (see Greville n.9).

As a general result of this research I can discuss the development of bryology in the first three decades of the 19th century, stressing the application of the natural classification to bryophytes, and the diverse opinions on the life cycle of mosses.

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In the first place I acknowledge my gratitude to Dr. G.H.M. Lawrence, director of the Hunt Botanical Library, for the opportunities he gave me of working in his institution, for the time and facilities which he put at my disposal, and for his consent to prepare this thesis in the framework of *Bibliographia Huntiana*. Without this it would have been impossible to prepare this publication. I hope that my work may help to crystallize the method for the large project. I also want to express my warm gratitude for his personal interest and for the way he left me free to work out the chosen problems in my own way.

I also thank Prof. Dr. F.A. Stafleu for his interest in the start of the work and his advice on sources of new information, and for his help in the final stages of the publication. I regret that I was unable to check some of the references he suggested to me, and also that I was unable to put my information at his disposal for his publication *Taxonomic literature*.

I am very grateful to Prof. Dr. R. van der Wijk, editor-in-chief of the *Index Muscorum*, for the opportunity he gave me to work for this index, which realized an old wish, and for his kindness to read the manuscript of this thesis and to criticize it. I hope he will be satisfied that some problems which arose during the preparation of the index now are solved.

I cordially thank Mr. I. MacPhail for introducing me into the method of descriptive and analytical bibliography, for his friendly help in many bibliographical difficulties, and for his willingness to read the first draft of my manuscript in a period in which he was loaded with work, and especially for his constructive criticisms.

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C H R O N O L O G Y

The publications treated in this thesis, journals excepted, are listed here in chronological order. The dates on which publication was a proved or probable fact are taken as the main criterion; the dates of the last pre-publication announcement or internal date are the second ones for the arrangement; if there are no differences in the dates for different books or fascicles, the arrangement is alphabetical.

The following signs are used in this list:

- < indicates that publication was effective before this date;
- * indicates that a small variation (before, after) is possible;
- ! indicates an exact day of publication;
- ? indicates doubt about the date mentioned.

1797	Jan.-Dec.	Bridel	n.1	Muscol.Recent. vol.1
1798	Jan.-Dec.	Bridel	n.1	Muscol.Recent. vol.2(1)
	Jan.-Dec.	Sturm	n.1	Deutschl.Flora Abt.2 fasc.1,2
1799	Jan.-Dec.	Sturm	n.1	Deutschl.Flora Abt.2 fasc.3
1800	Feb.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.1, "Hof"
	<Oct.21	Sturm	n.1	Deutschl.Flora Abt.2 fasc.4
1801	Jan. 1!	Hedwig	n.1	Species Muscorum [arbitrary date]
	May 9!	Bridel	n.1	Muscol.Recent. vol.2(2)
	<Oct.12	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.2
	Jan.-Dec.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.1, "Leipzig"
	Jan.-Dec.	Sturm	n.1	Deutschl.Flora Abt.2 vol.1, title
1802	<Apr.22	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.3
	Dec.27!	Sturm	n.1	Deutschl.Flora Abt.2 fasc.5
	<Oct.29	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.1
1803	Jan.-Mar.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.2
	Sep.25!	Bridel	n.1	Muscol.Recent. vol.2(3)
	Jul.-Dec.	Sturm	n.1	Deutschl.Flora Abt.2 fasc.6
1804	Mar.	Sturm	n.1	Deutschl.Flora Abt.2 fasc.7
	Jul.-Sep.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.3
	Oct.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.4
1805	<Jun.30	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.4
	Apr.-Jun.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.5
	Jan.-Dec.	Sturm	n.1	Deutschl.Flora Abt.2 fasc.3; vol.2, title
1806	<Apr. 1	Balbis	n.1	Enum.Pl.Off.
	<Apr. 1	Balbis	n.2	Fl.Taurin.
	<Apr.20	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.5
	Apr.20!	Bridel	n.2	Muscol.Recent.Suppl. part 1
	Apr.20?	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.6
	Apr.20?	Funck	n.2	Crypt.Gew.Fichtelgeb. ed.2, fasc.1-5
	Oct.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.6
1807	<Mar.20	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.7, 8
	Jan.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.7
1808	<May 1	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.9, 10, 11
	<Jun.20	Savi	n.1	Bot.Etrusc. vol.1
	Jan.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.8
1809	<Apr.16	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.12, 13
	Apr.16?	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.14
	<Oct.20	Sturm	n.1	Deutschl.Flora Abt.2 fasc.9
	<Dec.20	Sturm	n.1	Deutschl.Flora Abt.2 fasc.10
	Jan.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.9
1810	<May 6	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.15
	May 6?	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.16
	Jul.-Dec.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.17
	Sep.-Dec.	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Rhen. fasc.1
	28 Sep.-Dec.	Dietrich, F. G.	n.1	Vollst.Lexic.Gärtn.Bot. vol.10

1811	Apr. 28	Sturm	n.1	Deutschl. Flora Abt. 2	fasc. 11
	May -Jun.	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 18
	Jul.	Schwaegrichen	n.1	Spec. Musc. Suppl. 1 [vol.] 1	
	Jan. -Dec.	Dietrich, F.G.	n.1	Vollst. Lexic. Gärtn. Bot. Gen. Reg.	
	Jan. -Dec.	Mougeot & Nestl.	n.1	Stirp. Crypt. Vog. Rhen.	fasc. 2
1812	<Mar. 20	Sturm	n.1	Deutschl. Flora Abt. 2	fasc. 12
	May 1!	Hooker	n.1	Brit. Jungerm.	fasc. 1
	Jun. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 2
	Jul. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 3
	Aug. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 4
	Sep. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 5
	Sep. 27?	Bridel	n.2	Muscol. Recent. Suppl.	part 2
	Oct. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 6
	Nov. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 7
	Dec. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 8
	Jan. -Dec.	Mougeot & Nestl.	n.1	Stirp. Crypt. Vog. Rhen.	fasc. 3
1813	Jan. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 9
	Feb. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 10
	Mar. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 11
	<Apr. 1	Sturm	n.1	Deutschl. Flora Abt. 2	fasc. 13
	Apr. 15!	Hooker	n.1	Brit. Jungerm.	fasc. 12
	Aug. 15!	Hooker	n.1	Brit. Jungerm.	fasc. 13
	Sep. 26?	Sturm	n.1	Deutschl. Flora Abt. 2	fasc. 14
	Oct. 2!	Hooker	n.1	Brit. Jungerm.	fasc. 14
	Dec. 18!	Hooker	n.1	Brit. Jungerm.	fasc. 15
	Jan. -Dec.	Mougeot & Nestl.	n.1	Stirp. Crypt. Vog. Rhen.	fasc. 4
	Jan. -Dec.	Oken	n.1	Lehrb. Naturgesch.	vol. 1
1814	Apr. 24?	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 19
	Jun. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 16
	Jul. 15!	Hooker	n.1	Brit. Jungerm.	fasc. 17
	Jan. -Dec.	Cassebeer	n.1	Wetterausische Laubm. Decurie 1	
1815	Apr. 9?	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 20
	Jul. 6-15	Hooker	n.1	Brit. Jungerm.	fasc. 18
	<Nov. 1	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 21
	Dec. 4!	Hooker	n.1	Brit. Jungerm.	fasc. 19
	Jan. -Dec.	Oken	n.1	Lehrb. Naturgesch.	vol. 3(1)
	Oct. -Dec.	Dietrich, F.G.	n.3	Nachtr. Vollst. Lexic. Gärtn. Bot.	vol. 1
1816	Apr. 1!	Hooker	n.1	Brit. Jungerm.	fasc. 20
	Apr. 28?	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 22
	May 1!	Hooker	n.1	Brit. Jungerm.	fasc. 21
	<May 8	Sturm	n.1	Deutschl. Flora Abt. 2	fasc. 15
	<May 9	Schwaegrichen	n.1	Spec. Musc. Suppl. 1 [vol.] 2	
	Jun. 15!	Hooker	n.1	Brit. Jungerm.	fasc. 22
	<Jun. 19	Mougeot & Nestl.	n.1	Stirp. Crypt. Vog. Rhen.	fasc. 5
	Nov. 20	Savi	n.1	Bot. Etrusc.	vol. 2
	Jan. -Dec.	Dietrich, F.G.	n.3	Nachtr. Vollst. Lexic. Gärtn. Bot.	vol. 2
	Jan. -Dec.	Oken	n.1	Lehrb. Naturgesch.	vol. 3(2)
1817	Apr. 20?	Dietrich	n.3	Nachtr. Vollst. Lexic. Gärtn. Bot.	vol. 3
	20 Apr. -Jun. 16	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 23
	Jun. 18-31	Eaton	n.1	Man. Bot.	
	Sep. 28	Bridel	n.2	Muscol. Recent. Suppl.	part 3
1818	Jan. 1!	Hooker	n.3	Musci Exot.	fasc. 1
	Jan. 1!	Hooker & Taylor	n.1	Muscol. Brit.	
	Feb. 1!	Hooker	n.3	Musci Exot.	fasc. 2
	Mar. 1!	Hooker	n.3	Musci Exot.	fasc. 3
	<Mar. 5	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 24
	Apr. 1!	Hooker	n.3	Musci Exot.	fasc. 4
	Apr.	Savi	n.1	Bot. Etrusc.	vol. 3
	May 1!	Hooker	n.3	Musci Exot.	fasc. 5
	<May 7	Funck	n.1	Crypt. Gew. Fichtelgeb.	fasc. 25

1818	Jun. 1!	Hooker	n.3	Musci Exot. fasc.6
	Jul. 1!	Hooker	n.3	Musci Exot. fasc.7
	2 Jun.-Jul.	Eaton	n.2	Man.Bot. ed.2
	Aug. 1!	Hooker	n.3	Musci Exot. fasc.8
	Sep. 1!	Hooker	n.3	Musci Exot. fasc.9
	Oct. 1!	Hooker	n.3	Musci Exot. fasc.10
	Nov. 1!	Hooker	n.3	Musci Exot. fasc.11
	<Nov.10	Mougeot & Nestl.	n.1	Stirp.Crypt.Vcg.Rhen. fasc.6
	<Nov.10	Sturm	n.1	Deutschl.Flora Abt.2 fasc.16, vol.4, title
	Dec. 1!	Hooker	n.3	Musci Exot. fasc.12
	Jan.-Dec.	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.4
1819	Jan. 1!	Hooker	n.3	Musci Exot. fasc.13
	Feb. 1!	Hooker	n.3	Musci Exot. fasc.14
	<Feb.29	Bridal	n.3	Meth.Nov.Musc.Mant., "Gotha"
	Mar. 1!	Hooker	n.3	Musci Exot. fasc.15
	Apr. 1!	Hooker	n.3	Musci Exot. fasc.16
	<Apr.25	Sturm	n.1	Deutschl.Flora Abt.2 fasc.17
	<Apr.30	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.26
	May 1!	Hooker	n.3	Musci Exot. fasc.17
	Jul. 1!	Hooker	n.3	Musci Exot. fasc.18
	Sep. 1!	Hooker	n.3	Musci Exot. fasc.19
	Oct. ?	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.5
	Nov. 1!	Hooker	n.3	Musci Exot. fasc.20
	Dec. 1!	Hooker	n.3	Musci Exot. fasc.21
1820	Apr.16!	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.27
	May 1!	Hooker	n.3	Musci Exot. fasc.22, 23
	<Oct.15	Dietrich, F.G.	n.2	Vollst.Lexic.Gärtn.Bot. ed.2, vol.1
	<Nov.	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.6
	<Dec.21	Funck	n.3	Deutschl.Moose
	Jan.-Dec.	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Rhen. fasc.7
	Jan.-Dec.	Nees, T.F.I.	n.1	De Musc.Propag.Comment.
1821	<May 10	Hooker	n.4	Fl.Scotica
	May	Greville	r.1-3	[in] Memoirs Wernerian Nat.Hist.Soc.
	<Jun.28	Steudel	n.1	Nomencl.Bot. part 1
	<Jul.15	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.7
	Aug.-Nov.15	Zenker & Dietr.	n.1	Musci Thuring. fasc.1
1822	Jan.?	Bridel	n.4	Meth.Nov.Musc.Mant., "Leipzig"
	Mar.23	Eaton	n.3	Man.Bot. ed.3
	<Apr.22	Grev. & Arnott	n.1	Tent.Meth.Musc. mem.1 [separate]
	<May ?	Cassebeer	n.1	Wetterauische Laubm. Decurie 3
	Jun.	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.8
	Jun.	Zenker & Dietr.	n.1	Musci Thuring. fasc.2
	Jul. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.1
	Aug. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.2
	Aug. [1]	Hooker	n.6	Exot.Fl. fasc.1
	Aug.	Greville	n.4	Descr.New Spec.Grimmia
	Aug.	Grev. & Arnott	n.2	New Arrang.Gen.Mosses 1 [period.]
	Sep. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.3
	Jun.-Sep.29	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.28
	Oct. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.4
	Nov. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.5
	Dec. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.6
	Dec. 1!	Hooker	n.6	Exot.Fl. fasc.2
	<Dec.10	Kunth	n.1	Syn.Pl.Aequin. vol.1
		Hooker	n.5	Fungi, ... Musci
	Jan.-Dec.	Breutel	n.1	Musci Frond.Exsicc. Centur.1
	Jan.-Dec.	Hornschuch	n.1	Ptychostomum Nov.Musc.Gen.
	Jan.-Dec.	Perleb	n.1	Consp.Meth.Plant.Mat.
	Jan.-Dec.	Schultz, C.F.	n.1	Spec.Nonn.Nov.Barbul.Gen.

1823	Jan. 1	Greville	n.5	Scott.Crypt.Fl. fasc.7
	Feb. 1	Greville	n.5	Scott.Crypt.Fl. fasc.9
	Mar. 1	Greville	n.5	Scott.Crypt.Fl. fasc.9
	<Apr. 1	Kunth	n.1	Syn.Pl.Aequin. vol.2
	Apr. 1	Greville	n.5	Scott.Crypt.Fl. fasc.10
	Apr. 1	Hooker	n.6	Exot.Fl. fasc.3
	<Apr. 15	(Nees, C.G., Horn- schuch & Sturm	n.1	Bryol.Germ. vol.1
	May 1	Greville	n.5	Scott.Crypt.Fl. fasc.11
	Jun. 1	Hooker	n.6	Exot.Fl. fasc.4
	Jun. 1	Greville	n.5	Scott.Crypt.Fl. fasc.12
	<Jul. 1	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.29
	Jul. 1	Greville	n.5	Scott.Crypt.Fl. fasc.13
	<Jul. 1?	(Reinwardt & C.G.Nees	n.1	Spiridens, Nov.Musc. ... Gen.
	<Jul. 1?	Schultz, C.F.	n.2	Recensio Gen.Barbul.Syntrich.
	<Jul. 15	Zenker & Dietr.	n.1	Musci Thuring. fasc.3
	Aug. 1	Greville	n.5	Scott.Crypt.Fl. fasc.14
	<Aug. 15	Dietrich, F.G.	n.3	Nachtr.Vollst.Lexic.Gärtn.Bot. vol.9
	Sep. 1	Greville	n.5	Scott.Crypt.Fl. fasc.15
	<Sep. 23	Baron	n.1	Fl.Dép.Mérid.France
Jan.-Sep.		Schwaegrichen	n.1	Spec.Musc.Suppl.2 [vol.] 1(1)
	Oct. 1	Greville	n.5	Scott.Crypt.Fl. fasc.16
	Nov. 1	Greville	n.5	Scott.Crypt.Fl. fasc.17
	<Nov. 30	Cassebeer	n.2	Ueb.Entw.Laubm.
	Dec. 1	Greville	n.5	Scott.Crypt.Fl. fasc.18
	Dec. 1	Hooker	n.6	Exot.Fl. fasc.5
	<Dec. 18	Grev. & Arnott	n.1	Tent.Meth.Musc. mem.2 [separate]
Nov.-Dec.		Arnott	n.2	Sur quelques mousses de Rio de Janeiro
	Dec.	Pal.Beauv.	n.1,2	Muscologie
May >Dec.		Brown, R.	n.1	Chloris Melvill.
1824	Jan. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.19
	Jan. [1]	Hooker	n.6	Exot.Fl. fasc.6, vol.1, title
	<Jan. 15	Arnott	n.3	Notice Journ.Voyage Rio Jan. Peru [separate]
	Feb. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.20
	Feb. [1]	Hooker	n.6	Exot.Fl. fasc.7
	Feb. 28	Kunth	n.1	Syn.Pl.Aequin. vol.3
	<Mar.	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Rhen. fasc.8
	Mar. 1	Greville	n.5	Scott.Crypt.Fl. fasc.21
	Mar. 1	Hooker	n.6	Exot.Fl. fasc.8
	<Mar. 23	Greville	n.6	Fl.Edinens.
	Apr. 1	Greville	n.5	Scott.Crypt.Fl. fasc.22
	Apr. 1	Hooker	n.6	Exot.Fl. fasc.9
	May 1	Greville	n.5	Scott.Crypt.Fl. fasc.23
	May 1	Hooker	n.6	Exot.Fl. fasc.10
	<May 21	Arnott	n.4	Notice Journ.Voyage Rio Jan. Peru [period.]
	<May 21	Grev. & Arnott	n.3	Tent.Meth.Musc. 2 period.
	Jun. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.24
	Jun. [1]	Hooker	n.6	Exot.Fl. fasc.11
	Jul. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.25
	Jul. [1]	Hooker	n.6	Exot.Fl. fasc.12
	Jul. [1]	Hooker & Grev.	n.1	Sketch ... Orthotrichum [period.]
May	<Jul. 10	Desvaux	n.1	Expos.Méth.Genr.Mouss.
	Jul. 28!	Breutel	n.2	Beitr.Moosg.Sphagnum
	Jul. 28!	Nees, C.G.	n.2	Nachschr. Breut. Beitr.Moosg.Sphagnum
	<Aug.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.30
	Aug. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.26
	Aug. [1]	Hooker	n.6	Exot.Fl. fasc.13
	<Sep. ?	Dietrich, F.G.	n.4	Bericht.Bemerk.Inh.Vollst.Lexic.
	Sep. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.27
	Sep. [1]	Hooker	n.6	Exot.Fl. fasc.14

1824	<Oct.	Drummond, T.	n.1	Musci Scot. vol.1
	Oct. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.28
	Oct. [1]	Hooker	n.6	Exot.Fl. fasc.15
	Oct. [1]	Hooker & Grev.	n.2	On Genus Tortula
Sep.-Oct.27		Steudel	n.1	Nomencl.Bot. part 2
<Nov.		Dietrich, F.G.	n.2	Vollst.Lexic.Gärtn.Bot. ed.2, vol.2
Nov. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.29
Nov. [1]		Hooker	n.6	Exot.Fl. fasc.16
Dec. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.30
Dec. [1]		Hooker	n.6	Exot.Fl. fasc.17
Dec.24!		Bruch	n.1	Verz.Laubm.Zweibrück.
Dec.late		Desmazières	n.1	Pl.Crypt.Nord France [pref.]
Jan.-Dec.		Schwaegrichen	n.1	Spec.Musc.Suppl.2 vol.1(2)
Feb.-Dec.		Eaton	n.4	Man.Bot. ed.4
1825	Jan. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.31
	Jan. [1]	Hooker	n.6	Exot.Fl. fasc.18
	Jan.28	Funck	n.4	Moose Umgebung Bayreuth
	Jan.	Desmazières	n.1	Pl.Crypt.Nord France fasc.1
	Jan.?	Nees, T.F.L.	n.2	Beobacht.Entw.Laubm.
<Feb.?		Dietrich, F.G.	n.3	Nachr.Vollst.Lexic.Gärtn.Bot. vol.10
Feb. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.32
Feb. [1]		Hooker	n.6	Exot.Fl. fasc.19
Feb. 7!		Hornschuch	n.3	Diagn.Neuer Laubm.
<Feb.28		Sprengel	n.1	Syst.Veg. vol.1
Mar. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.33
Mar. [1]		Hooker	n.6	Exot.Fl. fasc.20
<Apr. 1		Drummond, T.	n.1	Musci Scot. vol.2
Apr. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.34
Apr. [1]		Hooker	n.6	Exot.Fl. fasc.21
Apr. [1]		Hooker & Grev.	n.3,4	On Genus Hookeria [period., separate]
*Apr. 5		v.Hall	n.1	Fl.Belg.Septentr. vol.1(1)
Apr.14!		Hornschuch	n.4	Beitr.Gesch.Fortschr.Kenntn.Moose [1]
Apr.21!		Hornschuch	n.4	Beitr.Gesch.Fortschr.Kenntn.Moose [2]
Apr.28!		Hornschuch	n.5	Corresp. [Über Brown Fl.Melv.Insel]
May [1]		Greville	n.5	Scott.Crypt.Fl. fasc.35
May [1]		Hooker	n.6	Exot.Fl. fasc.22
May 1-10?		Wahlenberg	n.1	Fl.Suec. part 1
May 14!		Bruch	n.2	Bemerk.Phascum altern., subul., globif.
May 25!		Fries	n.1	Stirp.Agr. Fems. [1]
May 28!		Funck	n.5	Corresp.
Jan.-May		Sprengel	n.1	Syst.Veg. vol.2
Jun. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.36
Jun. [1]		Hooker	n.6	Exot.Fl. fasc.23
Jun.11!		Fries	n.1	Stirp.Agr. Fems. [2, 3]
Jun.16!		Fries	n.1	Stirp.Agr. Fems. [4]
Jun.		Savi	n.1	Bot.Etrusc. vol.4
<Jul. 1		Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.31
Jul. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.37
Jul. [1]		Hooker	n.6	Exot.Fl. fasc.24
<Jul. 2		Arnaud	n.1	Fl.Dép.Haute-Loire
Aug. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.38
Aug. [1]		Hooker	n.6	Exot.Fl. fasc.25
<Aug. 6		Lorey & Duret	n.1	Cat.Pl.Cote-d'-Or
<Aug.20		Demerson	n.1	Bot.Ensign.22 Leçons
Sep. [1]		Greville	n.5	Scott.Crypt.Fl. fasc.39
Sep. [1]		Hooker	n.6	Exot.Fl. fasc.26, vol.2, title
Mar.-Sep.21		Reyger	n.1	Um Danzig Wildw.Pfl. ed.2, vol.1 [ed.Weiss]
<Oct. 1		Brown, R.	n.2	Vermischte Bot.Schrift. vol.1
<Oct. 1		Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.1
<Oct. 1		Oken	n.1	Lehrb.Naturgesch. vol.2(21)
Feb.-Oct. 1		Re	n.1	Fl.Torin. vol.1

1825	Oct. 1	Greville	n.5	Scott.Crypt.Fl. fasc.40
	Oct. 1	Hooker	n.6	Exot.Fl. fasc.27
	Oct. 1	Hooker & Grev.	n.5	On Genus Calymperes
	Oct. 7	Kneiff	n.1	Standort Zygodon conoid.
	Oct. 28	Bruch	n.3	Ueber Sphagna
	<Nov.	Presl, K.B.	n.1	Reliq.Haenkean. fasc.1
	Nov. 1	Greville	n.5	Scott.Crypt.Fl. fasc.41
	Nov. 1	Hooker	n.6	Exot.Fl. fasc.28
	Nov. 7	Fröhlich	n.1	Pfl. ... Stech in Lechthale ... Gebirg
	Dec. 1	Greville	n.5	Scott.Crypt.Fl. fasc.42
	Dec. 1	Hooker	n.6	Exot.Fl. fasc.29
	Jan.-Dec.	Baxter	n.1	Stirp.Crypt.Oxon. fasc.1
	Jan.-Dec.	Kneiff & Märker	n.1	Musci Frond.Alsat. fasc.1
	Jan.-Dec.	Zenker & Dietr.	n.1	Musci Thuring. fasc.4
	Mar.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.2
	Mar.-Dec.	Pernitzsch	n.1	Fl.Deutschl.Wäld.
	28 May -Dec.	Buch	n.1	Phys.Beschr.Canar.Inseln (except pls.)
	Jul.-Dec.	Hornschuch	n.7	[Rev.Schwaegr.Suppl.2 [vol.]1(1)]
1826	Jan. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.43
	Jan. 1	Hooker	n.6	Exot.Fl. fasc.30
	<Jan. 3	Greville	n.7	Descr. 2 New Musci
			n.8	Descr. 2 New Musci, Addendum
	<Jan. 3	Grev. & Arnott	n.4	Tent.Meth.Musc. 3 [period.]
	<Jan. 16	Kunth	n.1	Syn.Pl.Aequin. vol.4
	<Jan. 25	v.Hall	n.1	Fl.Belg.Septentr. vol.1(2)
	Jan. ?	Grev. & Arnott	n.1	Tent.Meth.Musc. memoir 3 [separate]
	Jan. ?	Opiz	n.1	Nachtr.Böhm.Phan.Krypt.Gew.
	Feb. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.44
	Feb. [1]	Hooker	n.6	Exot.Fl. fasc.31
	Jan.-Feb. 5	Arnott	n.5	Disp.Méth.Esp.Mousses 4° [separate]
	Feb. 14	Breutel	n.3	Einige Vergl.Bemerk.Phascum, Gymnostomum,
	Jan.-Feb.	Sprengel	n.1	Syst.Veg. vol.3
	Mar. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.45
	Mar. [1]	Hooker	n.6	Exot.Fl. fasc.32
	Mar. 21	Bruch	n.4	Bryol.Beobacht.
	<Apr.	Bridel	n.5	Bryol.Univ. vol.1 (without pref. or suppl.)
	<Apr.	Brown, R.	n.2	Vermischte Bot.Schrift. vol.2
	<Apr. 1	Demerson	n.2	Bot.Enseign. 22 Leçons ed.2
	<Apr.	Reyger	n.1	Um Danzig Wildw.Pfl. ed.2, vol.2 (ed.Weiss)
	Apr. [1]	Greville	n.5	Scott.Crypt.Fl. fasc.46
	Apr. [1]	Hooker	n.6	Exot.Fl. fasc.33
	Apr. 14	Bruch	n.5	Corresp.
	<Apr. 22	Buch	n.1	Phys.Beschr.Canar.Inseln pls.3-13
	May [1]	Hooker	n.6	Exot.Fl. fasc.34
	May 14	Hochstetter	n.2	Nachtr.Bemerk.Fleisch.Bot.Reise Tyrol
	<May 15	Schwaegrichen	n.1	Spec.Musc.Suppl.2 vol.2(1)
	<May 28	Greville	n.5	Scott.Crypt.Fl. fasc.47
	May ?	Cassebeer	n.3	Ueb.die leichteste Meth. ...
	Jan.-May ?	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Rhen. fasc.9
	<Jun.	Desmazières	n.1	Pl.Crypt.Nord France fasc.3
	Jun. [1]	Hooker	n.6	Exot.Fl. fasc.35
	<Jun. 28	Lamouroux	n.1	Résumé Compl.Bot. vol.1
	Apr.-Jun.	Ramond	n.1	État Vég.Pic du Midi
	28 Jul.-Jul. ?	Wahlenberg	n.1	Fl.Suec. part 2
	Jul.	Greville	n.5	Scott.Crypt.Fl. fasc.49
	<Aug. 5	Chevallier	n.1	Fl.Gén.Envir.Paris vol.1, pls.1-18
	<Aug. 9	Arnott	n.8	Nouv.Disp.Méth.Esp.Mouss. 8° separate
		Kittel	n.2	Mémoires Hist.Nat.
	<Aug. 9?	Arnott	n.7	Nouv.Disp.Méth.Esp.Mouss. 8° period.
		Kittel	n.1	Rapport Nouv.Disp. Arnott 8° period.
	Aug. 30	Lamouroux	n.1	Résumé Compl.Bot. vol.2
	Aug.	Arnott	n.3, 10	Tour S.France Pyren. [1]
	Aug.	Greville	n.5	Scott.Crypt.Fl. fasc.50

1826	<Sep.23	Gaudichaud	n.1	Voyage ... Uranie fasc.1
	Sep.	Greville	n.5	Scott.Crypt.Fl. fasc.51
27 May	-Oct. 1	Drummond, J.L.	n.1	First Steps Bot.
	<Oct.14	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.32
	<Oct.28	Perleb	n.1	Lehrb.Naturgesch.Pfl.
Jan.-Oct.		Demerson	n.4	Bot.Insegn. 22 Lezioni
	Oct.	Arnott	n.9,10	Tour S.France Pyren. [2]
	Oct.	Greville	n.5	Scott.Crypt.Fl. fasc.52
Apr.-Nov. 8		Arnott	n.6	Nouv.Disp.Méth.Esp.Mousses 4° period.
Jul.-Nov.		Hooker	n.6	Exot.Fl. fasc.36
	Nov.	Greville	n.5	Scott.Crypt.Fl. fasc.53
	<Dec. 7	Steudel & Hochst.	n.1	Enum.Pl.Germ.Helv.Indig.
	<Dec. 9	Brébisson	n.1	Mouss.Normand. fasc.1
	<Dec.27	Gaudichaud	n.1	Voyage ... Uranie fasc.2
Jan.-Dec.		Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.2
Jan.-Dec.		Savi	n.2	Scelta Gen.Piante
Jan.-Dec.		Sommerfelt	n.1	Cent.Pl.Crypt.Norveg. Centur.1
Jan.-Dec.		Martinov	n.1	Slov.Rod.Rast.
Jan.-Dec.		Oken	n.1	Lehrb.Naturgesch. vol.2(2 ²)
12 Feb.-Dec.		Re	n.1	Fl.Torin. vol.2(1)
13 Mar.-Dec.		Sommerfelt	n.2	Suppl.Fl.Lappon.
May -Dec.		Desmazières	n.1	Pl.Crypt.Nord France fasc.4
27 Jul.-Dec.		Sauter	n.1	Diss.Inaug.Bot.Territ.Vindobon.
Jul.-Dec.		Nolte	n.1	Novit.Fl.Holsat.
	Dec.	Greville	n.5	Scott.Crypt.Fl. fasc.54
	Dec.	Hooker	n.6	Exot.Fl. fasc.37
1827	Jan. 1!	Hooker & Taylor	n.2	Muscol.Brit. ed.2
	<Jan. 5	Chevallier	n.1	Fl.Gén.Envir.Paris vol.2
	<Jan. 7	Sprengel	n.1	Syst.Veg. vol.4(1)
	<Jan.27	Béheré	n.1,2	Muscol.Rothom. (after 9 Jun.1826)
	Jan.	Greville	n.5	Scott.Crypt.Fl. fasc.55
	Jan.	Hooker	n.6	Exot.Fl. fasc.38, vol.3, title
	Feb.14!	Hochstetter	n.3	Ueb.Leist.Bot.Reisever.
	<Feb.24	Gaudichaud	n.1	Voyage ... Uranie fasc.3
	Feb.	Greville	n.5	Scott.Crypt.Fl. fasc.56
	Mar.21!	Funck	n.6	Corresp.
	Mar.21!	Schultz, C.F.	n.3	Trichostomum laureri
	Mar.28!	Bruch	n.6	Ueber einige Laubmoose
	Mar.	Greville	n.5	Scott.Crypt.Fl. fasc.57
	<Apr.25	de Candolle, A.R.	n.1	Organogr.Vég.
	Apr.	Arnott	n.9,10	Tour S.France Pyren. [3]
	Apr.	Greville	n.5	Scott.Crypt.Fl. fasc.58
	Apr.	(Nees, C.G., Hornschuch & Sturm	n.1	Bryol.Germ. vol.2(1)
	<May 15	Sprengel	n.1	Syst.Veg. vol.4(2)
	May 19!	Fries	n.1	Stirp.Agr. Fems. [5]
	May 21!	Laurer	n.1	Beitr.Krypt.Fl.Rügen
	<May 22	Lestiboudois	n.1	Botanogr.Belg.
	May	Greville	n.5	Scott.Crypt.Fl. fasc.59
	May ?	Schwaegrichen	n.1	Spec.Musc.Suppl.2 vol.2(2)
	<Jun. 2	Camessèdes	n.1	Enum.Pl.Ins.Balear. [separate]
	Jun. 2!	Fries	n.1	Stirp.Agr. Fems. [6]
	<Jun.13	Gaudichaud	n.1	Voyage ... Uranie fasc.4
	<Jun.2-27	Camessèdes	n.2	Enum.Pl.Ins.Balear. [period.]
May	-Jun.30	Desvaux	n.2	Prodr.Fam.Fougères [part 1]
	Jun.	Greville	n.5	Scott.Crypt.Fl. fasc.60
	<Jul.25	Demerson	n.3	Bot.Enseign. 22 Leçons ed.3
	Jul.	Greville	n.5	Scott.Crypt.Fl. fasc.61
	Aug.28!	Hoppe	n.1	Bemerk.Pfl.Deutschl. [1]
	Aug.	Arnott	n.9,10	Tour S.France Pyren. [4]
	Aug.	Greville	n.5	Scott.Crypt.Fl. fasc.62
	Sep. 7!	Hoppe	n.1	Bemerk.Pfl.Deutschl. [2]

- 1827 <Sep.12 Gaudichaud n.1 Voyage ... Uranie fasc.5
 Jul.-Sep.20 Desvaux n.2 Prodr.Fam.Fougères part 2
 Sep.28! Hoppe n.1 Bemerk.Pfl.Deutschl. [3]
 Sep. Greville n.5 Scott.Crypt.Fl. fasc.63
 Oct. 1 Brown, R. n.2 Vermischte Bot.Schrift. vol.3
 Oct. Arnott n.9,10 Tour S.France Pyren. [5]
 Oct. Greville n.5 Scott.Crypt.Fl. fasc.64
 Nov. 7! Hoppe n.1 Bemerk.Pfl.Deutschl. [4]
 <Nov.14 Becker n.1 Fl.Geg.Frankf.a.M. sect.1
 Oct.<Nov.21 Balbis n.3 Fl.Lyonn. vol.1(1)
 <Nov.21 Balbis n.3 Fl.Lyonn. vol.1(2)
 <Nov.21 Bridel n.5 Bryol.Univ. vol.1 (pref., suppl.), vol.2
 Nov. Greville n.5 Scott.Crypt.Fl. fasc.65
 Dec. 8! Fries n.1 Stirp.Agri Fems. [7]
 <Dec.14 Funck n.1 Crypt.Gew.Fichtelgeb. fasc.33
 Dec. Greville n.5 Scott.Crypt.Fl. fasc.66
 Jan.-Dec. Desmazières n.1 Pl.Crypt.Nord France fasc.5, 6
 Jan.-Dec. Kneiff & Märker n.1 Musci Frond.Alsat. fasc.7
 Jan.-Dec. Presl, K.B. n.1 Reliq.Haenkean. vol.1(2)
 Jan.-Dec. Re n.1 Fl.Torin. vol.2(2)
 Jan.-Dec. Re n.2 Ad Fl.Pedemont.Append.Alt.
 Jan.-Dec. Schultz, C.F. n.4 Observ.Bryol.
 Jan.-Dec. Sommerfelt n.1 Cent.Pl.Crypt.Norveg. Centur.2
 Jan.-Dec. Sommerfelt n.3 Bemaerkn.Suppl.Fl.Lapon.
 Oct.-Dec. Hornemann n.1 Nomencl.Fl.Dan
 Nov.-Dec. Schwaegrichen n.1 Spec.Musc.Suppl.3 vol.1(1)
 6 Nov.-Dec. Greville n.9 Some Acc.Crypt.Pl.Ionian Isls.
 Dec.8-31 Fries n.2 Stirp.Agri Fems. Index [re-issue]
- 1828 Jan. Arnott n.9,10 Tour S.France Pyren. [6]
 Jan. Greville n.5 Scott.Crypt.Fl. fasc.67
 Jan. ? Fürnrohr n.1 Versuch Beleucht.Disp.Méth.
 Jan. ? Hornschuch n.8 Berichtigung
 <Feb.23 Gaudichaud n.1 Voyage ... Uranie fasc.6
 Feb. Greville n.5 Scott.Crypt.Fl. fasc.68
 Mar. Greville n.5 Scott.Crypt.Fl. fasc.69
 Mar. Hornschuch n.9 [Rev.Brid.Bryol.Univ.]
 Apr. Arnott n.9,10 Tour S.France Pyren. [7]
 Apr. Greville n.5 Scott.Crypt.Fl. fasc.70
 Apr. Hornschuch n.10 [Rev.Arnott Disp.Méth.]
 May Greville n.5 Scott.Crypt.Fl. fasc.71
 Jun. Greville n.5 Scott.Crypt.Fl. fasc.72
 May -Jul. 5 Balbis n.3 Fl.Lyonn. vol.2
 Jun.-Jul. de Candolle, A.P. n.3 Organogr.Gewächse
 <Aug.16 Gaudichaud n.1 Voyage ... Uranie fasc.7
 Jul.-Aug. Sprengel n.1 Syst.Veg. vol.5
 <Sep.27 Brébisson n.1 Mouss.Normand. fasc.2
 Oct. Arnott n.9,10 Tour S.France Pyren. [8]
 <Dec. Schwaegrichen n.1 Spec.Musc.Suppl.3 vol.1(2)
 Dec.27 Gaudichaud n.1 Voyage ... Uranie fasc.8
 Jan.-Dec. Baxter n.1 Stirp.Crypt.Oxon. fasc.2
 Jan.-Dec. Desmazières n.1 Pl.Crypt.Nord France fasc.7
 Jan.-Dec. Drummond, T. n.2 Musci Americ. Exsicc.
 Jan.-Dec. Presl, K.B. n.1 Reliq.Haenkean. vol.1(3)
 Jul.-Dec. Funck n.1 Crypt.Gew.Fichtelgeb. fasc.34
 28 Sep.-Dec. Becker n.1 Fl.Geg.Frankf.a.M. sect.2
- 1829 Jan. Schwaegrichen n.1 Spec.Musc.Suppl.3 vol.2(1)
 <Apr.18 Brébisson n.1 Mouss.Normand. fasc.3
 Apr. Arnott n.9,10 Tour S.France Pyren. [9]
 Easterfair Sturm n.1 Deutschl.Fl. Abt.2 fasc.18
 <Jul.18 Gaudichaud n.1 Voyage ... Uranie fasc.9

1829	<Sep. 12	Gaudichaud	n.1	Voyage ... Uranie fasc.10
	<Sep. 25	Eaton	n.5	Man.Bot. ed.5
	<Nov. 28	Gaudichaud	n.1	Voyage ... Uranie fasc.11
	<Dec. 21	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.35
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.8
	Jan.-Dec.	{ Reinwardt & Hornschuch	n.1	Musci Frond.Javanici
1830	<Mar. 6	Gaudichaud	n.1	Voyage ... Uranie fasc.12
	<Mar. 13	Gaudichaud	n.1	Voyage ... Uranie Expl.Pl.
	<Apr. 10	Brébisson	n.1	Mouss.Normand. fasc.4
	Apr.	Greville	n.10	Descr.New Mosses S.Amer.
	<Jul. 1	Presl, K.B.	n.1	Reliq.Haenkean. vol.1(4/5)
	Oct.-Nov. ?	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.19/20
	Jan.-Dec.	Brown, R.	n.2	Vermischte Bot.Schrift. vol.4
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.9, 10
	Jan.-Dec.	Schwaegrichen	n.1	Spec.Musc.Suppl.3 vol.2(2)
1831	Jan.-Jun.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.36
	<Nov. 1	{ Nees, C.G., Horn- schuch & Sturm	n.1	Bryol.Germ. vol.2(2)
	Jan.-Dec.	Brébisson	n.1	Mouss.Normand. fasc.5
	Jan.-Dec.	Buch	n.1	Phys.Beschreib.Canar.Inseln pl.1
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.11
	Jan.-Dec.	Presl, K.B.	n.1	Reliq.Haenkean. vol.2(1)
1832	<Sep.	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.21
	Sep.	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.22/23
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.12
	Jan.-Dec.	Kneiff & Märker	n.1	Musci Frond.Alsat. fasc.9, 10
	20 Jun.-Dec.	v.Hall	n.1	Fl.Belg.Septentr. vol.2(1)
	Sep.-Dec.	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.24
1833	Jan.	Funck	n.	Crypt.Gew.Fichtelgeb. fasc.37
	<Mar.	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.25, vol.5, title
	<Mar. 2	Brébisson	n.1	Mousses Normand. fasc.6
	22 May -Jun. 3	Eaton	n.6	Man.Bot. ed.6
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.13
1834	15 Jan.-Mar. 12	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.3
	<May 1	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Phen. fasc.10
	Jan.-Dec.	Brown, R.	n.2	Vermischte Bot. Schriften vol.5
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.Nord France fasc.14, 15
1835	Apr.	Roffavier	n.1	Suppl.Fl.Lyonn.Balbis
	<Jul. 11	Presl, K.B.	n.1	Reliq.Haenkean. vol.2(2)
	Jul.-Sep.	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.26/27
	<Oct. 30	Sturm	n.1	Deutschl.Fl. Abt.2 fasc.28/29
	<Dec. 28	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.38
	Jan.-Dec.	Brébisson	n.1	Mouss.Normand. fasc.7
	14 Nov.-Dec.	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.4
1836	<Jan. 10	v.Hall	n.1	Fl.Belg.Septentr. vol.1(3)
	<Apr. 2	Chevallier	n.2	Fl.Gén.Envir.Paris ed.2
	May 18	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.39
	*Jun. 8	Eaton	n.7	Man.Bot. ed.7
	11 May -Jul. 13	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.5
	<Oct.	Desmazières	n.1	Pl.Crypt.Nord France fasc.16
	<Oct.	Desmazières	n.1	Pl.Crypt.France fasc.17
	Jan.-Dec.	Desmazières	n.2	Pl.Crypt.France [ed.2] fasc.1
1837	Jan.-Mar.	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.6
	Mar.	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.40
	Jan.-Dec.	Arnott	n.11	Nouv.Disp.Méth.Esp.Mouss. (re-issue Saumaises)
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.France fasc.18
	Jan.-Dec.	Saumaises	n.1	Cours Agric.Bot.Hist.Nat.

1838	<Apr.30	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.7
	<Sep. 1	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.8
	Jan.-Dec.	Desmazières	n.1	Pl.Crypt.France fasc.19
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	3 Dec.-Jan.7,1839	Funck	n.1	Crypt.Gew.Fichtelgeb. fasc.41, 42
1839	<Mar. 7	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.9
	<Apr.20	Brébisson	n.1	Mouss.Normand. fasc.8
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1840	<Oct.15	Dietrich, F.G.	n.5	Neuer Nachtr.Vollst.Lexic. vol.10
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	Jan.-Dec.	Mougeot & Nestl.	n.1	Stirp.Crypt.Vog.Rhen. fasc.11
1841	Feb.14	v.Hall	n.1	Fl.Belg.Septentr. vol.2(2)
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1342	Jan.15-18	Schwaegrichen	n.1	Spec.Musc.Suppl.4(1)
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1853	Jan.-Dec.	Desmazières	n.3	Pl.Crypt.France [ed.3] fasc.1
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