ADDENDA, CORRIGENDA ET EMENDANDA

As has been done in Series I, Flowering Plants, it seems useful to complete the volume with worthwhile additions and corrections.

Page numbers are provided with either a or b denoting the left and right columns respectively.

Gleicheniaceae

13b *Gleichenia volubilis* var. *peninsularis.*
Replace by the following:

7a. *Gleichenia gigantea* WALL. *ex HOOK.*

G. glauca auct. non (THUNB.) *HOOK.;* *BEDD.* Handb. (1883) 2, *quoad pl. Ind.*

Differs from *G. volubilis* *JUNGH.* of Java and Sumatra as follows: lower surface of lamina distinctly glaucous; stipular leaflets branched and more deeply lobed; scales on lower surface of rachis and costae rusty brown like the felt of stellate hairs.

Distr. N.E. India at c. 1500 m; Vietnam; N. Thailand; in malesia still only known from the collection cited from the Malay Peninsula.

Note. Apart from the copious scales and hairs on rachis and costae this differs little from *G. longissima* BL. Further field study on the higher mountains of Malaya is desirable.

14a *Gleichenia clemensis* (COPEL.) HOLTUM.
Add the following: Stipular leaflets lacking (thus resembling *G. bullata*, p. 13).

20a *Gleichenia reflexipinnula* C. CHR.
Add the following: *BRASS* 30382 from Mt Wilhelm, 2900 m, has ultimate branches to 42 by 4.5 cm with costules 5 mm apart and veins distinctly prominent.

20b *Gleichenia truncata* (WILLD.) SPR. var. *truncata.*
Add the following synonym: *G. bifurcata* BL. *EN. PL. JAV.* (1828) 250.

22a *Gleichenia milnei* BAKER.
Add the following synonym: *Sticherus kajewskii* ST JOHN, *Occ. Pap.* Bishop Mus. 17 (1942) 81.
Add to Distr.: Mindanao (*OLSEN* 986).

22b Insert the following after *Gleichenia erecta:*


Intermediate between *G. erecta* and *G. bolanica* (p. 24). Differs from *G. erecta* as follows: largest lamina-segments on the ultimate branches 8–15 mm long, costules 3–4 mm apart.

34a *Dicranopteris linearis* (BURM. *f.*) *UNDERW.*

var. *ferruginea* (BL.) HOLTUM.

34a *Dicranopteris linearis* var. *subferruginea* (HERON.) NAKAI.
Add the following synonym: *Gleichenia caudata* *COPEL.* Bishop Mus. Bull. 59 (1929) 9.—Type: *GILLESPIE* 4389, Fiji (UC).

35a *Dicranopteris linearis* var. *subsectinata* (CHRIST) HOLTUM.
Add to Distr.: Palawan.

Additional varieties of *Dicranopteris linearis* which need study:

var. *crassifrons* *v. A.V.R.* *Ibld.,* Ternate.

Schizaeaceae

37 *Schizaeaceae*: Fossils.
Add the following: *JENNINGS & EGGERT,* Amer. J. Bot. 59 (1972) 66 state that the anatomy of *Senftenbergia* is like that of *Ankyropteris* and conclude that *Senftenbergia* is not related to *Schizaeaceae.* But the sporangia and spores of *Senftenbergia* are very similar to those of some living *Schizaeaceae*; the latter are certainly much reduced and specialized vegetatively. The subject needs a much more comprehensive study.

39 Cytology of *Lygodium.*
Add the following: *L. longifolium* from Singapore: *n* = 58, tetraploid; *L. salicifolium* from Perak: *n* = 28?, diploid. (Information from I. MANTON, in litt.)

40 *Schizaea* Sm.
Add the generic synonym: *Ripidium* BERNH. in *Schrad.* J. Bot. 1800, pt 2 (1801) 127.

44 *Schizaea malaccana* BAK. *var. robustior* C. CHR.
Add the synonym: *S. robusta* BAK. *Syn.* Fil. (1868) 429.—Type: *HILLEBRAND,* Hawaii (K).

44 *Lygodium* SWARTZ.
Delete the generic synonym *Ripidium* BERNH.

(561)
55b Lygodium flexuosum (L.) Sw.
Add the synonym: Ugena polymorpha CAV. Icones 6 (1801) 75. t. 595, f. 1.

59a Lygodium longifolium (WILLD.) Sw.
Add to Distr.: Palawan.

61b Lygodium versteegii CHRIST.
Add to Distr.: Philippines: Mindanao, Luzon.

Isotaceae

63 Isoetes LINNÉ.
See revision of the genus in New Guinea by J. R. CROFT, Blumea 26 (1980) 177–190, with key, description of new species I. hopei and I. stevensii, and under I. neo-guineensis BAKER a new variety rheophila; also SEM photographs of spores of all species and much new information on vegetative morphology and distribution.

64 Isoetes sp. has been found in Central West Sumatra, in addition to Mindanao and New Guinea the third island where the genus is hitherto discovered in Malesia. Cf. Fl. Males. Bull. 30 (1977) 2767 and J. R. FLENLEY & R. J. MORLEY, J. Biogeogr. 5 (1978) 57–58. It is assumed to be an undescribed species, differing from the Philippine one in the megaspores. The exact locality is on the westside of Mt Kerintji, midway the lakes Sati and Landak Panjang, at c. 2080 m altitude, in small, shallow, muddy depressions in swampy forest, 1°42'S and 101°11'E.

Cyatheaceae

71 Conspectus of the family Cyatheaceae: new comments:
I would now raise the subfamilies to the rank of family, but see no reason for other changes. PICI SERMOLLI (Webbia 31, 1977, 333–334, 423–427) includes all in the order Dicksoniales, with suborders and families thus:

Thyrsopteridinae: Thyrsopteridaceae (Thyrsopteris).

Culcitinae: Culcitaceae (Culcita).

Dicksoniinae: Dicksoniaceae (including Cibotium and Cystodium), Lophosorionae (Lophosoria).

Cyatheinae: Cyatheaceae (Sphaeropteris, Alsophila, Nephelea, Trichopteris, Cyathea, Cnemidaria).

Metaxyinae: Metaxyaceae (Metaxy).

76 Subdivision of the genus Cyathea: recent proposals:
R. M. TRYON (Contr. Gray Herb. 200, 1970, 1–53) has recognized Sphaeropteris BERNH. as a distinct genus, in which he includes the tropical American species mentioned on p. 124 of the present work, and also several others which disagree in scales and sori from the specification on p. 65; in my opinion the latter should be excluded. TRYON limits the genus Cyathea to some tropical American species, distinguishing them from all Malesian species here included in Cyathea subg. Cyathea solely on the lack of a seta at the apex of stipe-scales. He has transferred all Malesian species of Cyathea subg. Cyathea sensu HOLTTUM 1963 to the genus Alsophila (type species A. australis R. BR.).

I agree that subg. Sphaeropteris as defined on p. 76 is clearly distinct from all other members of the family, but I cannot agree that the remaining species, including those of tropical America, are divisible into natural groups on such clearly defined characters. CONANT has shown that hybrids exist between species of different genera as recognized by TRYON, and in one case such hybrids have good spores (Rhodora 77, 1975, 441–455).

All species so far examined, of several different genera as recognized by TRYON (including Sphaeropteris) have the chromosome number 69. This is a very strong indication that Cyathea in the broad sense adopted in Flora Malesiana is a phyletic unity, and I adhere to my recognition of it as a single genus. As Sphaeropteris is the only sub-group separable on well-defined characters, I still place all the rest in a subgenus Cyathea, the further subdivision of which seems to me still uncertain. The species C. australis (R. BR.) DOMIN (type of Alsophila) has spores which differ considerably from those of the majority of Malesian species transferred to Alsophila by TRYON (see GASTONY, Amer. J. Bot. 63, 1976, 754, f. 110 and compare with figures of Malesian species on p. 751).

Taxonomy of Malesian species of Cyathea: Since 1963 many new collections have been made, especially in New Guinea. I have not been able to examine all of these. The following data are based on specimens which have come to my attention; probably more new species remain to be recognized, and new information about many species remains unrecorded.

80 In Key to the species, after lead 77, add:
77a. Pinnules to 22 mm long, bearing free tertiary leaflets.

69a. C. nothofagorum
77a. Pinnules to at least 50 mm long, lacking free tertiary leaflets.

82b Cyathea hunsteiniana BRAUSE.
Add to description: Scales on pinna-rachis
elongate, thin, dull brown with a few marginal setae (Womersley & Vandenberg 37293, Western Highlands, 1500 m).

101a Cyathea oosora Holttum.
Add to Distri.: Pulau Tioman (KLU 19781). The Celebes specimens here included should probably rank as a distinct species; more material is needed.

103b Insert additional species:

Aspect of C. microphylloides and C. perpetuigera (p. 82), having small fronds and pinnate pinnules, differing in (large) hemitelioidi indusia and lack of hairs on lower surface of pinna-rachis and costae, also in scales not bullate.

118b Cyathea biformis (Rosn.) Copel.
Add the following: Pullen 7295 from the Upper Fly River at 100 m has 1–2 pairs on small pinnae (the pinnules of which do not have an incised lamina) near the base of stipes, and unusually large pinnules; sterile pinnules to 9 by 2 cm, fertile to 10 by 1.2 cm.

121b Cyathea lurida (Bl.) Copel.
Add the following: A sterile specimen from a low altitude on limestone near Kuala Lumpur (J. Boey 4, KLU) closely resembles this species but differs in pale brown stipe and rachis. Typical C. lurida occurs only on high mountain ridges.

130b Cyathea sangirensis (Christ) Copel.

135a Cyathea angiensis (Gepp) Dominn.
Add the following note: Stipes always spiny, length of spines 2–7 mm.

138 Key to the species of subsection Fourniera; alter as follows:
7. Scales absent from lower surface of veins.
8. Spines on stipe scattered, 1–3 mm long; oral scales many, covering sorus to maturity . . . . 150. C. tripinntata
8. Spines on stipe copious, to 5 mm long; oral scales not covering sorus at maturity . . . . 150a. C. jacobsii

140b Cyathea tripinntata Copel.
Delete synonym C. arachnoidea (non Hook.) Backer & Posth.

140b After Cyathea tripinntata, insert the following:

This species, occurring in South Sumatra and West Java, differs from C. tripinntata in the characters shown in the above modified key; it also has a different distribution. Specimens named C. arachnoidea in W. Java by Backer & Posthumus (see above) belong to C. jacobsii.

In Key to the species of subsection Schizocoea, lead 13: alter the word 'pinnules' at end of line 2 from bottom to 'segments'.

154 Cyathea rosenstockii Brause.
Add the following: Nakaike 717, Central District, Papua, Woiatpe, 1500 m, has flat pale scales to 4 mm long and dark glossy thick hairs on lower surface of pinna-rachis; costal scales narrow, pale with dark bullose bases, smaller distally; on costules very few small scales.

166a Cibotium barometz (L.) J. Sm.
Add to Distri.: N.E. New Guinea (B. S. Parris in Fern Gaz. 11, 1979, 428).

167 Culcita Presl.
Correction in Cyt.: C. macrocarpa n = 66; C. villosa 2n = 232 (tetraploid with base number 58); from unpublished observations by G. Vida on plants in cultivation at Kew.

Lindsaea-group (Kramer)

182a Sphenomeris biflora (Kaulfuss) Tagawa.

182b Sphenomeris chinesis (L.) Maxon.

186a Tapeinodium denhamii (Hooker) C. Chr.

204b Lindsaea boutilliodii Christ.
For this species Morton (Contr. U.S. Nat. Herb. 38, 1974, 385) made the new combination Lindsaea interrupta (ROXB.) Morton, based on Vittaria interrupta ROXBURGH, referring L. cambodgensis Christ to its synonym (following my earlier misinterpretation of this name: Kramer, Blumea 15, 1967, 563). In view of the gross incompleteness of ROXBURGH'S original description, and of the complete lack of indication of provenance on the label of the specimen regarded as type by Morton, I think it unwise to adopt ROXBURGH'S (and Morton's) names which I prefer to regard as names of uncertain application. The same holds in my opinion for the interpretation of Vittaria lunulata ROXBURGH, despite Morton's assertions to the contrary (I.E. 386).

Lindsaea tetragona Kramer.
This East Malesian–Pacific species, mapped in Pac. Pl. Areas 3 (1975) 340, was
recently collected as far west as the Nicobar Is. (Great Nicobar), and may thus be expected in western Malesia, too.

214b Lindsaea polyctena KRAMER.

216a Lindsaea tenuifolia BLUME.

229a Lindsaea adianthoides J. SMITH.

230a Lindsaea gueriniana (GAUD.) DESVAUX.
For the record from Fiji see BROWNLIE, Pterid. Fl. Fiji (1977) 134.

237 Lindsaea repens (BORY) THWAITES, with varieties.

241b Lindsaea carvifolia KRAMER.
This was placed in sect. Odontoloma of subg. Odontoloma. Its occurrence in Celebes was reported with a ?. A good series of specimens from that island (HENNIPMAN c.s. 5264, L) confirms its presence; furthermore, it shows that simply pinnate as well as bipinnate leaves occur side by side, and that the species should be transferred to sect. Lindsaenium, where it must be placed between L. rosenstockii BRAUSE and L. versteegii (CHRIST) v.A.V.R. In appearance and width of the pinnule segments it is more like the latter but differs in less divergent and usually spathulately broadened segments. It is undoubtedly distinct from both: the simply pinnate leaves are indistinguishable from specimens previously examined. The distinction between sect. Odontoloma and sect. Lindsaenium may require reconsideration.

245a Lindsaea rigida J. SMITH.

245b Lindsaea sarawakensis KRAMER.
This was described from a single, incomplete collection and was only provisionally placed next to L. rigida. Two additional collections from Sarawak, NIELSEN 815 (AAU) and JERMY 14334 (BM, Z), both from Mt Mulu, confirm the taxonomic position assigned to it and provide additional data. The rhizome anatomy and morphology agree with that of Lindsaea subg. Odontoloma sect. Lindsaenium, and the difference from L. rigida, as given in the key (p. 203), proves to be constant. Further additional data: petiole to c. 35 cm long; rhizome 1–1.5 mm diam., long-creeping, castaneous; scales very much like those of L. rigida. Fertile pinnae always with a short apical sorus only.
ADDENDA, CORRIGENDA ET EMENDANDA 2

81 At couplet 101 in key delete '94, C. incisoserrata', and insert afterwards:
101a. Apex of stipe-scales setiform; bullate scales on costules dull brown, smooth
     94. C. incisoserrata
101a. Apex of stipe-scales not setiform; bullate scales on costules almost white, clathrate. 94a. C. decurrens

113a After 94. C. incisoserrata, insert:
     TUM, Blumea 12 (1964) 248.—Alsophila decurrens HOOK. Spec. Fil. 1 (1844) 51.—
     Type: NIGHTINGALE s.n., Pacific (K).

     Stipe-scales broad, castaneous with broad paler margins, apex broadly rounded or ±
     attenuate, not setiform; pinnules-lobes oblique, almost all free but decurrent, all
     deeply lobulate; costules covered beneath with almost white clathrate bullate scales;
     indusia very small, hidden by sporangia.


     Note. Collected in New Ireland at 2300 m (CROFT 301); on other islands found at
     much lower altitudes. CROFT’s specimen differs from others in its firmer bullate scales
     and in lacking the thick white hairs which are usually ± abundant on the lower surface
     of costae in this species; it may represent a distinct variety. C. decurrens and allied
     Pacific species have stipe-scales like those of the Neotropic species to which TRYON
     limits the genus Cyathea; no other known Paleotropic species have this character.

265 Teratophyllum METT. ex KUHN.
     Add to Distr.: Ceylon.

266 Teratophyllum, section Teratophyllum.
     Add to Distr.: Ceylon.

269b Teratophyllum aculeatum (BL.) METT. ex KUHN.
     Add to Distr.: Ceylon; rare, first collected by THWAITES, recently recollected in Sin-
     haraja Forest, KOSTERMANS 27853, Oct. 1979 (L).

325a- Bolbitis, series Heteroclitae.

326b HENNIPMAN has reduced some taxa which I regard as species, notably B. sim-
     plicifolia (HOLTUM) CHING, B. malaccensis (C. CHR.) CHING and B. nitens
     alternative opinion.

361b Coryphopteris gymnopoda (BAK.) HOLT-
     TUM var. bintangensis HOLTUM.
     Add to the description: The type has many such hairs but recent collections by A. G.
     PIGGOTT on Gunong Ulu Kali (Genting Highlands) at 1830 m show much variation.
     Specimens from Borneo are all quite glabrous between veins.

393b Line 7 from bottom: Dryopteris penangiana
     (HOOK.) C. CHR. was based on Polypodium
     penangianum HOOK. The type of this was a
     WALLICH specimen which bore the locality
     Penang, but the species is otherwise only
     known from northern India, so I am sure it
     was wrongly localized. I did not know any-
     thing about this species when I wrote my
     book on Malayan ferns.

452a Dryopteris perakensis was based on Aspi-
     dium perakensis BEDD., a species I could not
     account for and omitted from my book on
     Malayan ferns. I could not find a type in Kew
     herbarium, but some years later it was found,
     among other BEDDOME specimens, in the
     basement. It is based on an immature plant of
     Sphaerostephanos polycarpus mixed with a
     small fragment of a fertile pinna from an-
     other plant, an aberrant Christella. VAN
     ALDERWERELT VAN ROSENBURGH of
course misinterpreted it.

494b Sphaerostephanos mutabilis (BRAUSE)
     HOLTUM. Add:
     Note. This is near S. aquatilis (no. 44),
     differing in narrower pinnae, veins free, and
     lower surface quite glabrous; the two should
     perhaps be united.

502b Sphaerostephanos invisus (FORST. f.)
     HOLTUM.
     Add to Ecol.: less commonly to 1000 m.