FLORAE MALESIANAE PRECURSORES XVII
NOTES ON MALAYSIAN AND SOME S.E. ASIAN CYPERACEAE V

by

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I. MAPANIA HOLTUMII


When publishing the name Mapania insignis for a species occurring in the Malay Peninsula, Holttum overlooked the existence of the earlier homonym Mapania insignis Sandw. for a different species from British Guyana. I therefore propose to replace the illegitimate binomial by that of Mapania holttumii.

II. SOME NOTES ON PARAMAPANIA

No doubt it is one of the great merits of Uittien to have recognized the close relationship existing among a number of species formerly referred to Mapania, Thoracostachyum, or Hypolytrum. He created for them a new genus, Paramapania, in Rec. Trav. Bot. Néerl. 32, 1935, 184—192, certainly a coherent group, though difficult to characterize in a satisfactory way. As I can not claim acquaintance with the extra-Malaysian members of the tribe Mapanieae, I follow Uittien in crediting generic rank to Paramapania for the time being. A future monographer of the Mapanieae will first of all be confronted with the question as to which of the numerous genera created in the course of time can be maintained. Very likely a definite solution will be unattainable by herbarium study only.

The flowers of Paramapania are in structure very similar to those of Thoracostachyum and Mapania, but generally somewhat more reduced as the third (anticous) hypogynous scale is usually lacking and consequently there are only two stamens. When the third scale is present it is as a rule smaller than the upper ones and sterile. However, occasionally there may be a stamen in its axil, usually less developed than the other two. The relatively coarse brown spinules on the keel of the two outermost (lateral) scales are characteristic of Paramapania, the corresponding scales in Mapania and Thoracostachyum being softly ciliate on the back. From Thoracostachyum and Mapania sect. Cephaloscirpus the species of Parama-
Paramania may readily be distinguished by the lateral leafless scapes. However, it is practically impossible to distinguish between Paramania and the scapigerous species of Hypolytrum and Mapania by their habit alone. Especially some African Hypolytra (e.g. H. nudicaule Chem. from Madagascar) are very similar in habit to Paramania parvibractea (Clarke) Utt., but the number of hypogynous scales is that of Hypolytrum, i.e. reduced to two. As a rule the spikelets and flowers in Mapania are much larger than in Paramania, and the fruits more drupaceous by the fleshy or spongy thick exocarp. Mapania monostachya Utt. is very similar to Paramania gracillima (Kük. & Merr.) Utt. by its very narrow leaves and spikelets only 6—10 mm long, but the flower-structure and the drupaceous fruit are distinctly those of Mapania.

1. Paramania attenuata S. T. Blake, J. Arn. Arb. 28, 1947, 210, is said to be most nearly allied to P. longirostris (Kük.) Utt., but to differ from it by the glumes twice as long, the flowers slightly smaller than the glumes, and the indistinctly 3-angled (not 6-angled) nut passing gradually (not abruptly) into the relatively shorter beak. However, “glumae ... 1.5 mm longae” in Utten’s description of Paramania rostrata (Elm.) Utt. [= P. longirostris (Kük.) Utt.] in Rec. Trav. Bot. Neerl. 32, 1935, 189, is obviously a printer’s error for 2.5 mm. In the specimens examined I found the glumes 2½—3 mm long, 1½—1¾ mm wide. To me the rather young nuts in the type of Paramania attenuata (Brass 12930) do not differ from those of P. longirostris. I therefore refer Paramania attenuata to the synonymy of P. longirostris.

2. Paramania lucbanensis (Elm.) Utt. was based on Mapania lucbanensis Elm., the type collection of which is Elmer 9116 from Lucban, prov. of Tayabas, Luzon. Uttien did not see this collection, to which his binomial nomenclaturally belongs. I saw a specimen of it in the Edinburgh Herbarium and have no doubt that it belongs to Paramania parvibractea (Clarke) Utt., as could already be presumed from Elmer’s description (inflorescence 3 by 5 cm, lower peduncles divaricate, nut nearly 2 mm long, 1 mm thick). The name Mapania lucbanensis Elm. and the binomials based on it must therefore be referred to the synonymy of Paramania parvibractea.

However, Uttien intended the name Paramania lucbanensis for Ramos BS 23642, from Lake Polog, prov. of Sorsogon, Luzon, distributed by the Bureau of Science as Thoracostachyum lucbanense (Elm.) Kük., apparently a different plant. Uttien distinguished it from the other species of Paramania by the nut 3 mm long and suddenly contracted into a stipe. I find the nuts only 2—2½ mm long (stipe and beak included), and the plants with their dense stellate inflorescences and long conical rostrum of the fruit hardly different from the Bornean collections of Paramania radians (Clarke) Utt. The nuts are slightly different in shape, but I doubt whether they are well developed. Besides, P. parvibractea and P. radians are very closely related and possibly only racially distinct. To me it seems undesirable to distinguish a third entity, for which moreover a new name would be required.

3. Some Paramania collections from the Malay Peninsula (Johore) were described by Uttien as P. johorensis. This was done mainly on ac-
count of the 6 hypogynous scales and the simple inflorescence. Uttien distinguished them from *P. radians* by the peduncled spikelets, the shorter acumen of the leaves, and the subglobose fruit. In 1936 he referred also Teysmann 6280 from P. Lingga to *P. johorensis* with the remark that it differs from the Johore specimens in having only 5 hypogynous scales and a more compound inflorescence. Then he distinguished *P. johorensis* from *P. parvibractea* solely by the terete, globose, stipitate nut of the former. Recently some *Paramapania* specimens were collected in Central Sumatra, but I am unable at present to decide whether they belong to *P. johorensis* or not.

4. In Brass 27935 from Papua the flowers are about 3 mm long, distinctly longer than is usually the case in *Paramapania parvibractea*. There are 6 hypogynous scales, 3 stamens with anthers about 1 mm long, and in some flowers 4 stigmas. Also in Nielsen 221 from Fiji (the only extra-Malaysian *Paramapania* I have seen) the flowers are almost 3 mm long, but here I found only 5 scales and 2 stamens. It seems advisable to consider both collections forms of the widely distributed polymorphic *Paramapania parvibractea*.

The synonymy of *Paramapania radians* and *P. parvibractea* and a survey of the specimens examined are given below.


**Borneo.** Br. N. Borneo, dist. Temburung, Sungai Belalong, ¾ mile above Kuala Belalong, 200 ft.: Smythies, Wood & Ashton Sen 17066 (L). — Sarawak, Matang: Ridley 18342 (K, type; BM, PNH, SING); Dulit, near Long Kaps, 500—600 m, on rock in primary forest on spur of mountain: Richards 1475 (K, U); Puak: Ridley 18399 (SING); Siul: Ridley s.n. (SING). — NE. Borneo, Nunukan, N of Tarakan, brookvalley near old forest-garden, primary Dipterocarpaceae forest: W. Meijer 1896 (BO, L, PNH). — Br. N. Borneo, Sandakan, Bongaya R.: Ridley s.n. (SING); Sandakan and vicinity, in damp forest: Ramos 1592 (K, US), 1497 (US).


SUMATRA. Central Sumatra, Air Puth, E of Pajokumbuh, on steep wet bank: *Alston 14535* (BM); Tandjong Pauh, along road to Pakan Barn, 400 m, forest on poor sandy soil: *W. Meijer 4611* (L). — P. Lingga, Sungei Tanda: *Teysmann 6280* (BO); 700 m, forest: *Bunnemeyer 6915* (BO).


MOLUCCAS. Talaud Islands, Pulu Karacaklong, 170 m: *Lam 2757* (BO). — Morotai, G. Sangowo, 50 m: *Kostermans 7008* (BO, L). — Ceram, Central Ceram, northern plain, common: *Strasemann 218* (L); East Ceram, Kp. Kiandraat, G. Kilis, 60 m: *Buwalda 6550* (BO, K, L, PNH, SING); between Waru and Masiwang, 0—100 m, primary forest: *Kornassi 982* (BO). — Ambon: *Brooks 17748* (BO), *Forsten s.n.* (L); *Robinson 1889* (K, L, US); Lutua: *Boerlage 464* (BO, L); Way Jun, 200—300 m: *Kornassi (esp. Kotten) 1164* (BO, L); G. Saluhutu, 400 m, forest: *van der Pijl 703* (BO); *Rant 650* (BO); Hutumuri: *Teysmann s.n.* (L909. 18—241).

NEW GUINEA. Western New Guinea, Sorong, Kp. Baru, scattered in forest: *Djambhari 555* (BO, K, L); 20 m: *Main 377* (BO); Ramoi, Becoari PP 546 (FL); Patena, Nabire, 300 m, in rain-forests fringing Bumi R.: *Kanekira & Hattiea 15835* (BO); Mambaroro R., Albatros bivouac, 75 m: *Doort van Leeuwen 9656* (BO, K, L, SING); Rouffer R., 250 m, on steep slopes in the forest: *Doort van Leeuwen 10452* (BO, GH, K, L, U); Edenburg R., Bernhard Camp, 150 m, frequent in rain-forests of lower mountain slopes: *Brass 15842* (BO, BRI, L); near Pauwen-bivouac: *Lam 792 & 802* (BO); 120 m, very common in the forest on the hills: *Lam 330* (BO, K, L); 200 m: *Lam 359* (BO, K, L); N of Depapre, 100 m: *Lam 7813* (L); east slopes of Cylocyp Mts, 757 m, occasional forest plant in tall forest: *Brass 8944* (BRI); Cylocyp Mts, pass to Netar, 400—600 m, roadside: *Meijer Drees 45* (BO); Mt Carstensz: *Kloss s.n.* (BM, K). — Northeastern New Guinea, Sepik, Yellow R.: *Womersley 3938* (BO); Morobe Dist., Sattelberg to Quembung mission, 3200 ft, forest trail: *Clements 984* (L); Quembung mission, 2300 ft, forested hills: *Clements 1210* (L); Warco, 2000 ft, forest trail: *Clements 1567* (G, L). — Southeastern New Guinea, Fly R., 528 mile Camp, 80 m, common forest floor plant, sporadic on ridges: *Brass 6706* (U); Fly R.: *d'Albertis in 1877* (FL); Mt Scrathley: *Gianaketti s.n.* (K, type; see Fl. Mal. I, 1, 1950, XXI); Kokos, forest: *Cheesman 103* (K); Kumbun, Centr. Division, 100 m, uncommon forest floor plant: *Brass 3669* (L); Diani, Ononge Road, Centr. Division, 500 m, sporadic on rain-forest floor: *Brass 3931* (BRI); Kokita, 1500 ft, forest: *Carr 12553* (L). — P. G. Beer: *Teysmann s.n.* (BO). — Japen-Biax, Sarurai near Scrut: *Act & Iden 16* (BO, K, L). — Islands near the S. E. coast: *Armst in 1884* (MEL); Normanby Island, Waikauuna, 30 m, in a ravine in rain-forest: *Brass 28683* (L); Sudest Island, Mt Bin, W. slopes, 300 m, locally common in rain-forest undergrowth: *Brass 27355* (L).

FIJI Viti Levu: Waidoi: *Nielsen 221* (O).

III. HYPOLYTRUM NEMORUM

Hypolytrum nemorum (Vahl) Spreng., Syst. 1, 1825, 233 — Scirpus anomalus Retz., Obs. 5, 1789, 15, non Hypolytrum? anomalum Steud., 1855

The synonymy of this species up to 1825 is given above.

In the Copenhagen Herbarium there are two sheets marked by Vahl respectively “Schoenus nemorum-Beera Kaida Rheed. 12 f. 58” and “Schoenus nemorum-Beera Kaida Hort. Mal. p. 12, pag. 109 Tab. 58”. Vahl’s descriptions of Schoenus nemorum in Symbolae Botanicae and Enumeratio Plantarum were certainly based on these specimens, which originate from India and belong to what is generally known as Hypolytrum latifolium L. C. Rich. Sprengel transferred Vahl’s name to Hypolytrum. The correct name of the species in Hypolytrum therefore is H. nemorum (Vahl) Spreng. Clarke and others referred this binomial — wrongly with the authority “(Vahl) Beauv.” — to an African Hypolytrum, the correct name of which is H. purpurascens Chemn. (see Nelmes, Kew Bull., 1955, 69—71). Probably because Clarke in the Flora of British India 6, 1894, 678 cites “Rheede Hort. Mal. xii. t. 58” in the synonymy of H. wightianum Boeck., Nelmes l.c. supposed Schoenus nemorum Vahl might be the earliest binomial for Hypolytrum wightianum Boeck. This is certainly not the case, as the specimens in Vahl’s herbarium do not belong to H. wightianum.

IV. SCIRPUS SIAMENSIS


I have no hesitation in crediting specific rank to this taxon. The plant is stouter than Scirpus squarrosus L. and differs moreover by the following characters: involucral bracts usually 3, patent to reflexed, the longest one up to 15 cm; spikelets larger, 4—5 mm wide, stramineous; glumes oblong, the body slightly longer than 1 mm, conduplicate, keeled, with a hyaline auricle on both sides at the top, and 2—3 fine nerves on both sides of the midrib, the awn 1 1/2—1 1/2 mm long, slightly longer than the body; style longer, about 2/3 mm (stigmas included); nut somewhat larger, about 2/3 × 2/6 mm; leaves 1 1/2—1 1/2 mm wide, the upper side with a conspicuous spongy tissue.

Scirpus squarrosus L. is characterized by: involucral bracts usually 2, the lower one erect as though continuing the stem; spikelets very small, 2—3 mm wide; glumes obovate-cuneate, the body slightly shorter than 1 mm, somewhat concave, almost flat, not keeled, not auricled, with almost nerveless sides, the awn about 1/2 mm long, shorter than the body; style very short, about 1/6 mm long (stigmas included); nut about 1/2 × 1/6 mm; leaves up to 1 mm wide, not spongy.

Siam. Wang Djao, 100 m, savannah forest, frequent but not dominant: Hosseus 101 (P, type coll.).
Tonkin. Environs de Hanoi, près le grand lac: d’Alleizette in 1908 (L).
V. ELEOCHARIS SUNDAICA

Eleocharis sundaica Kern, spec. nov. — Fig. 1.

Herba perennis, rhizomate brevi longe stolonifero, stolonibus ad 4 mm diametro, (hans semper?) apice tuberiferis. Culmi validi, dense fasciulati, erecti, teretes, laeves, septic propriis magnis nullis, sed cellulis tenuissimis numerosissimis modo medullae completi, in sicco rugulosi, obsolete striati, 65—85 cm alti, 3—6 mm crassi. Vaginae 2, laxiusculae, membranaceae, pallide virides vel stramineae, basi saepe fuscescentes, ore oblique sectae obtusae muticeae, vagina summa 10—15 cm longa. Spicula cylindrica, apice subacuta, densiflora, 1—2½ cm longa, 4—6 mm crassa. Glumae late ovatae vel suborbiculares, apice late attenuatae vel rotundatae, conveaveae, ecarinatae, tenuiter pluristriatae, stramineae, marginibus latis hyalinis brunneo-punctatis, intus marginibus brunneo-zonatae, e. 4 mm longae, (3—)4 mm latae; gluma infima caulum amplexentis, sterilis, glumae reliquae fertiles. Setae hypogynae 5—6, firmae, retrorsae scabres, 2(—3) nuce distincte longiores stylopodiumae aequantes, ceterae nuce paullo breviores vel paullo longiores. Stamina 3; antherae non visae. Stigmata 2; stylopodium persistens triangulare, complanatum, celulosum, e. 3/4 long. nucis aequans, basi annulo subtoroso nuce subaquilato instructum, 1½—1⅓ mm longum, basi 1½ mm latum. Nux late elliptica vel late ovata, apice subtruncata, biconvexa, marginibus leviter costata, nitida, maturitate castanea, e. 2 mm longa, 2½—1½ mm lata, utroque latere cellulis extimis transversely oblongis e. 30-seriatis leviter reticulata.

LESSER SUNDA ISLANDS. Alor, “Merjak”, S of Naumang, 450 m, lining the lake, abundant, May 16, 1938: Jaag 1190 (L, type; ZT); vern. name: mōlīta.

This new species belongs to ser. Mutatae Svens., which comprises about twenty very closely related taxa usually treated on specific level. Up to the present the following Mutatae have been recorded for the Malaysian area: Eleocharis dulcis (Burm. f.) Henschel, s. l., E. acutangula (Roxb.) Schult., E. spiralis (Rottb.) R. & S., E. philippinensis Svens., and E. ochrostachys Steud. Of these the species described above is most nearly related to E. spiralis, differing in the terete (not triquetrous) stems, the larger, not almost truncate glumes, the larger nuts crowned by a much stouter style-base and with the external cells transversely oblong (not linear), and the longer and firmer hypogynous bristles. The simplest differentiating character is offered by the shape of the stems, but as in Scirpus, the taxonomic value of this shape (terete or triquetrous), is sometimes illusory. Of greater value is the type of cellular reticulation of the nut, generally considered most important for specific delimitation in Eleocharis.

Apparently still closer is the affinity to two extra-Malaysian species, both with terete stems and the same type of nut and style-base, but with the epidermal cells of the nut isodiametric and in about 20 rows on each face. Eleocharis cellulosa Torr. from the West Indies, Central America, and the Southern United States is much more slender and has smooth bristles reaching the top of the style-base. Eleocharis brassii S. T. Blake from Queensland has longer spikelets, ovate glumes about 5 by 2½ mm, and the longest bristles about as long as the nut proper.
Fig. 1. *Eleocharis sundaica* Kern—a. Habit, × ¼; b—c. glumes, × 6; d. nut, × 6; e. surface of nut, strongly enlarged. — From *Jaag 1190*. 
For the related species no tubers have been recorded, except for *E. dulcis*, which produces conspicuous edible tubers.

Throughout *Eleocharis* specific delimitation presents great difficulties. The question whether the taxa discussed above all represent linneons must be left open here.

VI. THE IDENTITY OF FICINIA FOLIACEO-BRACTEATA PFEIFF.

The name *Ficinia foliaceo-bracteata* was published in “Revision der Gattung Ficinia Schrad.” by H. Pfeiffer, 1921, 35. *Ficinia* is an African genus, hence Pfeiffer’s remarks “Habitat, incognit., ?Java (herb. Lugd. Bat.)” and (p. 10) “Das Indigenat von *F. foliaceo-bracteata* Pfeiff. in Java ist .... sehr verdächtig. Ob dies isolierte Vorkommen auf Einschleppung aus Südafrika beruht oder, was mir die grössere Wahrscheinlichkeit zu haben scheint, nicht eher auf einem Irrtum bei der Zusammenstellung des herb. Lugd. Bat., ist nicht zu sagen.”

The type in the Rijksherbarium (labelled “*Ficinia longebracteata* spec. nov.” by Pfeiffer) is certainly from Java. It was collected in the lake near Tjilankahan (Banten) by Kuhl & van Hasselt, and undoubtedly belongs to *Cyperus cephalotes* Vahl, a species not uncommon in Western Java. Obviously Pfeiffer mistook the corky tissue at the base of the nut for the gynophore occurring in *Ficinia*, with which it has nothing to do. Already Bentham, *J. Linn. Soc.*, Bot. 15, 1877, 509, stated that this tissue is “nothing more than a cellular and rather hard thickening of the pericarp, below and more or less round the seed-bearing cavity.” A very accurate description of it was given by Clarke, in *J. Linn. Soc.*, Bot. 21, 1884, 25—28.

VII. TETRARIA IN MALAYSIA

*Tetraria borneensis* Kern, sp. nov. — Fig. 2.

Herba perennis, valida, glabra, 1'/2—2 m alta. *Rhizoma* lignosum, breve, crassum. *Culmi* erecti, rigidi, obtuse trigoni, striati, laeves, per totam longitudinem distanter foliigeri, basi 5—6, medio 2—4 mm crassi, basi incrassata vaginis castaneis plus minusve nitentibus demum in fibras dissolutis obtecti. *Folia* basalia numerosa, coriacea, culmo multo breviora, basi conduplicata, ceterum canaliculata vel plana, 4—10 mm lata, apicem versus longe gradatimque in acumen triquetrum angustata, marginibus saepiusque in costa antrorse sabra; folia caulina 3—5, laminis brevioribus, vaginis tubulosis castaneis vel atrobrunneis, ore oblique sectis, 4—8 cm longis, apice liberis, partibusque liberis inferne paullo imbricatis. *Inflorescentia* paniculata, angusta, laxa, 40—90 cm longa, e ramorum fasciculis 4—8 di-istantibus constructa. Bracteae inferiores foliis caulini similes sed breviores, 5—10 cm longae, longe vaginantes, superiores gradatim breviores. Rami inflorescentiae 2—4-ni, erecti, inaequalis, anicipites, scaberuli. *Spiculae* numerosae, solitariae, breviter pedunculatae, anguste lanceolatae, acuetae, biflorae, 7—8 mm longae, 1—1'/2 mm latae. *Rhachilla* recta, brevissima, hand super florem terminalem producta. *Glaucae* 7, obsolete distichae, castaneae, inferiores 4 vacuae, ovatae, e carina breviter (1—2 mm) aris-tatae, superiores 2 floriferae, oblongae, e. 6 mm longae, apicem versus
Fig. 2. *Tetraria borneensis* Kern — a. Habit, × 2/5; b. spikelet, × 8; c. glume, × 4; d. upper flower, × 8; e. lower flower, × 8; f. nut (stigmas not yet fallen off), × 8; g. anther, × 16. a. from Purseglove P 5072; f. from Purseglove P 5559; b, e, d, e, g. from Kostermans 10737.
asperae; gluma terminalis tenuiter membranacea, sterilis. *Flos* inferior masculinus, antheris ovarioque rudimentario, vel antheris tantum instructus; setae perigonii 2—3 (—5), capillares, albidae, apicem versus minute antorse seaberulae, c. 3 mm longae; stamina 6, filamentis ligulatis post anthesin 5—6 mm longis, antheris linearibus rufescentibus basi inconspicie auriculo-
tatis, connectivo in appendicem conico-subulatam sparse antorse seabrám c. 1½ mm longam producto. Flos superior flori inferiori similis, sed hermap-
phroditus, ovario fertili instructus; stigmata 3; styli basis persistens, elong-
gato-pyramidalis, triqueta, antorse seabra, straminea, c. 2 mm longa. *Nux* trigona, obovata, basi attenuata, laevis, castanea, 2½—3 mm longa, 1—
1½ mm lata.

**Borneo.** E. **Borneo,** Kelianjau River region, 100 m, “padang” on sandy soil, marshy, very common, a dominant in this type of vegetation, June 15, 1954: *Kostermans 10757* (L, type). — W. **Borneo,** bank of Sendabai Lakes near Tajan, Sept. 24, 1949: *Main (exp. Polak) 1716* (L). — **Sarawak,** Telok Assam, Bako National Park, 350 ft, heath woodland, damp hollows, May 21, 1956: *Purseglove P 5072* (L, SING), large tufted sedge to 6 ft, spikelets [very young!] golden brown; same locality, Feb. 6, 1957: *Purseglove P 5559* (L), abundant sedge to 6 ft, on padang, inflorescence brown.

The occurrence of a *Tetraria* species in the equatorial lowland of Borneo is very surprising as the genus is almost exclusively African, with its greatest development in extra-tropical South Africa. A few species occur in Australia, but up to the present none was known from Malaysia.

Unfortunately *Tetraria* belongs to an exceedingly difficult group of genera, our present knowledge of which is very imperfect. The assignment of the Bornean specimens to one of the ill-circumscribed genera has given me much trouble. There are important differences in the circumscription of *Tetraria* as given by J. M. Black (Trans. & Proc. R. Soc. S. Austr. 58, 1934, 168—169), Kükenthal (in Fedde, Rep. 48, 1940, 195—246), and Mrs Levyns (J. S. Afr. Bot. 13, 1947, 73—93). Especially the delimitation against *Costularia* Clarke is far from being well established. *Costularia* was originally based on some African species differing from *Tetraria* by the lower flower being strictly male (i.e. without a reduced pistil). Later on it was variously extended or reduced. Kükenthal, op. cit., 199, although admitting that *Costularia* and *Tetraria* are difficult to separate from each other, thinks *Costularia* can be distinguished by the longer and firmer bristles, the anthers not auricled at the base, the style-base separated from the nut by a constriction, the nut softer in texture, and the glumes exactly distichously arranged. As to the species described above, the subdistichous glumes, the short straight rhachilla, the hexandrous flowers of which the lower one is male or functionally male, the persistent conical style-base, and moreover the very delicate hypogynous bristles and the somewhat auricled base of the anthers point to a close relationship with the already known species of *Tetraria.* There are, however, strong affinities with *Costularia pilipespala* (Steed.) Kern from Borneo and New Guinea (see § XVI).

Kükenthal l.c. gives a subdivision of the genus *Tetraria* into sub-
genera and sections, the nomenclature of which must be corrected, as no account has been taken of Clarke’s earlier subdivision in Thiselton-Dyer, *Flora Capensis,* 1898. Of Kükenthal’s subgeneric names (Subgen. *Epi-
schoenus, Subgen. Elynanthus, and Subgen. Eu-Tetraria), the second can not be maintained as it is based on Elynanthus Nees in Linnaea 7, 1832, 520. By monotypy the type species of Elynanthus is E. compar (L.) Nees (={Schoenus compar L.}), a species belonging to Kükenthal’s subgenus Eu-Tetraria. A new name will be required. Subgenus Tetraria (= Eu-Tetraria Kük.) is subdivided by Kükenthal into three sections. Sect. Capillaceae Kük. [op. cit. 215, type: T. capillacea (Thunb.) Clarke] comprises T. crinifolia (Nees) Clarke, the type of sect. Aulacorrhynchus (Nees) Clarke. Likewise sect. Aristosquamosae Kük., op. cit. 227 (no type indicated) comprises T. ustulata (L.) Clarke, the type of sect. Lepisia (Presl) Clarke. Consequently the correct names of Kükenthal’s sections are: sect. Aulacorrhynchus (Nees) Clarke, sect: Lepisia (Presl) Clarke, and sect. Tetraria, the last one comprising T. thuarii Beauv., the type species of the genus (for the identity of this species see Levyns, op. cit.).

VIII. THE IDENTITY OF CLADIDIUM ARFAKENSE RENDLE

Cladium arfakense Rendle in Gibbs, Dutch NW. New Guinea, 1917, 90, was based on two collections from NW. New Guinea, Arfak Mts., Angi Lakes, viz. Gibbs 5901 and Gibbs 5561. Both collections are preserved in the Herbarium of the British Museum, a duplicate of the latter one in the Kew Herbarium. Unfortunately the description turns out to be very inaccurate: stem with panicle 5.5 cm, spikelet 5 cm, upper 5 glumes each subtending a hermaphrodite flower, etc. Rendle did not describe the nuts, although there are many ripe ones in Gibbs 5901. These nuts show the much raised irregular ridges and the smooth basal part characteristic of Cladium teretifolium R. Br., to which species in my opinion Gibbs 5901 (and a part of Gibbs 5561 in BM) must be referred. Although the original description does not match any of the specimens on which it was based, it seems best to select Gibbs 5901 (BM) as the lectotype of Cladium arfakense Rendle, for Gibbs 5561 in the Kew Herbarium and a part of this collection in the British Museum do not at all belong to Cladium, but to Lepidosperma. Most probably they represent Lepidosperma striatum R. Br., which species is recorded for the same locality by Ohwi, Bot. Mag. Tokyo, 56, 1942, 207. The Gibbs specimens are very young and in this state the Australian Lepidosperma striatum is hardly distinguishable from the closely related L. chinense Nees. The latter species is only known from the coastal regions of S. China and the western parts of Malaysia 1).

Hitherto Cladium teretifolium was unknown from Malaysia.

IX. CLADIDIUM DISTICHUM CLARKE, C. MICRANTHES CLARKE, AND C. PHILIPPINENSE MERR.

In “Vorarbeiten zu einer Monographie der Rhynchosphoroideae XIII” in Fedde, Rep. 51, 1942, Kükenthal describes three Malaysian Cladidia, which undoubtedly all represent the same species. They are: Cladium micranthes Clarke (p. 153), C. philippinense Merr. (p. 163), and C. disti-

chum Clarke (p. 164). Of C. micranthes and C. distichum only two collections each are cited, none of them seen by Kükenenthal. Already from the descriptions the conspecific status of the three taxa could be presumed, which presumption was confirmed by the examination of the specimens in the Kew Herbarium.

There is some difficulty as to the correct name resulting from the union of the three taxa. The earliest specific epithet is distichum. Unfortunately the type of Cladium distichum is a specimen with badly deformed spikelets: besides the normal lower glumes each spikelet bears a great number of exactly distichous empty upper glumes. The same abnormality can sometimes be observed in Rhynchospora rubra (Lour.) Makino. Such deformed specimens of this species are sometimes mistaken for a Cyperus species. Although in the Code no definition of a monstrosity is given, it seems advisable to reject the name Cladium distichum, as “it is based on a monstrosity” (art. 67), and to accept C. micranthes as the correct name of the species.

As far as is known Cladium micranthes is restricted to Malaysia. The specimen from New Zealand cited by Kükenenthal (Kirk 834) is very incomplete. It was tentatively referred to C. micranthes by Clarke, but in my opinion certainly does not belong there.

The synonymy and a list of the specimens examined are given below.


ARCH. IND. Without precise locality: Waits s.n. (L).

Borneo. Banjermasin: Molley 574 (K, type of C. micranthes Clarke); Mt Kina-balau, Penataran R., 3000 ft, open scrub: Clemens 34122 (BM); id., Penibukan, 4000—5000 ft, at edge of steep landisde, seeping ground: Clemens 30752 (K, L, SING).

PHILIPPINES. Palawan, prov. of Palawan, Puerto Princesa (Mt Pulgar): Elmer 12832 (BM, K, L, P); Malasagao R., Aboran, 100 m, along stream in forest: Edaño PH2 14094 (L); Victoria Peak, 600 m, rocks at base of waterfall: Foxworthy BS 718 (K); Mt Gantung: Edaño BS 77609 (SING). — Island of Palawan, E-wig R., in river bed: Merrill 708 (K, SING). — Mindoro: Merritt FB 674 (K, type coll. of C. philippinensis Merr.). — Luzon, prov. of Tayabas, Quinatacutan: Foxworthy & Ramos BS 13161 (K); Guinayangan: Escritor BS 50673 (BM, K, L, P); Camarines prov., Paracale: Ramos & Edaño BS 35476 (BM, L, SING); prov. Princesse, Baler: Merritt 1124 (K, type of C. distichum Clarke). — Sibuyan, prov. of Capiz, Magel- lanes (Mt Giting-Giting): Elmer 12401 (BM, K, L). — Panay, Capiz prov., Libesao: Martelmo & Edaño BS 56489 (K). — Mindanao, Suringao prov.: Ramos & Pascoast BS 34619 (BM, K, L, P); Davao prov., Mt. Galintian: Ramos & Edaño BS 48867 (P).

CELEBES. Talaud Islands, P. Karakclang, 400 m: Lam 3248 (L).

NEW GUINEA. P. Waigeo, Kambele hills ESE of Kabaré, 100 m, on border of periodically flooded riverine forest with xerophytic vegetation on leached lateritic hills: van Royen 5421 (L).
X. IS GAHNIA CASTANEA RIDL. DISTINCT FROM G. JAVANICA MOR.?

Originally Ridley distinguished clearly between two often confused species of *Gahnia* occurring in the Malay Peninsula. In his "Grasses and Sedges of the Malay Peninsula" (J. Str. Br. R. As. Soc. No 23, 1891, 17) he recorded *G. javanica* from Perak, Gunong Batu Puteh, Wray [887], besides an unidentified species from Perak, Maxwell's Hill, Curtis. The former actually belongs to *G. javanica*, the latter to *G. baniensis* Benl (= *G. javanica* var. *penangensis* Clarke). In his "Materials for a Flora of the Malayan Peninsula III", 1907, however, we find all collections of both species represented in the Singapore Herbarium referred to *G. javanica* var. *penangensis*. This is probably due to an error of Clarke's, who wrongly determined the Wray specimen as var. *penangensis* (see the duplicate in the Kew Herbarium). Later on Ridley realized again that conspicuous differences existed, for in 1915 he published a new species, *G. castanea* Ridl. in J. Fed. Mal. St. Mus. 6, 1915, 60, and his remark in "The dispersal of plants throughout the world" (1980, 117): "In ... *Gahnia javanica* ... the stamens apparently increase in length in some plants, but not in others" obviously refers to one of the differences between *G. javanica* and *G. baniensis*. As to *G. castanea*, based on a collection from Perak, Gunong Kerbau, Robinson, Ridley mainly stressed the chestnut-red colour of the spikelet, the accrescence of the filaments after anthesis, and the few glumes.

It is on this *Gahnia castanea* that the opinions of cyperologists are still divided. Kükenthal treats it as a variety of *G. javanica*, whereas Benl thinks it is a good species. Benl's reasons for specific separation seem very sound, as he ascribes to *G. castanea* filaments interwoven after anthesis ("Flecht-Mechanismus", braiding mechanism). *Gahnia javanica* belongs to a quite different group characterized by the infixation of the filaments into one or more of the sterile glumes (Klemm-Mechanismus, fixing mechanism). According to Benl *G. castanea* occurs in S. China (Yunnan), the Malay Peninsula, and Sumatra (Atjeh).

It is generally accepted that Benl's various mechanisms for fruit dispersal in *Gahnia* furnish also first-class taxonomic characters. Kükenthal (in Fedde Rep. 52, 1943, 91) objects, that in the type collection of *G. castanea* the filaments are really included by the inrolled apex of a sterile glume, in other words that it can not belong to the group with braiding mechanism. In Bot. Jahrb. 75, 1950, 88, Benl returns to the question. Although admitting that occasionally one of the anthers is included by the outer sterile glume, he sticks to his opinion that *G. castanea* is distinct from *G. javanica*, as the anther can easily be detached from the enveloping glume.

After having examined numerous spikelets of the type collection of *G. castanea* and of the other collections cited by Benl, I am convinced that Kükenthal is right. In several spikelets I frequently found 1, 2 or 3 filaments included by one of the sterile glumes. The process of infixation after anthesis by hardening and inrolling of the glumes takes some time. As long as this process goes on, the filaments can easily be detached and
will detach themselves in dried specimens. This can be observed in every young specimen of *G. javanica*. Only in quite mature specimens is it almost impossible to free the filaments from the enveloping glume.

In the mature specimen of Henry 9168 from Yunnan I also find a fixing mechanism. It certainly belongs to *G. javanica*, under which species it is cited by Benl (p. 173). The same collection is cited under *G. castanea* (p. 185). The latter citation apparently refers to a young specimen in the Kew Herbarium, which in my opinion also belongs to *G. javanica*.

The widely distributed *Gahnia javanica*, growing under various ecological circumstances, is highly polymorphic. To me the numerous varieties and forms distinguished by Benl and Kükenthal are of little or no systematic value, as I am unable to find any reliable characters by which their separate treatment would be justified. As to *G. castanea* (≡ *G. javanica* var. *castanea* Kük.), I think it merely represents a young state of *G. javanica* not deserving nomenclatural recognition at all. The brownish colour of the inflorescence I have observed in several young specimens collected in Java, Borneo, etc.

XI. FURTHER NOTES ON MALAYSIAN GAHNIAE

*Gahnia psittacorum* (non Labill.) Rendle in Gibbs, Dutch NW. New Guinea, 1917, 91, cited by Kükenthal in the synonymy of *G. clarkei* Benl, comprises several collections partly belonging to *G. javanica*. Gibbs 5585

![Fig. 3. Distribution of Gahnia aspera (R. Br.) Spreng. (+) and G. tristis Nees (●) in Malaysia.](image-url)
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in the Kew Herbarium is cited by Benl (Bot. Arch. 40, 1940, 221) under G. clarkei, the same number in the Leiden Herbarium under G. tetragonocarpa Boeck. (p. 222). The two specimens are not separable, and both belong to G. sieberiana Kunth (= G. tetragonocarpa Boeck.). Up to now I have not seen G. clarkei from Malaysia.

G. trifida Labill., "Malayischer Archipel (fide J. D. Hooker)", cited by Benl op. cit., p. 231, apparently does not occur in Malaysia. The statement was based on Hooker’s Flora Tasmaniae, 1859, lxxii, sub no 228. The occurrence in Malaysia is very unlikely, and as far as I know no material is extant.

The closely related G. aspera (R. Br.) Spreng. and G. tristis Nees are often confused in herbaria. In the former the nut is globose to ovoid, not or hardly angular, distinctly mucronate, and 3—4 mm wide, the filaments ciliate on the margins, the anthers only 1'/2—2 mm long with a very short appendage of the connective (1'/4 mm); in the latter the nut is elliptic, distinctly trigonous, not or hardly mucronate, 3'/4—2(—2'/2) mm wide, the filaments glabrous, the anthers 3—4 mm long with a subulate 1'/2—3'/4 mm long appendage of the connective. In Malaysia G. aspera is apparently restricted to the Eastern part (New Guinea, Moluccas), G. tristis to the Western part (Malay Peninsula and adjacent islands, S. Sumatra, Banka, Borneo). See map. The record "G. tristis, Moluccas: Gaudichaud (P)”, Benl, Bot. Arch. 40, 1940, 183, refers to a specimen of G. aspera in which all flowers are deformed by attack of a fungus.

XII. THE SUBGENERIC AND SECTIONAL NAMES
FOR THE MALAYSIAN RHYNCHOSPORAE


In Kükenthal’s system as adopted in his “Vorarbeiten zu einer Monographie der Rhynchosporoideae” they belong to two subgenera and five sections:

I. Subgen. Haplostyleae (Nees) Bentham. & Hook
1. Sect. Longirostres (Kunth (sp. 1—3)
2. Sect. Polycephae Kük. (sp. 4)
3. Sect. Pauciflorae Kük. (sp. 5—10)

II. Subgen. Diplostyleae Bentham. & Hook.
4. Sect. Stenophyllae Kük. (sp. 11)
5. Sect. Tenues Kük. (sp. 12)

Unfortunately only one of these names is in accordance with the rules of botanical nomenclature, as may appear from the following synonymy:


XIII. RHYNCHOSPORA HOOKERI BOECK.

A remarkable species, apparently often mistaken for the common R. corymbosa (L.) Britt., to which it is very similar in habit. It can readily be distinguished by the quite different nut suddenly narrowed at the apex into a short cylindrical neck and crowned by the narrow conical-subulate beak (the persistent style-base), which is only half as wide as the nut proper.

Kükenthal (Bot. Jahrb. 74, 1949, 427) mentions R. hookeri from a few Indian localities and a single one in Burma, as well as from the only Malaysian locality known (W. Java, Indramaju, forestry Plosokergp: van

1) Kunth's epithets are intended as sectional names; cf. his Enumeratio 2, p. 64 sub 13, p. 79 sub 17, p. 94 sub 19, etc.

2) Validly published, although provided with a question mark; cf. Code 1956, art. 33, note 1.
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Steenis 6675, 7473). It occurs also in Siam (Howard 27 and Kerr 13064 in K, Kostermans 1309, 1324 in L), Cambodia (Poilane 15380, P) and Tonkin (d'Alleizette s.n. in 1908, L). In Java it was collected away back in the last century by Korthals (L, sub nos 909.90.318 and 909.90.338, without precise locality), and in the Malay Peninsula as early as 1910: Perlis, Kanga fields: Ridley s.n. (SING).

XIV. RHYNCHOSPORA RUBRA (LOUR.) MAKINO VAR. HIRTICEPS KÜK.

In Rhynchospora rubra the stems and leaves are usually glabrous. A specimen from Luzon (Vanoverbergh 463) with the stems setulose-pilose at the apex and the margins and midrib of the leaves densely ciliate was distinguished as var. hirticeps Kük., Bot. Jahrb. 74, 1949, 495. I have seen this remarkable variety also from the following localities:

CELEBES. S.E. Celebes, Rumbia, Wambukowu, 40—130 m, monsoon forest: Elbert 3092 (L).

NEW GUINEA. S.E. New Guinea, Koitaki, 1500 ft, open grassy hillside: Carr 11910 (L, SING).

XV. NOTES ON RHYNCHOSPORA SUBMARGINATA KÜK.


On the sheet in the Kew Herbarium the following annotation is found: "This was no doubt part of Bentham's Rhync. tenuifolia, for he has drawn the description of the nut of tenuifolia (nut bordered by a nervelike margin) from the present plant, whereas in the two authentic type specimens the nut is absolutely immarginate. Nor does the present plant agree with tenuifolia Benth. as to habit. The nut is unlike the nut of any of this group (capitate Haplostylis) in the Old World and I make it a sp. nova viz Rhynchospora marginata. C. B. Clarke, May 1889."

This name was only published after Clarke's death, in 1908. The "two authentic type specimens" of R. tenuifolia Benth., 1878 (non Griseb., 1866 = R. subtenuifolia Kük.) are: N. Australia, Victoria River, Elsey; Queensland, Rockingham Bay, Dollachy, both in the Kew Herbarium. From them it is clear that Clarke's remark is wrong, for they perfectly agree with Bentham's description "hypogynous bristles 3 nearly as long as the glume, 3 scarcely longer than the nut; beak abruptly contracted at the base so as to appear stipitate" and the nuts are really bordered by a nervelike margin. One of the differences between the nuts of R. submarginata and those of R. subtenuifolia lies in the fact that in
the former the whitish margin strongly contrasts with the blackish surface, whereas in the latter the margin and the surface are more colorous, both light brown.

Ridley, l. c., mistook *R. submarginata* for *R. wightiana* (Nees) Steud., to which it is certainly nearer than to *R. subtenuifolia*. Kükenthal, l. c., contrasts *R. wightiana* and *R. submarginata* as follows:

*R. wightiana*: Inflorescentia 1—1½ cm diam., bracteis 4—7 demum divergentibus vel deflexis suffulta. Spiculae 5—6 mm longae. Stylus basi cum vertice nucis aequilata linea constricta ab ea separata. Nux ex toto tuberculata et apice hispida.

*R. submarginata*: Inflorescentia 6—10 mm diam., bracteis 3—4 (ima

![Fig. 4. a—b. Nut and spikelet of Rhynchospora submarginata Kük.; c—d. nut and spikelet of R. wightiana (Nees) Steud. — All × 10.](image)

ad 10 cm longa erecta culmum continuante) suffulta. Spiculae 5 mm longae. Basis styli eum nuce aequilata ad humeros ejus decurrents. Nux per faciem totam breviter hispida haud tuberculata.

It may be remarked that no value can be attached to the number of involucral bracts, the lowest bract in *R. submarginata* is not always erect and can reach a length of 20 cm, the spikelets in *R. wightiana* are up to 8 mm long, and the style-base in the latter species is only slightly (sometimes hardly) contracted at the base. A character of great value is furnished by the length of the nut-bearing (5th) glume and the next lower one: in *R. submarginata* they are about equal in length, in *R. wightiana* the former is about 2 mm longer than the latter. As a consequence the spikelet in *R. wightiana* is somewhat gaping and the hypogynous bristles are soon exserted from the glumes, and visible from the
outside, whereas in *R. submarginata* the spikelet remains closed, the glumes completely hiding the (shorter) bristles. As a rule the upper flower in *R. submarginata* is more reduced than in *R. wightiana*. In the former species it consists of 1—2 stamens without any trace of bristles or a pistil, in the latter one there are 2 (very rarely 3) stamens, often some short bristles and very rarely a strongly reduced pistil. The stems in *R. submarginata* are usually stouter and more distinctly compressed, and the leaves broader than in *R. wightiana*.

*Rhynchospora submarginata* var. *tonkinensis* Kük. may represent an extremely stout form, also collected in the Malay Peninsula (*Nauen SF* 35854).

The only Malaysian record of *R. submarginata* cited by Kükenthal, is that of var. *glabrinus* Kük.: nut 4 mm long, quite glabrous, somewhat concave on both sides. — Papua: Lake Daviumbu, Middle Fly River, on floating islands, *Brass* 7705. I have not seen this collection, but from the description I greatly doubt whether it can belong to *R. submarginata*.

Attention may be drawn to a mistake which has crept into literature on the distribution of sexes in at least all Malaysian members of Sect. *Haplostylis* (see e.g. Clarke, Illustrations of Cyperaceae, t. 64, f. 7 & 11). Even in the recent publications of Kükenthal's the flowers are described as follows: flos inferior hermafroditus, superior masculus. I nearly always find the lower flower female, without any trace of an androecium (in *R. rubra* exceptionally a single stamen is present), the upper one (in *R. rubra* sometimes two) male, very rarely functionally male (with an abortive pistil), quite in agreement with Künth's descriptions in his Enumeratio of 1837 and those of Nees's (in Nov. Act. Ac. Caes. Leop.-Car. 19 Suppl., 1843, 97 & 101).

A peculiar character in all Malaysian *Haplostylis* species, which fell into oblivion after the publication of Künth's admirable Enumeratio is found in the shape of the anthers, which are destitute of pollen at the more or less attenuate base (see En. p. 288, sect. *Capitatae*: “antherae sœpe basi attenuatae et vacuae”, and under the species of this section). In later publications I found it mentioned only by Nees, op. cit., p. 99.

Both the distribution of sexes and the shape of the anthers may prove to furnish important sectional characters.

The distribution of *R. submarginata* is insufficiently known. I have seen it from India (*Wight 2911* in K), Siam (several collections in SING), Indo China (all collections cited by Camus under *R. wightiana*), Australia (Brown's type collection), and the following Malaysian localities (all in SING if not otherwise indicated):

**Malay Peninsula.** *Setul*, heath: *Ridley 14814, 14815* (also in K). — *Well e sley*, Aor Gading: *Burkill 6593*, one of the weeds of the rice-lands which is ploughed in as green manure. — *P e r a k*, Sungai Kepar Padi Test Station: *Berwick K 32*. — *T r e n g ga n u*: *Yopp 357* (K, L). — *P a h a n g*, heaths Kuala Pahang: *Ridley 1725*. — *P. L a n g k a w i*, rice-field near Kuah: *Corner & Nauen SF 37932*. — *P. P e n a n g*, Telok Kumbat (Bayan Lepas): *Nauen SF 35854*.

2. Of *R. wightiana* (Nees) Steud. I have seen only a single Malaysian collection:

**Madura.** Pamekasan, in oryzeis exsiccatis 600—1000', i & 8. VI. 1858: *Zollinger 3945* (L).
XVI. COSTULARIA PILISEPALA


*Restio pilisepalus* Steud. was based on a plant of D'Urville collected in Waigeou Island (S. Moluccas, near New Guinea). The specimen is preserved in the Paris Herbarium (P; coll. Steudel). It is not a Restionacea, but a Cyperacea, as was already stated by Masters (in DC., Mon. Phan. 1, 1878, 301) and in the Index Kewensis. It belongs to the species of which the synonymy has been given above, and in all probability to the collection on which also *Carpha urvilleana* Gaudich. ex Boeck. was based. In describing the flowers as having “perianthii laciniis 4 lanceolatis margine dense et longe pilosis; 2 planiuseulis apice subdilatatis” Steudel misinterpreted their structure. Each spikelet contains 2 flowers, the lower one male, the upper one bisexual, both with 6 plumose hypogynous bristles and 3 stamens with persistent liguliform filaments.

XVII. MISCELLANEOUS NEW RECORDS

1. *Cyperus sphacelatus* Rottb.


Previously known from tropical Africa and America, and recently introduced into Malaysia (see Kern, Reinw. 2, 1952, 107; Blumea 8, 1955, 162).

There is an old collection from Coromandel in the Paris Herbarium: Macé s.n., as "*Cyperus compressus* Rottb., Vahl."

2. *Cyperus sulcinux* Clarke.


Previously known from India, Farther India, Malaysia, and Australia (Queensland).

3. *Fimbristylis dipsacea* (Rottb.) Clarke.

Sumatra. Palembang, sea level, roadside, May 1930: *Kjellberg s.n. (S).*

In Malaysia very rare, previously only known from a few localities in Madura, Bawean, E. Borneo, Luzon, Mindanao, Central Celebes, and Papua.
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