ADDENDA, CORRIGENDA ET EMENDANDA
C. G. G. J. van Steenis, c.s.

At times colleagues have asked me whether my effort to collect the Addenda, Corrigenda et Emendanda was worthwhile.

The main purpose is to keep readers up to date with the plants of Malesia in one work and keep them aware of additions, name changes, etc.

They are also important as a source for plant-geographical purposes, to correct names of useful plants, etc.

Another facet of keeping up with the records is that they reflect the degree of completeness of collections at the time of the original revision, and form a certain check on the degree of exploration.

In an overall review of the ‘Floristic inventory of the Tropics: Where do we stand?’ Prance has made use of the Addenda in comparing the state of exploration in the neotropics with that of Africa and Malesia (Ann. Mo. Bot. Gard. 64, 1977, 657–685, especially p. 671). He found the number of addenda and novelties much larger in the neotropics than in Malesia, obviously due to a lower, and especially less varied exploration (collecting density). This comparison tends to support my conviction that the bulk of the Malesian species has become gradually represented in the herbarium.

It was pleasant to experience that the careful keeping on record of the Addenda serves good purposes and should therefore be continued.

Printing errors have only been corrected if they might give rise to confusion.

Volume and page number are separated by a colon. Page numbers provided with either a or b denote the left and right columns of a page respectively.

Alismataceae

5: 319, 320a  
*Caldesia parnassifolia* (Basst ex L.) Parl.  
In Malesia a very rare plant (see map in Fl. Males. 1, 5: 322, fig. 3). In New Guinea it was only known from Cape Vogel Peninsula, but it is now also collected in West New Guinea: Star Mts, Sibil Valley, 1200–1300 m (Kalkman 4188) and in Papua New Guinea: Kubor Ra., Nona Minj Divide, 1920 m (Vinik 16512); Morobe Distr., 15 miles west of Lae, 150 m (Hartley 9778) and near Mumeng, 950 m (W. Moi 166). In the last-named collection the inflorescence consists of only one whorl of 3 flowers and a terminal flower.

Anacardiaceae (Ding Hou)

8: 483  
*Spondias pinnata* (L. f.) Kurz.  
Kostermans (Quart. J. Taiwan Mus. 34, 1981, 108–111) suggested that what was named *Spondias pinnata* from Malesia (Malaya to New Guinea) would differ from the typical *S. pinnata* from India and represent an undescribed species, *S. malayana* Kostermans.

When writing the paper he could only rely on his memory of former experience and on only three specimens from Malaya. I observed that in one of them the leaf difference mentioned in his key does not fit. His experience can only relate to the size of trees and bears no testimony on the flower details mentioned in the key and their geographical variability, which is in this genus difficult to judge because of the cultivation, domestication, and running wild of cultivated trees. For the present his delimitation does not seem convincing, especially as there are also discrepancies in his key and descriptions.

Araliaceae

9: 39a  
*Osmoxylon lineare* (Merr.) Philipson.  
Substitute in description after ‘the central branch 4–5 mm long’: bearing an umbel of c. 12 sterile, globose, bacciform flowers, c. 8 mm ø when dry.

Distr. Add: Negros Occidental, (Panco 1845).

Ecol. Low bushy shrub along riverbanks. Flowers orange; fruit dark purple or black. Cultivated (recently) as an ornamental for its dark green and shiny foliage.

*Vern. Miagos*  


Ecol. Montane forest, 1000–1800 m, sometimes dwarfed in elfin forest on summit ridges.

Notes. Said to be intermediate between *A. montanum* and *A. alternifolium*, distinct from the latter by the purple fruit, degree of branching of the inflorescence, and the narrow, thin-coriaceous leaflets.

*A. montanum* and *A. alternifolium* were already distinguished by Philipson (Fl. Males. 1, 9: 55) by weak characters and the addition of a third one, with intermediate leaf characters is therefore hardly welcome; the differentiating characters are also slight. Mr. Lim should have given a clear key for the three species instead of this haphazard description.

Prof. Philipson (in litt.) finds ‘*A. stenii*’ represents rather larger than usual specimens of *A. alternifolium*.

Replace: 16. ELEUTHEROCOCCUS  

Note. Unfortunately Acanthopanax has to give way. The two Malesian species should be called:

**Balanophoraceae**

7: 797a Balanophora elongata Bl.

7: 798a Add to Distr.: Malaya: Selangor/Pahang border, G. Ulu Kali, in dwarf forest on ridge at 1500–1700 m, on Pentaphylax aurivoideus.
Add to Note: According to Dr. B. Hansen (in litt.) the new record from Malaya belongs undoubtedly to B. elongata to which it keys out without difficulty in the key in Fl. Males. I, 7: 793.

7: 802b Balanophora abbreviata Bl.
Add to Note: Mr. G.D. AREKAL & G.R. Shivamurthy (Phytomorph. 26, 1976, 135–138, 6 fig.) have, for the first time, been able to examine, in situ — since all former experimental infections have failed — the germination of the seed of B. abbreviata, a magnificent achievement with these utterly minute seeds. After the breaking of the seed coat the endosperm cells produce 4–8 narrow tubular extensions coated with a sticky substance adhering to the fine rootlets for anchorage. Then the hardly differentiated embryo produces 1–4 tubular processes to form the primary haustorium, penetrating into the rootlet and making contact with the vascular tissue of the rootlet of the host; a nodule develops, throwing off the seed coat, and parasitism is established. The procedure is established on uninjured rootlets. Naturally it does not exclude the possibility that infection can also proceed on injured roots or even stem bases of host plants.

**Bignoniaceae**

8: 137b Deplanchea bancana (Scheffer) Steen. Add to Distr.: Central Celebes (Baolu, near Palopo; Usu near Malili; near Matana lake). Add to Notes: The Celebes specimens were poor and originally assigned to D. glabra (STEEIN) Steen. With abundant recent adequate material from localities nearby, they appear to belong to D. bancana.

8: 138a Change in Fig. 11, map: the localities from Celebes of Deplanchea glabra belong to D. bancana.

8: 141a Deplanchea glabra (STEEIN) Steen. Delete Celebes from the distribution.


Nomencl.: On the strength of Hamilton's opinion that this was different from Bignonia chelonoides L. f., Dillwyn proposed a new name, which antedates that of Hasskarl.

**Fernandoa macroloba (Miq.) Steen.**

The mention of this N. Sumatran endemic tree (as 'Heterophragma macrolobium'= Haptochlamys macrolobum (Miq.) Steen.) by Flennely & Richards (eds.), The Krakatoa Centenary Expedition, in Dept. Geogr., Univ. Hull, Misc. ser. 25 (1982) 16, 27, 48, 166 is derived from a misidentification; the specimens belong to the common Radermachera glandulosa (Bl.) Miq.

These two pages have unfortunately become transposed.

**Pandorea pandorana (Andr.) Steen.**

Add to Distr.: Central Celebes (van Ballooy 3915), and change Fig. 38, map, accordingly.

**Burmanniaceae**

4: 159a, 153b

Gymnosiphon Bl.
Add to Distr.: Lesser Sunda Islands: Flores (Schmutz 4802, prob. G. aphylus Bl.). The genus is not yet reported from the Moluccas and the Philippines.

4: 177a

Thismia Griffith.
Add the synonym: Geomitra Becc. Malesia
1 (1877) 250.
Add Note. 15. *Thismia clavigera* seems to be better accommodated in *Thismia sect. Sarcosiphon* (Bl.) Jonker, from the three species of which it is distinct by the free clavate inner tepals.

4: 22 Insert in the key after the second lead of 1:
1a. Inner perianth lobes connate at the tips, forming an erect mitre with large holes. Continue to 12.
1a. Inner perianth lobes connate at the tips, forming a mitre with large holes, the lobes continued above the mitre as 3 free, almost erect, filiform, clavate segments ............ 15. *T. clavigera*


**Distr.** *Malesia*: Malay Peninsula (?Pek, G. Hiau above Taiping; Langkawi Is.), N. Sumatra (Gajo Lands), Borneo (Sarawak; Lundu Distr.).

Delete 4. *Geomitra* etc.

**Burrseraceae** (Leenhouts)

5: 222a *Dacryodes rugosa* (Bl.) H. J. Lam.

5: 228b *Dacryodes longifolia* (King) H. J. Lam.
Add to literature: Kochummen in Whitmore, Tree Fl. Malaya 1 (1972) 141.
Add to description: Tree up to 40 m with buttresses up to 3.5 m (cf. KOCHUMMEN, 1972).
Add to Distr.: Throughout the Malay Peninsula (KOCHUMMEN, 1972); var. longifolia also in Borneo.
Insert: Ecol. Usually on coastal hills or hills which were coastal in the Pleistocene (KOCHUMMEN, 1972), up to 300 m. Fr. April.

5: 232a *Sanitria grandiflora* Kalkman.
Add to description: Branchlets up to 1.75 cm thick. Leaflets finally glabrous beneath. Fruits nearly transversely obovate, 2 by 1.25 by 1.5 cm, stigma more than 90° excentric.
Add to Distr.: N. Borneo (Sipitang Distr., Mendalong, Lumaku For. Res.).

5: 251 Add in the key to the species of Canarium, after the second lead of 6:
6b. Stipules up to 1.5, rarely 2.5 cm long, not distinctly exceeding the terminal bud. Branchlets solid. Stamens 6.
7a. Branchlets 1.5–3 cm φ; pith thick and soft.
7a. Petiole terete with the stipules inserted at the base. Fruit glabrous
56. C. batjanense
7a. Petiole sharp-angular with the stipules inserted on the angles up to 5 cm from the base. Fruit prickly-hairy ............ 43. C. hirsutum

5: 275a *Canarium grandifolium* (Ridl.) H. J. Lam.
Add to Distr.: According to KOCHUMMEN (in Whitmore, Tree Fl. Malaya 1, 1972, 129) also in Borneo (Brunei).

5: 276b *Canarium decumanum* Gaertn.
Add to description: Leaflets of the upper pairs sometimes on the basiscopic side decurrent till the rachis. Fruits up to 12 cm long.
Add to Distr.: Admiralty Is. (Manus I.).
Add to Ecol.: sago swamp.

5: 283b *Canarium fusco-calyceinum* Ridl.
Add to description: Tree up to 21 m high and 60 cm φ. Infructescences c. 15–30 cm long with few short oblique-erect branches and with few fruits; calyx funnel-shaped,

**Fig. 1. Thismia clavigera** (Becc.) F.v.M., ×2 (after Beccari).
trigonous, c. 1 cm diam. Fruits (immature) narrowly oblong, tapering to both ends, trigonous in section, 3.5 by 1.25 cm, glabrous; in section the kernel with flat sides and slightly rounded angles, the lids with a very faint median rib, lids c. 1.5 mm thick. Seeds 2, the sterile cell moderately reduced. Add to Ecol.: On clay, up to 340 m. Fl. Aug.

5: 290a Canarium rigidum (Bl.) Mtq. Add to Distr.: Moluccas (Obi I.).

5: 290b Canarium cestacion LEENH.

291a Add to description: Twigs up to 11 mm ø. Stipules linear, tapering to an acute point, 4 by 1 mm. Leaves up to 8-jugate; leaflets from 2.5 cm broad on; acumen sometimes long and slender; nerves up to 17 pairs. Fruits up to 3 cm high and 1.75 cm broad. Add to Distr.: Milne Bay Distr.


Note. The present species seems to be allied with C. acutifolium MERR., C. balsamerifum WILD., and C. oleosum ENGEL., which is also well in accordance with its geographical position (cf. LEENHOUTS, Blumea 9, 1959, 317, f. 9). It seems nearest to C. balsamerifum, which differs by the absence of stipules, the far stronger reduced pistil in the male flower, and the fruit cells that are all three well developed. The only moderately reduced pistillode is well in accordance with C. oleosum, different in both other points mentioned under C. balsamerifum, however, and moreover in the much smaller, nearly ovoid fruits. Vegetatively, C. acutifolium and C. batjanense are hardly separable but for the longer and more persistent stipules of the former; C. acutifolium differs, however, in the strongly reduced pistillode and in the smaller and more globular fruits.

7: 822a Dacryodes multijuga LEENH. Add: Distr. South Sumatra (FORBES 3073, L), fruits only. Hitherto only known from one collection in Malaya.

Campanulaceae


Branched dwarf herb, prostrate. Twigs, leaves and calyx hairy. Leaves at end of twiglets, narrow-oblanceolate, 8–10 mm long. Filaments glabrous, not widened at base, thus different from both W. confusa and W. marginata.

Distr. Malesia: Papua New Guinea: along bank leading from Iswan swamp to Koma Creek (Mt Victoria), c. 2650 m. Fl. fr. May.

Note. According to the author closely related to the glabrous New Zealand species W. albomarginata Hook. f.

P. van ROYEN has provided a new key to the New Guinea species of Lobelia. Cf. BOT. J. Linn. Soc. 77 (1978) 120.


Stemless dwarf, 7–20 mm high, with a single central flower in a rosette of ovate leaves. Corolla isomerous, without a dorsal slit, lobes 5, equal, filiform, long.


Caprifoliaceae

4: 175 Add to the family description: Leaves very rarely scattered or in pseudowhorls (sub-fam. Alseuosmoideae).

4: 176 Insert in the key after the second lead of 1: 1a. Leaves scattered or in pseudowhorls.


4: 192a Add to Distr.: West New Guinea: Arfak Mts, Mt Lensemoi, 1850 m, BW 12657; Wissel Lake region, EYMA 4618; Papua New Guinea: Morobe Distr., Sattelberg, Timbe R., 1500 m, CLEMENS 7793.

Add to Notes: These records fill the gap of the generic range in East Malesia, two species being recorded from Australia, which are discussed in VAN STEENIS, l.c.


Shrublets. Leaves scattered or in pseudowhorls, entire or with a few faint teeth towards the apex. Flowers actinomorphic, 5-merous, fascicled or solitary axillary. Ovary inferior, 2-celled, with rather few (1–4) ovules on the septum. Corolla gamophyllous, somewhat barrel-shaped. Stamens 5, free.

Distr. New Caledonia (4 spp.), Papua New Guinea (1 sp.).

Notes. This genus belongs to the subfamily Alseuosmoideae, best known from
the small genus *Alseuosmia* A. Cunn. from New Zealand.

There is no unanimity of opinion about its taxonomic place. Sometimes it is treated as a separate family, but mostly it is assigned an isolated place in *Caprifoliaceae*, to which I agree. This is another New Caledonian genus now turned up in New Guinea. A third, yet undescribed monotypic genus of the subfamily occurs in Queensland (*Van Steenis, l.c.*).


Glabrous, epiphytic shrublet, c. 75 cm; stem and branches very slender. *Leaves* scattered and in pseudowhorls, lanceolate-oblong, 15–25 by 6–8 mm, cuneate at base, acute at apex, margin entire or mostly with 1 or 2 short gland-tipped teeth; nerves 2–3 pairs; very erect; venation impressed above. Petiole 3–4 mm. *Flowers* solitary; pedicels pink, 1–2 mm. *Calyx* *lobes* 5, thickish, blunt-deltoid, 1.25 by 0.5 mm. *Corolla* narrowly barrel-shaped, 6 mm long, pinkish light green; lobes 1 mm, carunculate inside apex. *Stamens* 5, free, alternipetalous. *Ovules* 4–5 in each cell, attached to the septum, flatish. Style columnar, as long as the corolla; stigma globular, rugose.

Distr. **Malesia**: Papua New Guinea: West Sepik Distr., Telefomin Subdistr., 3000 m alt., in *Podocarpus-Phyllocladus* woodland with *Gahnia* tussocks dominating the undergrowth (LAE 670687).

**Celastraceae** (Ding Hou)

6: 233  
*Celastrus hindii* Bth. Cf. Stone, Mal. For. 43 (1980) 244.  
This species was not treated in the paper, but its occurrence in Malaya is mentioned twice in the summary. The specimen in question (Stone 14039) was misidentified and belongs to the common *C. monospermodoides* *loes.*

6: 243  
*Xylognus* Kalkman.  
Change in description: Flowers 4–5-merous.

6: 245  
*Xylognus* versteeghii Kalkman.  

6: 420  
*Salacia kalahiensis* Korth.  
Hitherto known from the Philippines, Borneo and Java. Now also from the Lesser Sunda Is.: W. Flores (Paku, 400 m, Schmutz 4523; vern.: wase mantur).

**Chenopodiaceae**

4: 104  
*Arthrocnemum* Moq.

After a long and careful study of Australian *Salicornieae* P. G. Wilson has concluded that the concept of the genus *Arthrocnemum* is polyphormous, and that the Malesian species attributed to it (*A. indicum*) should belong to a new genus, *Halosarcia*, differing from *Arthrocnemum* in scleroids and the adaxial stamen which he finds of fundamental importance; he suggested that the two genera are not closely related.

Within *Halosarcia indica* Wilson distinguishes four subspecies, two of which are endemic to Australia and two others occur also outside Australia, the type *ssp. indica* also in India and Tanzania, and a new subspecies in South Malesia. As *ssp. indica* might also be found in Malesia, I extract Wilson’s key.


**KEY TO THE SUBSPECIES**

1. Plant decumbent or prostrate. Articles of branches corky with age, ± truncate, entire ............... *ssp. indica*

1. Plant ± erect. Cortical tissue of articles shrivelling with age, often lobed, ± ciliolate ............... *ssp. leiostachya*


**Connaraceae** (Leenhouts)

5: 495  
Anatomy. W. C. Dickson (J. Elisha Mitchell Sc. Soc. 87, 1971, 77–86; ibid. 88, 1972, 120–136; ibid. 89, 1973, 121–138) concluded that *Connaraceae* are distinctly allied with *Leguminosae* and *Rosaceae*. His conclusions regarding relationships within the family deserve a more critical attitude, however, as at that time the author was in-
sufficiently aware of the difficulties of interpreting taxonomy, especially regarding synonymy; he was too much inclined to take identifications of herbarium specimens for granted.

Palynology. W. C. Dickison, Pollen et Spores 21 (1979) 31–79. In this extensive survey of the pollen of the Connaraeae, the author avoided the mistakes made in his earlier anatomical papers. This makes his conclusions of greater importance. The taxonomic opinions brought forward in the Flora Malesiana revision of this family are to a high degree confirmed.

5: 504a Agelaea trineris (Llanos) Merr.

5: 507b Roureopsis asplenifolia Schellenb.
Add to Distr.: Borneo.

5: 520a Rourea prainiana Talbot.

5: 524b Ellipanthus beccarii Pierre.
Add to Distr.: Sumatra (var. beccarii).

5: 526 Correct the key to the species of Connarus as follows:
second lead of 18: ....... endocarp sparsely to densely non-glandular pubescent.
couplet 19: delete ‘Sepals blunt versus ‘Sepals acute’.

5: 528 Insert after 2. Connarus euphlebius:
Differs from C. euphlebius Merr. as follows:
Branches and leaves glabrous. Petiolo-
lules 0.8 cm. Nerves 5–6 (–8) pairs. Petals
(under the fruit) outside appressed shortha-
airy. Beak of fruit faint, lateral, slightly
below the apex; pericarp outside glabrous,
inside with a few scattered hairs.
Distr. Malesia: Borneo (Sarawak; S 14731, S 18903, S 24232, S 24715, S 28417).
Note. Already in 1962 I studied the type
material on which this new species is based
and found it is allied to C. euphlebius,
but differed in several points and seemed
to represent a new species. I pointed out
the differences cited above (in sched.). Because
floral characters are important in the
genus, I refrained from describing it, all
material hitherto known being in fruit.

5: 538b Connarus monocarpus L. ssp. malayensis
Leenh.
Add to Distr.: SE. Thailand (cf. Vidal, Fl.
Thailand 2, 1972, 129).

Convulvulaceae

4: 485a Change 36. Ipomoea illustris etc. as follows:
36. Ipomoea campanulata Linné, Sp. Pl. (1753) 160; Moon, Cat. Pl. Ceyl. (1824) 14;

4: 485b Change 37. Ipomoea crassicaulis etc. as follows:
37. Ipomoea carnea Jacq. ssp. fistulosa
(Mart. ex Choisy, in DC.) D. Austin,
ex Choisy in DC. Prod. 9 (Jan. 1845) 349.
— Batatas crassicaulis Bth. Vey. Sulph. 5
(June 1845) 134. — I. crassicaulis (Bth.) B.

Note. Apparently Adamboe Rheede
does not belong to Stictocardia — as Van
Ooststroom hesitantly assumed—and be-
comes the type through the new typifica-
tion. The name change is a nuisance, but has
to be accepted.

4: 487a Change 40. Ipomoea tuba etc. as follows:
4 (1819) 451; Powell, Nicolson & Austin,
Brittonia 30 (1978) 201. — I. tuba
(Schlechtend.) G. Don, Gen. Syst. 4
(1838) 271; Ooststr. Fl. Males. I, 4 (1953)
487.

Note. An unfortunate but unavoidable
name change of a pantropical species.

Crassulaceae (H. Ohba, Tokyo)

4: 197 Insert the key and replace the species
description under the genus Sedum L. by
the following new treatment:

KEY TO THE SPECIES

1. Sepals free.
2. Flowers 4-merous, sepals narrowly ob-
long-spathulate. Styles very short (less
than 0.3 mm). Flowering stems simple.
Cauleine leaves spatulate
1. S. erythrospermum spp. australis
2. Flowers 5-merous, sepals spatulate (to
oblong). Styles long (0.9–1.2 mm).
Flowering stems tri- (rarely bi-)furcate.
Cauleine leaves spatulate to broadly
ovate ......... 2. S. formosanum
1. Sepals connate for c. 0.5 mm. Flowers
5-merous, sepals linear-lanceolate to
very narrowly oblong. Style long (c. 1.2
mm). Flowering stems with a short sterile shoot or simple. Cauline leaves oblanceolate to narrowly obovate.

3. S. parvisepalum *ssp. philippinense*


---

Fig. 2. *Sedum erythrospermum* HAYATA. *S. australis*. (a) Petal with stamen, (b) sepal, (c) nectar scale, (d) ovaries. — *S. parvisepalum* YAMAMOTO. *S. philippinense*. (a) Petal with stamen, (f) calyx lobe, (g) nectar scale, (h) ovaries. All × 5 (a–d ELMER 6568, e–h MUNI 5644).

Succulent, glabrous, perennial herb. Roots thin. Flowering stems annual, 5–10 cm long, 1.5–2 mm Ø, simple, erect from nearly decumbent base, smooth. Leaves alternate (rarely opposite or ternate), remotely arranged, sessile, shortly spurred (the spur with a round-truncate apex, c. 0.5 mm long), entire, spathulate, apex round or obtuse, base long attenuate, 7–18 (–27) by 2–5 (–11) mm, thick-herbaceous, flat, smooth, spreading or ascending. Inflorescences terminal, a ternate bracteate cyme. Bracts leafy, spathulate to obovate. Flowers mostly 4-merous, erect, sessile. Sepals free, narrowly oblong-spathulate, base spurred (the spur with round-truncate apex, 0.2 mm long), apex round to nearly truncate, somewhat broadening towards the base, entire, somewhat unequal in size, 2–4 by 0.8–1 mm, more or less fleshy, green, smooth, suberect throughout, persistent at fructescence. Petals bright yellow, connate c. 0.3 mm from the base, lanceolate-acuminate, 4 mm by 1.2 mm, widely spreading at anthesis. Stamens 8, shorter than the petals, erect at anthesis; filaments filiform, 3–4 mm, oppositipetalous ones c. 1 mm from the base connate with the petal. Nectar-scales flat, narrowly oblong, 0.8 by 0.3 mm. *Gynoeicum* 3–4 mm long, the ovaries basally for c. 0.5 mm connate, ventrally gibbose, dorsally round, suberect, 1.5 mm wide at the middle, style very short, less than 0.3 mm. *Ovules* c. 20 in each locule.

Distr. *Melia*: Philippines (Luzon, Benguet Prov.: Mt Santo Tomas, ELMER 6568 = PNH 114365). The *spp. erythrospermum* occurs in Formosa.

Ecot. On ledges and gravely hillside near the summit of mountain, 2000–2200 m.

Note. *Ssp. erythrospermum* differs from *spp. australis* in having 5-merous flowers, narrowly oblong-oblanceolate or linear sepals, subulate or narrowly lanceolate petals, and usually triferulate flowering stems.


Succulent, glabrous, perennial herb, up to 25 cm high. Flowering stems erect from a creeping or procumbent base, once or twice tri- (rarely bi-)furcate, terete, smooth. Leaves alternate, remotely arranged, sessile, very shortly spurred (the spur less than 1 mm), entire, spathulate to broadly obovate, apex round, base long attenuate, 1.5–3.5 by 0.6–1.6 cm, fleshy, bright green above, paler below, smooth. Inflorescences terminal, a ternate, bracteate, loosely many-flowered cyme. Bracts leafy. Flowers 5-merous, sessile, 6–9 mm at anthesis. Sepals free, very shortly spurred (c. 0.3 mm), entire, spathulate or rarely oblong, apex round, somewhat broadening towards the base, nearly equal in size, 2.8–3.7 by 0.8–1.3 mm, fleshy, ascending at anthesis. Petals bright yellow, basally connate for c. 0.5 mm, lanceolate to oblong-lanceolate, acute, 5.2–6.2 by 1.3–1.6 mm, nearly erect or ascending at anthesis. Stamens 10, shorter than the petal, nearly erect at anthesis; filaments filiform, 4.5 mm, the oppositi-
petalous ones for c. 0.8 mm connate with the petal, anthers oblong, c. 0.4 mm long, deep yellow before dehiscence. Nectar-scales broadly oblong-obovate to broadly oblong, c. 0.5 by c. 0.4 mm, creamy white, flatish. Gynoeicum 5.6–6.2 mm long, the ovaries for c. 1.5 mm connate, ventrally gibbose just above the ventral connection, dorsally round, erect throughout, c. 1.6 mm wide at the middle part, abruptly narrowing near the apex; style 0.9–1.2 mm, slender, tapering towards the apex; stigma lowly papillate, yellowish. Ovules 20–24 in each locule. Follicles 6–7 mm long, whitish, obovate, carpels not spreading. Seeds oblong, c. 0.7 mm long, testa brown, very minutely puncticulate throughout.

Distr. Formosa and Japan (Ryukyu and Kyushu), in Malesia: N. Philippines (Batan I.: HATUSSIMA & SATO 28624).

Ecol. On rocks at the shore, rarely inland. Fl. June–August.


 Succulent, glabrous, perennial herb, up to 15 cm high. Flowering stems ascending or erect from creeping, sometimes branched base, with a short sterile shoot or simple, terete, smooth. Leaves alternate, remotely arranged, sessile, very shortly spurred (c. 0.5 mm), entire, narrowly obovate to oblong-cylindrical, base attenuate, 0.9–1.7 by 4–6 mm, thick-herbaceous, smooth. Inflorescences a terminal, ternate cyme, densely 30–50-flowered, sparsely bracteate. Bracts leafy. Flowers 5-merous, sessile, c. 10 mm wide at anthesis. Sepals basally for c. 0.5 mm connate, linear-lanceolate to very narrowly oblong, entire, slightly unequal in size, 2.5–3.5 by 0.5–0.7 mm, apex round, slightly broadening towards the base, base sparsely, fleshy, ascending or spreading through anthesis. Petals bright yellow, basally for c. 0.5 mm connate, lanceolate, apex acute to acuminate-acute, 5–6.5 by 0.8–1 mm, spreading at anthesis. Stamens shorter than the petals, filaments 3.5–3.7 mm, the oppositipetalous ones for c. 1 mm connate with the petals, anthers ovate, c. 0.6 mm long, reddish before dehiscence. Nectar-scales broadly oblong to square, c. 0.5 by 0.3 mm. Gynoeicum 4–5 mm long, the ovaries for 0.7 mm connate, ventrally gibbose, dorsally round, c. 1 mm wide, tapering towards the apex from the middle, style c. 1.2 mm, slender, stigma not papillate. Ovules (20–) 24–34 in each locule. Follicles brownish, 4–5 by c. 2.5 mm, carpels widely spreading. Seeds brownish red, oblong-cylindrical, 0.7 mm long, apex round, testa very minutely puncticulate.

Distr. Malesia: Philippines (Luzon, Benguet Prov.: BS 4279, 4451, 5373, 5644, MERRILL 4861, VAN STEENIS 17950, WILLIAMS 117). The ssp. parvicepalum occurs in Formosa.

Ecol. On rocks or boulders along steep slopes, c. 300–1700 m.

Note. Ssp. philippinense is distinguished from the Formosan ssp. parvicepalum by the narrowly obovate to oblong-cylindrical leaves, shorter flowering stems, and longer petals. Ssp. parvicepalum has linear-oblong-cylindrical leaves, flowering stems up to 25 cm long, and petals attaining 7.5 mm long. Ssp. philippinense differs from the Philippine S. erythrospermum ssp. australis by the 5-merous flowers, the ovaries with long style, the broadly connate, linear-lanceolate sepals, and the narrowly obovate to oblong-cylindrical calyces leaves.

Cypereaceae

7: 468 Add to Fig. 10, map of Mapania: Lesser Sunda Islands: Flores 1

7: 471a Mapania macrocephala (GAUDUCH.) K. SCH.
Add to Distr.: Lesser Sunda Is. (W. Flores: Paku, Wae Melang, 700 m, damp streambed in rain-forest, SCHMUTZ 4913).
Add to Notes: The species was known from the S. Philippines and N.—Central Moluccas eastwards; Flores is an important extension westwards. The nuts are on the small side, some 4–4.5 by 3 mm and pearl grey.

7: 474a Mapania cuspidata (MIQ.) UITTEN.
Add to Distr.: Lesser Sunda Is. (W. Flores: Paku, 500 m, plant 1 m, locally gregarious, in rain-forest, SCHMUTZ 4816).
Add to Notes: The widest distributed species of the genus, of which KERN (Pl. Males. I, 7, 1974, 466) expressly stated that it lacked in the Lesser Sunda Islands, the gap now being filled.

7: 522a Lipocarpha chinensis (OSB.) KERN.
Add to Distr.: Lesser Sunda Is. (Flores: VELDKAMP 7102).

7: 567a Firmiostylis eragrostis (NEES) HANCE.
Add to Distr.: Australia: Northern Territory (Arnhem Land: P. K. LATZ 2836).

5: 567b Firmiostylis fusca (NEES) CLARKE.
Add to Distr.: Australia, Northern Territory (Katherine Gorge: DUNLOP 3733). A new record for Australia.

7: 605b *Cyperus esculentus* LINNÉ.
Add to literature: EVERAARTS, Weeds Vegetables Java (1981) 79. Kern knew this widely distributed species only from a single 'suspected' collection. This suspicion is now removed by Mr. A. P. EVERAARTS in his study on weeds of Java. He collected this species in fields (with vegetables) near Lembang and Pengalengan in West Java and on Mt Tengger (Tosari, Ngadisari) in East Java at 1300-1400 m.

7: 640a *Cyperus compactus* RETZ.

7: 686a *Oreobolus kükenthalii* STEEN.

7: 687a Add to Distr.: NW. Borneo: Sarawak (4th Div., N. side of Mt Murud), and dot this locality in Fig. 85. Add to Ecol.: Forming dense tufts in wet rock holes, 2100 m, BURT & MARTIN 5482. Add Note: Hitherto only known from N. Sumatra and Malaya; Mt Kinabalu is the westernmost locality of another species, *O. ambiguus* KOK & STEEN.

9: 149a *Carex breviscapa* CLARKE.
Add to Distr.: Central Celebes (Mt Lokilakali: W. MEUER 9876). Add to Ecol.: 1700-2200 m alt.

9: 164a *Carex oedorrhampha* NELMES.
Add to Distr.: Central Celebes (Mt Lokilakali: W. MEUER 9869).

**Dipterocarpaceae** (ASHTON)

9: 239 Line 16 from top: *Cotylelobium* has 5 *sp*., not 6.

9: 242 Paragraph 5: replace 2nd and 3rd sentence by: It is not impossible that they were derived from the Indian subcontinent, as according to geophysical theory this rafted block of land had by the Eocene joined the Asian plate, while, moreover, *Dipterocarpus* could have migrated through S.W. Asia before it became arid in the Miocene.

9: 244 Paragraph 2, lines 10-12: *ssp. philippinensis* also in S.E. Borneo; the doubtful sterile specimens belong to *ssp. philippinensis*.

9: 246 Line 16 from top: change SASAH into SASA-

9: 246 Change the last two lines from bottom into: and its intensity would tend to inhibit vector numbers from reaching adequate levels for effective pollination. CHAN (1980) found most species to have high self-incompatibility, but apomictic adventive em-bryony occurs in several species (see p. 263, 270).

9: 257 Line 13 from top: change SASAH into SASA-

9: 267 Paragraph 3, line 4, add after 'species lev-

9: 269 Paragraph 2, last line, add between the brackets: SOMEGO, 1978.

9: 272 Line 16 from top: change 'hypochroa' into hypochra.

9: 273 Line 4 from bottom: change DC. into KURZ.

9: 276 Line 7 from bottom: omit 'Balanocarpus'.

9: 279 Paragraph 2, lines 8 & 9, change sentence into: The mature fruit of *Pakaraimaea* is small, capsular, but the method of germination is unknown.

9: 284 Substitute paragraph 5 by: A picture thus emerges of the Asiatic subfamily originating in Central Gondwanaland and migrating eastwards. It appears likely that the family originated in the seasonal tropics; subsequent immigration and rapid diversification in the oceanic climates of S.W. Ceylon, West Malesia and New Guinea being accompanied by a reduction in stamen number and pollen production, and tomentum; and the evolution of a thin-walled and poorly dispersed fruit.

9: 290 Line 6 from bottom: change 'sort' into short.

9: 293 Line 5 from top: replace 'D. apterus' by *D. validus*.

Paragraph 5, line 3: change 'but' into by.

9: 304a *Dipterocarpus bauddii* KORT.
Line 11 from top: change 'D. elongatus KORT.' by *D. validus* BL.

9: 310a *Dipterocarpus kunstleri* KING.
Line 16 from top: change 'D. elongatus KORT.' by *D. validus* BL.

9: 339a In caption Fig. 35 replace 'place' by tree, and add: The collector MJAH indicates scale.

9: 341 *Cotylelobium* PIERRE.
Paragraph 2, after 'Distr.', change 6 into 5.

9: 342b *Cotylelobium melanoxylon* (Hook. f.) PIERRE.
Delete the Note.

In caption Fig. 41: *b* belongs to *Vatica umbonata* (Hook. f.) BURCK ssp. acrocarpa (SLOOT.) ASHTON, d-e to *ssp. umbonata*.

9: 355a *Vatica sarawakensis* HEEM.
Line 11 from top: change 'V. oblongifolia'
I, from New Salonga.


4: 377, 5: 557, 6: 943

Shorea parvifolia Dyer ssp. parvifolia. In 'Vern.' line 2, change 'bung' into bunga.

Drosoraceae

B. J. CONN (Brunonia 3, 1980, 209–216, 2 fig.) gave a review of Drosera L. in New Guinea, where all Malesian species occur. He gave a new key, cited new records, and added a 7th species, which was hitherto only known from lowland savannahs in Northern Australia.

Drosera banksii R. Br. ex DC. Prod. 1 (1824) 319; B. J. CONN, Brunonia 3 (1980) 209, f. 2A.

Similar to D. peltata J. E. Smits, but differing by absence of bracts under the flowers and presence of stipules.


Ecol. Under seasonal climatic conditions in open Banksia dentata savannahs, with Melaleuca, Acacia, and Eucalyptus, at c. 20 m altitude.

Ericaceae

Add the Rhododendron species 298–301; see below.


Distr. Malesia: Papua New Guinea, W. Sepik, Mt Capella (Star Mts), 3800 m (LAE 68056).

Note. Keys out to aff. R. vinkii SLEUM., but its affinity is obviously with R. pulleatnum KOORD.

Rhododendron scortechinii K. & G.

Add to Distr.: Borneo: Sarawak (Mt Mulu, en route from 4th camp to summit, on western ridge), 2000–2400 m (Hotta 14907).


Distr. Malesia: West New Guinea: Mt Carstensz, near mining on S. slope, 2100–2700 m (Raynal 17580, 17672).

Note. Keys out near R. rutenii J.J.S.


Distr. Malesia: Borneo: Sarawak (Mt Murud), 1500 m.

Note. Belongs to ser. Buxifolia; cultivated at Edinburgh. No affinity given but keys out to R. frey-wysslingii J.J.S. from N. Sumatra.

301. Rhododendron rubineiflorum CRA-
Addenda, corrigenda et emendanda

Ecol. Alpinestruhberreries, 2650–3400 m. 
Note. Closely allied to R. anagalloides Wernhe. 

6: 646b Rhododendron nervulosum SLEUM. var. exuberans SLEUM. 
Note. Additional remarks; attention is drawn towards similarity with R. stenophyllum Hook. f. 

6: 657a Correction as follows: 
277. Rhododendron irroratum FRANCH. 
ssp. kontumense (SLEUM.) CHAMBERLAIN, 
Note. R. irroratum is a Chinese and Indochinese species. 

6: 878, 777 242. Vaccinium altiterraæ VELDK. Blumea 
25 (1979) 479. 
Ecol. Edges of Drimys/Rapanea coppices, 3400–3675 m. 
Note. Allied to V. oranjense J.S. 


6: 895, Reduction proposed to variety: 

6: 914 Add the following three Dimorphanthera species: 
Distr. Malesia: West New Guinea (Balieum; Bele R.; Lake Habbema). 
Ecol. Sprawling or scendent shrub in valley forest, 2000–2350 m. 
Note. Specimens were confused with D. wrightiana (KOORD.) J.S. Not assigned to a section. 
Distr. Malesia: West New Guinea (Wissel Lakes); one collection, formerly confused with D. wrightiana (KOORD.) J.S. 
Distr. Malesia: Papua New Guinea, Morobe Distr., Edie Creek, 2700 m, van der Kloet 35875, in fern heath; fl. Aug. 
Note. Belongs to sect. Pachyanthae, probably closest to D. ingens (SLEUM.) STEVENS. 

7: 277 Nothofagus BL. 
Unfortunately the typification of the genus Nothofagus by N. betuloides (MIRB.) OEERST. (Taxon 7, 1958, 145) has been overlooked, and consequently some names of infrageneric taxa need correction. 


12, replace '2. Sect. Calusparassus (HOMBR. & JACQ.) KRASSER' by: 2. Sect. Nothofagus, and add the former name to its synonymy. 

13, replace '2a. Subsect. Quadrariptae' by: 2a. Subsect. Nothofagus, and add the former name to its synonymy. 

Replace '1. Section Calusparassus (HOMBR. & JACQ.) KRASSER' by: 1. Section Nothofagus, and add the former name to its synonymy. 

Trigonobalanus FORMAN. 
Through the paper by D. H. MAI on the Tertiary fossils of the genus in the Eocene in Europe (Jahrh. Geol. 3, 1970, 381–409) it has become clear that the two living species of the genus in West Malesia and Thailand are relics of a former much larger range. T. doichangensis, hitherto only known from Thailand, has now also been recorded from Yunnan (HSU, WANG, WU & LI, Acta Bot. Yunnan. 3, 1981, 213). 

This conclusion is now unexpectedly confirmed by the find of a third living species in the mountains of the National Park of Columbia (NW. South America). G. LOZANO-C, J. I. HERNANDEZ-C & J. E. HENAO-S published this as T. excelsa nov. sp. (Caldeasia 12 (n. 60), 1979, recvd June 1980, 517–537, 3 pl.). It grows in mountain forest at 1550–1800 m, as a large tree, 20–40 m high. Its leaves are scattered, as in the Thailand–Yunnan species. It is clear that the genus once had an ancient, large Laurasian range. It should also occur in the fossil state in the southern U.S.A. 

Flacourtiaceae 

5: 46b Ryparosa javanica (BL.) KURZ. 
Add to Distr.: Lesser Sunda Is. (Flores: Paku, 500 m, SCHMUTZ 4818). 

5: 51 Homalium JACQ.
Craven (Brunonia 2, 1979, 107–124, 9 fig.) has given a new treatment of the Papuan species by proposing 8 new species, by which the number of 2 distinguished by Sleumer (Fl. Males. 1, 5, 1954, 51) has increased to 10, apart from the 11th, H. tatambense Sleum. from the Solomons which is included here. This is surprising to me, the more so as 7 of them are based on a single specimen. From the key given it appears that single vegetative differences are frequently used for their delimitation and almost all are compared with the widely distributed, very variable H. foetidum. Future collections will show whether they will stand the test of time. Craven's key and diagnoses are extracted here:

**KEY TO THE PAPUASIAN SPECIES**

1. Stamens always solitary before each petal.
2. Flowers sessile or subsessile, in simple spikes or racemes.
3. Leaf-apex long-attenuate, acute; leaf margin entire or obscurely distantly crenate. Papua New Guinea (Morobe Distr.; 1 old coll., not seen) .

1. H. acutissimum Gilg
3. Leaf-apex shortly acuminate, obtuse; leaf margin distinctly crenate. — Differs from H. foetidum by sessile flowers and solitary stamens. Papua New Guinea (Western Distr.; 1 coll.) 7. H. reductum Craven
2. Flowers distinctly pedicellate, in racemes or panicles.
4. Petiolo c. 10 mm long. Leaf margin strongly crenate. — Differs from H. acutissimum by distinctly crenate leaves and pedicelled flowers in panicles. Papua New Guinea (Madang Distr. and Bagabag I.; 2 coll.; New Ireland (1 coll.) .

2. H. bismarckense Craven
4. Petiolo c. 5–6 mm long. Leaf margin weakly crenate. — Differs from H. acutissimum by elliptic acuminate leaves and distinctly pedicelled flowers. West New Guinea (Vogelkop; 1 coll.)

H. caput-avis Craven

1. Stamens in fascicles of (1) 2 or more before each petal.
5. Stamens constantly in pairs, one behind the other. Papua New Guinea and Bismarcks, many collections

5. H. foetidum (Roxb.) Bth.
6. Leaves broadly ovate to subcordate. Stamens in fascicles of 5–8. — Differs from H. foetidum by broad subcordate leaves and stamens in fascicles of 5 or more flowers. Solomons (Guadalcanal; 1 coll.)

9. H. subcordatum Craven
6. Leaves elliptic to lanceolate. Stamens in fascicles of not more than 5.
7. Perianth segments sparsely hairy, at least the sepals glandular on the margins. — Differs from H. foetidum by glandular perianth. Papua New Guinea (Milne Bay Distr.; 1 coll.) .

8. H. streimannii Craven
7. Perianth segments densely hairy and non-glandular.
8. Leaf margin weakly crenate to entire. — Possibly allied to H. subcordatum but different in elliptic narrower leaves and stamens usually in fascicles of 3–4. Solomons (Santa Isabel 1.; 1 coll.)

10. H. tatambense Sleum.
8. Leaf margin distinctly crenate.
9. Leaves velutinous. — Differs from H. foetidum by the velutinous leaves and stamens mostly in fascicles of 3–4. Papua New Guinea (Central Distr.; 1 coll.)

11. H. velutinum Craven
9. Leaves glabrous.

4. H. dentrecasteauxense Craven

6. H. manaueanae Craven

Flagellariaceae

4: 249b Hanguana malayana (Jack) Merr.

Note. The specimens belong to var. anthelmintica (Bl.) Bakh. f.

4: 249 Hanguana major Shaw, Kew Bull. 35 (1981) 819, 1 fig.

This proposed new species, confined to the Kinabalu area, differs from the commoner form with small, globular fruits closer set, by spaced, larger, ovate-acute fruit up to 1.5–2 by 1.25 cm. Shaw added that the small-fruited form does not occur in this area.

The species H. malayana, as conceived by Bäcker (Fl. Males. 1, 4, 1951, 249) is admittedly variable, Bäcker mentioning the fruit also to attain 2 cm. Extensive field observation would be needed to check the racial and population variability in detail over the entire range.
Geraniaceae

4: 445  *Geranium* LINNE.

The number of Malesian species, according to CAROLIN (Fl. Males. I, 6, 1964, 445) 3 and one variety, has unexpectedly been increased by VELDKAMP & MOERMAN (Blumea 24, 1978, 463–477) to 15, including 9 new species from New Guinea and 1 from SW. Celebes. In their introduction the authors state that the evaluation of taxonomic status of these taxa has posed a bit of a problem, which they have not been able to solve to their satisfaction, but further consideration has induced them 'to regard the taxa as species'. These considerations are, amongst others, that there may be chromosome taxa, that most taxa are represented by more than one collection, and that they appear to be homogeneous, although in several cases occurring on more than one mountain. In the key the exact description of the leaves plays an important role. Future research, especially karyologic, must show whether the specific status of the new species can be maintained.

**KEY TO THE SPECIES**

1. Leaves (sub)compound, middle 'leaflet' free for at least 0.9th of its length.
2. 'Leaflets' repeatedly 2–3-partite with + linear-lanceolate, overlapping segments; the middle 0.2–0.3 mm wide at base. Papua New Guinea (Mt Suckling; 4 coll.) ..................... 9. *G. leptodactylon* VELDK.
3. 'Leaflets' 3-lobed to -fid, segments broader, not overlapping, the middle 0.3–1 mm wide at base. Papua New Guinea (Star, Saruwaket, Owen Stanley Mts; 12 coll.) ..................... 13. *G. subcompositum* VELDK.
4. Middle leaf segment entire, the laterals sometimes with a lobe, rarely the middle segments of some leaves 2- or 3-lobed, leaves then glabrous on the upper surface, 5-partite, and petals pink.
6. Upper surface of the leaves glabrous. Peduncle in fruit 0–11 mm.
7. Leaves 7-fid, middle segment free for 0.5–0.6th of its length, 0.8–2 mm wide at the base of its free part. Papua New Guinea (Mt Giluwe, Wilhelm, Bangeta; 10 coll.) . . . . 7. *G. hyperaerion* VELDK.
8. Leaves 5-partite, middle segment free for 0.8–0.9th of its length, 0.5–0.7 mm wide at the base of its free part. West New Guinea (Mt Wilhelmina; 3 coll.) ..................... 15. *G. wilhelminae* VELDK.
9. Middle leaf segment lobed, in some upper or reduced leaves occasionally entire and rarely also glabrous on the upper surface, then 5–7-fid or petals purple.
10. Upper leaf surface glabrous or sparingly and patchily long-strigose.
11. Petals 9–16 mm long, purple (?) always, 1.7–2.1 times as long as the 5.5–7.6 mm long sepals. West New Guinea (Carstensz, Star, Piora Mts; 9 coll.) ..................... 12. *G. papuanum* RIDL.
12. Petals 4.5–6 mm long, white to pink, 1.2–1.4 times as long as the 3.5–4.8 mm long sepals.
13. Upper leaf surface patchily long-strigose. West New Guinea (Mt Wilhelmina; 1 coll.)
8. *G. lacustre* VELDK.
9. Upper leaf surface glabrous or with some long hairs near the margin. Papua New Guinea (Wharton Ra.; 6 coll.) ..................... 14. *G. whartonianum* VELDK.
10. Upper leaf surface evenly strigulose to strigose.
11. Leaf blade fairly large, usually over 15 by 25 mm.
12. Inflorescences strictly 1-flowered. Peduncle 25–41 mm. Sepals 5–6 mm long, in fruit 7.5–9 mm. Petals 5.5–7.5 mm long. Java (Mt Merbabu eastward to Mt Tenger; 13 coll.)
2. *G. arjunense* Z. & M.
13. Inflorescences usually 2-flowered. Pedicels 9–16 mm. Sepals 3.5–5 mm long, in fruit 3.8–7.5 mm. Petals 3.5–6 mm long. New Zealand, Tasmania, East Australia, Timor, East Java (Mt Tenger); 12 coll.
11. Leaf blade fairly small, usually less than 15 by 25 mm.
12. Middle leaf segment pinnately lobed. Peduncle in fruit 55–150 mm. Ceylon, Nilgiris, Himalayas (Afghanistan to W. China), N. Sumatra (one coll.) .......................... 1. *G. nepalense* SWEET
13. Leaf blades 7-fid to -partite. Peduncle in fruit 0–3 mm long. Papua New Guinea (Star, Kinkain, Wilhelm and Saruwaket Mts; 11 coll.) .......................... 5. *G. balgooyi* VELDK.
14. Leaf blades 5-partite. Peduncle in fruit 6–45 mm.
14. Inflorescences 1- or 2-flowered. Peduncle in fruit 6–20 mm, pedicle then 4–15 mm. Petals red-purple. SW. Celebes (Mt Bonthain; 2 coll.) .......................... 4. *G. frigidurbis* MOERMAN
14. Inflorescences strictly 1-flowered. Peduncle in fruit 19–45 mm, pedicel then 16–31 mm. Petals white to pinkish. Papua New Guinea (Sugarloaf, Giluwe, Saruwaket to Dayman Mts; 24 coll.)

11. G. niuginiense VELDK.

Goodeniaceae

5: 339a, 1. Scaevola sericea VAHL, Symb. Bot. 2

For extremely formal meticulous-nomenclatural reasons JEFFREY has advanced that S. sericea should be the proper combination.

Hydrocharitaceae


The generic name Hydromystria G. MEYER, Prim. Fl. Esseq. (1818) 152 antedates the synonym Limnobium RICH. ex STEUD. (1841).

Icacinaceae

7: 15 Gonocaryum Miq.
Add to Distr.: Lesser Sunda Is. (West Flores), probably G. macrophyllum (BL.) SLEUM.


The basionym antedates that of Stemonurus foetidis WIGHT by six years.

7: 56 Stemonurus Bl.
Add to Distr.: Lesser Sunda Is. (Flores; near Paku, 900 m, SCHMUTZ 3371, specimen in fr.; identified by SLEUMER).

This collection nicely fills a gap in the generic range and shows again that the Lesser Sunda Islands flora fits in with the rest of Malesia.

7: 73 Sarcostigma W. & A.
Add to Distr.: Lesser Sunda Islands (Flores).

7: 75b Sarcostigma paniculata PIERRE.
Add to Distr.: Lesser Sunda Is. (Flores; Paku, 500 m, SCHMUTZ 4818a).

Juncaceae

4: 213b Juncus bufonius L.
Add to Distr.: Borneo (Sabah: Mt Kinabalu, 3300–3760 m alt.)

VELDKAMP (Reinwardtia 10, 1982, 25) noted that the specimens differ in many details from the common form. I still consider it an alien brought by tourists.

Add the following species:

Distr. Malesia: Central New Guinea (Star Mts, Tel Basin, 3000 m, VELDKAMP 6369).

Note. The author finds this to be allied to the northern hemisphere J. balticus WILD. and tabulated differences with three other species, including J. inflexus L. No developed ovules could be found.

Luzula DC.

R. BROWN and BENTHAM assumed the Australasian species of Luzula to belong to a broad concept of L. campestris. In this they were followed by BUCHENAU in his monograph, except that the latter distinguished them to represent an outlying variety, var. australasica. MERRILL (1922) accommodated the Philippine specimens also in L. campestris sensu lato. BACKER (FL. Males. 1, 4, 1951, 215) identified the Philippine and Papuan specimens as belonging to the variety.

The precise naming of the Australasian specimens of this affinity complex from Australia, Tasmania and New Zealand has given rise to a confused nomenclature and species distinction which M. E. JANSEN has tried to solve (Blumea 24, 1978, 527–532, 1 fig.). For Malesia he distinguished two new endemic species, L. philippinensis M. E. JANSEN and L. papuana M. E. JANSEN. In the key he did not include how they are distinguished from L. campestris (L.) DC. It must be left to a future monographic study of the genus to see whether these two taxa can be upheld at specific rank.

Labiatae

8: 338b Leucas lavandulifolia J. E. SM. Change into:

Note. SMITH's name is illegitimate as a
superfluous name since he cited *Leonurus indicus* L. as a synonym. *Leonurus indicus* can no longer be transferred to *Leucas*, because of *L. indica* R.Br. ex *Spreng.* based on *Phlomis indicus* L.

8: 340b *Leucas flaccida* R.Br. Change into:


8: 361 *Satureja gracilis* (BTH.) Loes.
Add to Distr.: Borneo: Sabah (Headquarters Taman Negara Sabah, c. 1560 m alt., R. H. Willemse 605, in disturbed places).

**Liliaceae**

9: 213 *Thysanotus tuberosus* R.Br.
In a recent revision of the genus *Thysanotus* N. H. Brittan (Brunonia 4, 1981, 67–181) assigned the Papuan specimens to *T. banksii* R.Br., a name which since Bentham's Flora was considered a synonym. In the key it appears that the minute differential characters either do not hold or are inconsistent with the descriptions. I cannot accept *T. banksii* as a distinct species.

9: 234a *Astelia alpina* R.Br.
Add to Distr.: West Central Celebes (Latomodjong Range; Mt Rante Mario, summit zone, very local).

Note. The collection was made by Dr. J. M. B. Smith in February 1981 and is a remarkable addition.

**Loganiaceae (Leenhouts)**


— Fosberg & Sachet (Smithson. Contr. Bot. 45, 1980, 18–19) suggest the combination of *Loganiaceae-Potaliaceae with Gentianaceae-Tachinlaeae*, preferably as part of the *Gentianaceae*, but on rather vague and superficial arguments. This seems at least contrary to wood anatomical data (Mennega, l.c. 158) and to palynology (Punt, pers. comm., 1980).

6: 308a *Fagraea fragrans* Roxb.
Add to Distr.: Ceylon, the whole of Indo-China, SW. New Guinea.

6: 320a Insert the following species:

Distr. *Malesia*: Central Celebes (Mt roarke Timbut; van Balgooy 3247; De Vogel 5390).

Note. Though the texture of the flowers and the distinctly exerted stamens and style remind of the situation in sect. *Cyrto-phylhum*, the new species will have to be included in sect. *Fagraea* which is the most primitive in the genus (cf. Punt & Leenhouts, Grana Palynol. 7, 1967, 510–515). It is closest allied to *F. tubulosa* Bl., which is found in Sumatra and Malaya.

In the key given in Fl. Males. 1, 6 (1962) 302, the new species keys out under the first lead of couplet 19 as *F. tubulosa* Bl. from which it can be distinguished as follows:

19a. Leaves about 2 times as long as wide. Inflorescences glomerulous, with bracteoles.....8. *F. tubulosa*

19a. Leaves 13.5–22 by 4–6.5 cm, 2.5–4 times as long as wide. Inflorescence a terminal 3-flowered cyme and in the axil of the upper leaf-pair either a cyme or a solitary flower. Bracteoles absent.....8a. *F. graciliflora*

6: 320b *Fagraea ridleyi* K. & G.
Add to Notes: Though typical specimens of *F. blumei* and *F. ridleyi* are clearly distinct, fruiting material is not always easy to name, especially in Borneo. As a whole the number of flowers and fruits is smaller in the present species, the pedicel and calyx in fruit are less densely warty, the calyx is larger, the nerves are fewer in number and more prominent beneath, the axillary scales are less conspicuous, and the dried leaves are more olive yellow, in contrast to the usually dark redbrown ones of *F. blumei*.

6: 328a *Fagraea auriculata* Jack.

6: 328b Add to Notes: van Balgooy 3492 from Central Celebes combines the long-petioled leaves with small auricles of *ssp. parviflora* with the large flowers of *ssp. auriculata*. The collection van Balgooy 3678, also from Central Celebes, represents *ssp. borneensis*.

6: 350a *Fagraea resinoso* Leenh.
Add to description: Tree, 7.5–9 m by 2–20 cm. Leaves 8–16 cm long. width from 3.5 cm onwards. Bracteoles 2
and 3 cm resp. Calyx 3–3.5 cm high, in fruit up to 4 cm.
Add to Distr.: Sarawak (4th Div.), N. Borneo (Mt Kinabalu; Sandakan Distr., Tulu-pid).
Add to Ecol.: Altitude up to 1550 m.

6: 336
**Buddleja** Houst. *ex Linn.*

6: 359a
**Strychnos axillaris** COLEBR.
Add to Distr.: Ceylon.

6: 365, 959
**Neuburgia corynocarpa** (A. Gray) LEENH.
In a detailed study of the specimens of *N. corynocarpa* in Papua B. J. CONN (Brunonia 2, 1979, 99–105, 4 figs.) has come to the conclusion that *N. sarcantha* (GILG & BENNED.) LEENH. Fl. Males. 1, 6 (1962) 366 cannot well be distinguished at specific level. Accordingly he reduced this to a variety of the former, var. sarcantha (GILG & BENned.) B. J. CONN, which he keyed out (I.c. 104).
He also described the structure of seedlings.
Distr. Add: Moluccas (Obi) and New Ireland.

Note. An isotype of *N. sarcantha* is found in B (LEEDERMANN 13005) and replaces the neotype with which it completely agrees.

6: 371
**Geniostoma** Forst.
Recently B. J. CONN (Blumea 26, 1980, 245–364, 29 figs.) made a world revision of the genus resulting in the name change of one and the creation of a new species. He also gave a new key to the species of Papuasia (incl. Solomons). In using my key (Fl. Males. 1, 6, 1962, 371) the two can be accommodated in couplet 3, second lead, after:
3. Corolla 2–4 mm long.
4. Pistil hairy . . . . 4. **G. antherotrichum**
4. Pistil glabrous . . . . 5. **G. leenhoutsii**


Note. This species has a variety: *var. archboldianum* (MERR. & PERRY) B. J. CONN, Blumea 26 (1980) 320, f. 15G. — *G. archboldianum* MERR. & PERRY, J. Arn. Arb. 23 (1942) 408.
Distinct by smaller leaves (2–6 by 1–2 cm) and flowers solitary or in triads. A few collections intermediate with the type variety.

Distr. Solomons (type), in *Malesia*: Papua New Guinea (Central Distr.: Woitape); in all 2 species known.

Note. I doubt whether this new species will be tenable. — Edit.

**Myoporaceae**

4: 265a
**Myoporum papuanum** KRAENZL.
Add to Distr.: Lesser Sunda Is.; W. Timor (Kie, near Amanobar, C. W. Kooy 1271, dated 7-2-1981).

**Pittosporaceae**

6: 962b
**Pittosporum pumiium** SCHODDE.
Add to literature: STEEN. Blumea 24 (1978) 482.
Add to description: Pedicels 6 mm. Flowers functionally female, deep purple. Sepals 5, free, ovate-oblong, blunt, long-hairy, 5 by 2.5 mm. Petals 5(–6), cohering at base, ligulate, glabrous, bent outwards, apex rounded, c. 12 by 2.5 mm. Stamens reduced, c. 3 mm. Ovary densely brown-hairy, ellipsoid, 4 by 2 mm; style glabrous 1 mm. Fruit red to deep-brown.
Add to Distr.: Papua New Guinea, Mt Kenive (Nisbet), 2500 m, LAE 65011; fl. July.

**Proteaceae**

5: 195b
**Macadamia hildebrandii** STEEN. Add:
Uses. This endemic tree of Celebes has been successfully planted as a fire-lane tree in the very large plantations of *Pinus merkusii* in the Aek na Uli area, on the north flank of Toba Lake (N. Sumatra). Thirty years old trees have the virtue of keeping dense foliage and branching from the base upwards.

**Rhizophoraceae**

5: 429
The distinction of sterile material of *Rhizophora* and *Bruguiera* may give difficulty. Dr. DING Hou found an easy way for identification (Blumea 10, 1960, 628) by means of a hand-lens. In *Bruguiera* the leaf-scars show 3 distinct, usually horseshoe-shaped bundles of leaf traces. In *Rhizophora* there are several vascular bundles in two rows or a crescentic pattern. This was recently also advanced by KENNEALLY C. S. in their work on Australian mangroves (Nuytsia 2, 1978, 178–180, 1 fig.).

**Styraceae**

4: 53a
**Styrax crotonoloides** CLARKE *ssp. fraserensis* (PUTZ & NO) STEEN., comb. nov. — *S. fraserensis* PUTZ & NO, Mal. For. 40 (1977) 249, f. 1; Tree Fl. Malaya 3 (1978) 263.
A small tree. Average mature leaves 6–10.5 by 2.5–5 cm; nerves 4–6 pairs.
Fruits roundish, c. 2 cm diam.

**Distr. Malesia**: Malaya: Fraser’s Hill, at c. 1300 m.

**Notes**. I have carefully compared the descriptive data with those of *S. erotonoides*, but find no essential differences, and also that the ones mentioned are slightly overlapping. In the species the mature leaves average 8.5—20 cm by 4—10 cm, nerves 5—9 pairs. Fruit round to ovoid, tending to have a smallish or indistinct tip at apex, 1.7—3 cm diam. Lowland, 90—300 m. Obviously a hill race, with smaller leaves. The shape of the fruit induced me to maintain it as a taxon.

**4: 54b** *Styrox ridleyanum* Perk.

**Putz & Ng** (Tree Fl. Malaya 3, 1978, 264) have discarded this from Malaya and find the specimen YEOP KEP 3639 best to place under the allied *S. benzoin* Dryand. because of the short infraservice. I must admit that this is indeed no differentiating character. I had no opportunity to re-study this specimen.

However, another one, also with short infraservice, exactly tassies with the differences with *S. benzoin* as given in the key of my elaborate treatment (Bull. Jard. Bot. Btng. Ill, 1, 1932, 223): twigs dark brownish; leaves with smaller stellate scales than in *S. benzoin*; buds rather broad; petals inside appressed-pubescent all over; connective ditto; stigma 3-lobed, much wider than the style.


**Note**. I expect that KEP 3639 from Kuantan will turn out to belong to *S. ridleyanum*, as I studied this in 1932.

**Umbelliferae**


**Note**. According to Stone closest to var. densereiculata Noote., differing in a glabrous disk, branches, and fruit, style 5 mm. From all other varieties different by a rounded leaf base and a convex petiole.

**4: 131** *Celtis paniculata* (Endl.) Planch.


Add to **Distr.**: Moluccas (Talaud Is.: Lam 3175).

**4: 131b** Replace 2. *Apium tenuifolium* by:


**Distr.** Southern hemisphere, introduced in various countries: Europe, India, Taiwan, Pacific Islands (Hawaii: Kauai; Fiji, H. J. Lam 6827); in *Malesia*: Java (W.: Lembang; E: Pudjong, Trètès, Everaarts, in litt.), Philippines (Luzon: Ba-
Fig. 3. *Oreomyrrhis plicata* Mathias & Constance. a. Habit, ×0.5, b. foliage leaf, nat. size, c. fruiting umbel, ×2.5, d. petal, ×9, e. intact mature fruit, ×7, f. fruit transection, ×10 (Courtesy Journal Arnold Arboretum).
1. Median bracts at apex emarginate, margin otherwise entire, grey field 2 by 1.2 mm. Burma, Thailand, Vietnam ................................. 1. X. complanata

1. Median bracts not emarginate, although sometimes irregularly torn, if emarginate then margins obviously lacerate above.

2. Median bracts with upper margin lacerate.

3. Margin of leaves formed by numerous retrorsely pointing, coalescent rows of cells, rough from small tubercles; scape compressed, usually with two strong ridges ........................ 1. X. complanata

3. Margin of leaves not so; scape terete, with low ridges ........................ 2. X. bancana

2. Median bracts not lacerate at margin, rarely with a few dents.

4. Scape terete with 6–15 longitudinal ridges, leaves up to 8 mm wide with short transverse ribs connecting the longitudinal ones ........................ 3. X. indica

3. Scape terete to compressed, without ridges or with 1–7 ridges, leaves never with transverse ribs.

5. Leaves 6–20 mm wide, inflorescence depressed hemispherical, wider than long; plant extremely robust ........................ 4. X. grandis

5. Leaves up to 6, rarely 7.5 mm wide, inflorescence ellipsoid, globular or longer than wide.

6. Median bracts without a greenish or greyish field below apex, at most with a ± conspicuous, narrow ridge ......................................................... 5. X. capensis

6. Median bracts with a greyish or greenish field below apex.

7. Leaf sheath with margin ± finely ciliate below, oblong-triangular greyish-brown field below apex of median bracts 3–10 times longer than wide, not protruding upwards ........................ 6. X. wallichii

7. Leaf sheath not ciliate below, triangular greyish field below apex of median bracts at most 2.5 times longer than wider.

8. Scape 4-angular with papillate longitudinal ridges; leaves with papillate margins, otherwise smooth ........................ 7. X. oligantha

8. Scape terete, without ridges.

9. Lateral sepals with smooth, entire crest.

10. Plants gracile, leaves at most 3 mm wide, often rough by protruding cell walls (when dry), grey field on median bracts ridge-like protruding towards apex of bract ........................ 8. X. pauciflora

10. Plants robust, leaves more than 3 mm wide, not rough, grey field on median bracts not protruding towards apex of bract although convex. Burma, Thailand, Laos, Cambodia, Vietnam ........................ 8. X. pauciflora

X. intersepta MALME

9. Lateral sepals with crest coarsely serrate, often by 1–3 dents only.

11. Plants robust, field on median bracts 1.8–2.6 by 1.4–2.6 mm, not protruding; with subglobose underground tubers. Thailand, Laos, Cambodia ........................................ X. tuberosa RIDL.

11. Plants gracile, grey field on median bracts 1–2.2 by 0.4–1.5 mm, ridge-like protruding towards apex of bract; without tubers ........................ 8. X. pauciflora

4: 369


Distr. Ceylon, India (Chinan), Indochina, Thailand, throughout Malesia to Australia.

Ecol. Open, wet places on sandy soil, often among grasses and Sphagnum, from sea level to 1600 m.


Distr. Thailand, Cambodia, Vietnam.
Hong Kong; in *Malesia*: Sumatra (Banka), Malaya (Kedah Peak), Borneo, New Guinea (Misool I.; Aru Is.: Trangan) as far east as Sepik. Fig. 4.

Ecol. On (temporarily) boggy or wet, invariably acid, sandy soils (kerangas, sandstone, heath woodland), largely confined to low altitudes below 100 m, but in Indochina and Malaya at 1100–1300 m and in West New Guinea on the Star Mts at 1200–1300 m and on white sands in the Baliem Valley at 2000 m, nowhere at altitudes between. Fig. 4.


Distr. Ceylon, India, Burma, China (Hainan), Thailand, throughout *Malesia* to Australia.

Ecol. On open, swampy places and along or in ricefields in the lowland, rarely up to 900 m.

Addenda, corrigenda et emendanda


Ecol. In wet places, among mosses over rocks, 500–2200 m.


Distr. S. America, S. Africa, India, Thailand, Indochina, China, throughout *Malesia*.

Ecol. In open, swampy places among sedges on Sphagnum, 600–3300 m.


Distr. India (Silhet, Khasya), Burma (Moulmein), Vietnam (Chapa), Thailand; in *Malesia*: Malay Peninsula.

Ecol. In wet, mossy places on rocks, 850–1300 m.


Distr. Australia (Cape York Peninsula); in *Malesia*: Aru Is. and New Guinea (Papua, Western Distr.).

Ecol. In wet, sandy places among sedges and grasses, up to 60 m.


Distr. Ceylon, India, Burma, Thailand, Indochina, China, Hong Kong, Taiwan, throughout *Malesia* to Australia.

Ecol. In open, wet places on sandy soil, from sea level up to 900 m.

The following species have to be Excluded:


Distr. So far recorded from Laos, Cambodia and Thailand (type, ‘Mainland shores of Takuapa’) only.


Distr. So far recorded from Burma (type), Thailand and Vietnam only.