

NEW OR NOTEWORTHY AUSTRALIAN EUPHORBIACEAE — II*

by

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SUMMARY

In this paper the following new taxa and combinations are proposed: *Choriceras majus* Airy Shaw; *Cleistanthus peninsularis* Airy Shaw & Hyland (*C. semiopacus* var. *curvaminis* Airy Shaw); *Croton brachypus* Airy Shaw; *C. byrnesii* Airy Shaw; *C. capitis-york* Airy Shaw and var. *pilosus* Airy Shaw; *C. dockrillii* Airy Shaw; *C. magneticus* Airy Shaw; *C. wassi-kussae* Croiz. var. *stockeri* Airy Shaw; several probably new species of *Croton* represented by sterile material; *Dissiliaria laxinervis* Airy Shaw; *Glochidion pruinosum* Airy Shaw; *G. xerocarpum* (O. Schwarz) Airy Shaw comb. nov.; *Mallotus claoxyloides* (F. Muell.) Muell. Arg. var. *cordatus* (Baill.) Airy Shaw comb. nov.; *Phyllanthus ciccoides* Muell. Arg. var. *puberulus* Airy Shaw; *P. sauropodoides* Airy Shaw; *Securinega melanthesoides* (F. Muell.) Airy Shaw var. *aridicola* (Domin) Airy Shaw comb. nov.

The following reductions are made: *Bridelia phyllanthoides* W. V. Fitzg. to *B. tomentosa* B1. var. *tomentosa*; *Croton mirus* Domin to *Codiaeum variegatum* (L.) B1. var. *moluccanum* (Decne) Muell. Arg.; *Croton affinis* Maiden & Baker to *C. acronychioides* F. Muell.; *Croton habrophyllus* Airy Shaw to *C. armstrongii* S. Moore; *Mallotus derbyensis* W. V. Fitzg. to *Grewia* cf. *breviflora* Benth.; *Phyllanthus baccatus* F. Muell. ex Benth. to *P. ciccoides* Muell. Arg.; *Hexaspermum paniculatum* Domin to *Phyllanthus clambooides* (F. Muell.) Diels.

The following new geographical records are established: *Claoxylon tenerifolium* (Baill.) F. Muell. for the Northern Territory; *Croton* cf. *prunifolius* Airy Shaw for Western

*For previous paper see *Kew Bulletin* 31:341-398 (1976).

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Muelleria 4 (3): 207-241 (1980).

Australia (described from Lesser Sunda Is. and New Guinea); *Croton* cf. *storckii* (Muell. Arg.) A.C. Sm. for Queensland (described from Fiji); *Croton tomentellus* F. Muell. var., for Queensland; *Glochidion apodogynum* Airy Shaw for Northern Territory and Queensland (described from New Guinea); *G. perakense* Hook. f. var. *supra-axillare* (Benth.) Airy Shaw for the Northern Territory; *G. philippicum* (Cav.) C.B. Rob. for the Northern Territory; *Homalanthus novoguineensis* (Warb.) Lauterb. & K. Schum. for Western Australia, Northern Territory and Queensland; *Mallotus oblongifolius* (Miq.) Muell. Arg. for Queensland (new to Australia); *M. tiliifolius* (Bl.) Muell. Arg. confirmed for Queensland; *Phyllanthus ciccooides* Muell. Arg. for Western Australia and Northern Territory (described from New Hebrides).

In addition, many records of known or little-known species are presented, including a number of old collections found in the Melbourne Herbarium. Appendices concerning *Antidesma* (Stilaginaceae) and taxa proposed by Domin (1927) are provided.

GENERA

The records are arranged in the order of the genera in Pax & Hoffmann's account of the Euphorbiaceae in Engler & Harms, *Natürl. Pflanzenfam.* ed. 2, 19C: 11-233 (1931), the running numbers being given beneath each generic heading.

Glochidion J.R. & G. Forst (P. & H. 21)

Glochidion apodogynum Airy Shaw in *Kew Bull.* 27: 44 (1972).

Glochidion apodogynum was described from a few collections from Papua, the type being *Brass* 24333 (K). It is now evident that the same form occurs in Australia, but see the further note below.

NORTHERN TERRITORY. Port Darwin, 1884, *M. Holtze* 385 (MEL); Settlement Creek, growing around springs, small tree, x.1922, *Brass* 234 (BRI, MEL, NT 23568).

QUEENSLAND. *Burke District* — Sandy Creek, tree, small yellow flowers, n.d., (? *Armit*) 212, 215 (BRI). *Cook District* — Torres Strait, Prince of Wales Island, Big Creek, 10° 45' S., 140° 15' E., creek bank in savanna woodland, shrub, 8.ii.1975, *E. Cameron* 20271 (QRS); *Ibid.*, woodland on sand ridge, small tree, 9.ii.1975, *E. Cameron* 20353 (QRS); *Ibid.*, 13.ii.1975, *E. Cameron* 20294 (QRS); SE side of Prince of Wales Island, opposite Packe I., closed forest, 16.ii.1975, *E. Cameron* 20116 (QRS); *Ibid.*, *E. Cameron* 20118 (QRS); Laura, sandstone area north of Laura River, near Early Man site, shrub of 3 m, 15° 03' S., 144° 01' E., skeletal soil, 16.v.1975, *Byrnes* 3335 (QRS); Hills about Alma Den, 17° 20' S., 144° 40' E., alt. 500 m, 24.xi.1939, *Thurston* 571 (N. Queensl. Herb. 6786, QRS); First large granite hill south-east of Almaden, on the Petford road, 17° 20' S., 144° 40' E., open forest, alt. 560 m, shrub 3-4 m tall, seeds red, 15.x.1974, *Hyland* 7799 (QRS, K); *Ibid.*, shrub 1-2 m tall, 30.xii.1974, *Hyland* 7932 (QRS, K). The last two gatherings were erroneously included under *G. hylandii* in 1976. *North Kennedy District* — 25 km SE of Townsville, 19° 24' S., 147° 00' E., open forest, alt. 30 m, shrub growing among granite boulders, 14.x.1976, *Hyland* 9142 (QRS). *South Kennedy District* — Port Mackay, n.d., *Amalia Dietrich* 386, 2623 (MEL); SFR 652, Cauley (Cathu), 20° 48' S., 148° 33' E., open forest, alt. 800 m, 13.x.1976, *Hyland* 9139 (QRS). *Port Curtis District* — Near Clairview, 22° 10' S., 149° 30' E., open forest, alt. 10 m, shrub or small tree, 10.x.1976, *Hyland* 9112 (QRS); *Ibid.*, *Hyland* 9111 (QRS).

The difference between these last two specimens, collected only a short distance apart, is so great that had they been separated by many miles one would have thought that two species were involved. The leaves of no. 9112 are oblong-oblongate or narrowly obovate, 2-3.5 cm wide, and mostly broad-cuneate at the base, and the venation is not impressed. Those of no. 9111 are broadly oblong or oblong-elliptic, 2.5-4.5 cm wide, and equally or unequally rounded or subcordate at the base, and the venation is conspicuously incised and sub-bullately impressed, in this respect making a distinct approach to the complex of forms in New Guinea which I have so far subsumed under *G. fulvirameum* Miq. (originally described from Java). It would seem that a polymorphic population exists at the Clairview locality, a detailed survey of which might yield interesting results.

I think it probable that *G. apodogynum* represents the densely pubescent end of the indumentum spectrum of the complex of which *G. disparipes* occupies the glabrescent end. There seems to be a complete gradation between the two, and, so far as I can see, no

significant difference in their distributions. The pubescent (*apodogynum*) form occurs almost from the north-western to the south-western extremes of the extensive area of *G. disparipes*. For the present I refrain from making a formal reduction, pending confirmatory evidence from further gatherings.

Glochidion barronense Airy Shaw in *Kew Bull.* 31: 343 (1976).

This taxon may represent an extreme form of *G. harveyanum* Domin. I have now seen a number of more or less intermediate specimens which seem to connect the two. The extremes, however, are strikingly different in the character of the female calyx. I prefer to see further material before making a formal reduction.

Glochidion benthamianum Domin. See *Kew Bull.* 31: 343 (1976).

QUEENSLAND (early collections). *Cook District* — Endeavour River, 1881, *Persietz* 59 & 83 (MEL); *Ibid.*, 1883, *Persieh* 827 (MEL); 1887, *Persieh* 899 (MEL); Daintree River, 1890, *Th. Pentzcke s.n.* (MEL.); Stuart's [? Stewart's] River, 1891, *S. Johnson s.n.* (MEL); Cairns, viii.1901, *Betche s.n.* (MEL); Bellenden-Ker, alt. 270 m, 1904, *Bailey* 127 (BRI).

Glochidion disparipes Airy Shaw. See *Kew Bull.* 31: 345 (1976); cf. George & Kenneally in Miles & Burbidge (ed.), *Biol. Surv. Prince Regent River Reserve, Wildlife Res. Bull. W. Aust.* 3: 47 (1975).

NORTHERN TERRITORY (early collections). *Sine loc. exact.* [probably Darwin], 1886, *Tenison-Woods s.n.* (MEL); Borroloola, 7.xi.1911, *G.F. Hill* 658 (MEL).

QUEENSLAND (early collections). *Burke District* — Kimberley, Gulf of Carpentaria, 1878, *T. Gulliver* 71 (MEL). *Cook District* — Mt. Surprise Creek, Einasleigh River, shrub, c. 1877-82, *Armit* 252 (MEL); Einasleigh River, small tree or shrub 8 feet high, n.d., [? *Armit*] 640 (MEL). *North Kennedy District* — Muldiva, Herbert's River, large tree, 1892, *Broom* 7 (MEL).

See note under *G. apodogynum*, above.

Glochidion ferdinandii (Muell. Arg.) F.M. Bailey. See *Kew Bull.* 31: 346 (1976).

QUEENSLAND. *Port Curtis District* — Broad Sound, St. Lawrence, x.1873, *T. Gulliver* 71 (MEL); Maryvale, Bowen Creek, alluvial sandy soil, small tree 3-6 m, 7-15 cm diam., beautiful shining foliage, 1875, *Thozet* 846 (MEL); Isopod (Mt. Parnassus), 22° 50' S., 150° 40' E., dry sclerophyll forest, alt. 250 m, 6.x.1976, *Hyland* 9056 (QRS); *Ibid.*, open forest, shrub or small tree with red capsules, 6.x.1976, *Hyland* 9062 (QRS). *South Kennedy District* — Pease's Lookout, 21° 07' S., 148° 31' E., rain-forest, alt. 880 m, small tree 8 m x 20 cm d.b.h., with a flaky bark, 12.x.1976, *Hyland* 9130 (QRS); Mt. Blackwood, 21° 03' S., 148° 56' E., rain-forest, alt. 590 m, 11.x.1976, *Hyland* 9122 (QRS); S.F.R. Cauley (Cathu), 20° 48' S., 148° 33' E., rain-forest, alt. 800 m, small tree with green fruit, 13.x.1976, *Hyland* 9134 (QRS).

During my trip with B. Hyland from Rockhampton to Atherton (see acknowledgements), I was able to confirm the identity of the doubtful collections made by Hyland at Crediton and Pease's Lookout in 1975 (*Kew Bull.*, 1.c., footnote), and also to extend the distribution of *G. ferdinandii* 32 km further north by finding it in the Cauley State Forest Reserve, west of Cathu. The material appears quite typical.

Glochidion hylandii Airy Shaw in *Kew Bull.* 31: 347 (1976).

QUEENSLAND. *North Kennedy District* — 9.5 km E. of Tulley, 17° 55' S., 146° 00' E., in palm forest, *Licuala* dominant, erect shrub, 1.2 m high, fruits red, 27.xi.1967, *Boyland* 562 (BRI).

The most southerly known locality for the species so far.

Glochidion lobocarpum (Benth.) F.M. Bailey. See *Kew Bull.* 31: 348 (1976).

QUEENSLAND. *Cook District* — New Holland, 1770, *Banks & Solander* (MEL); Endeavour River, 1882, *Persietz* 247 (MEL); *Ibid.*, 1883, *Persieh* 160 (MEL); *Ibid.*, 1886, *Persieh* 772 (MEL); Trinity Bay, ii.1881, *Karsten s.n.* (MEL); Upper Stuart [? = Stewart] River, 1891, *S. Johnson s.n.* (MEL). *North Kennedy District* — Hook I., near Whitsunday I., Picnic Beach, small branching tree, dark bark, xii.1971, *S. Webster s.n.* (BRI); Hinchinbrook I., coast opposite Agnes I., growing at edge of shore line, tree 6 m high, erect, covered in fruit, 19.viii.1975, *P. Sharpe* 1750 (BRI). *South Kennedy District* — Port Mackay, n.d., *Amalia Dietrich* 386 (MEL); *Ibid.*, x.1887, *Griffith* 465 (MEL). *Port Curtis District* — Rockhampton, dwarf shrub, flower green, 2.ii.1863, [*Dallachy*] 286 (MEL); *Ibid.*, xii.1865, *Amalia Dietrich* 126, 670, 879, 1788, 2118, 2143 (MEL); Table Mt., small tree, very rare, seeds orange-red when ripe, ii.1867, *O'Shanesy* 45 (MEL); Neerkool Creek, Capricorn, iii.1867, *Bowman* 71; Marian Vale [? = Maryvale, or Miriam Vale], much-branched tree 20 feet [6 m], ii.1869, *O'Shanesy* 1025 (MEL); near The Caves, 23° 10' S., 50° 30' E., gallery forest, alt. 100 m, 8.x.1976, *Hyland* 9088

(QRS); Moore's Creek, 23° 20' S., 150° 35' E., open forest, alt. 100 m, multistemmed shrub or small tree, male flowers yellow, 9.x.1976, *Hyland 9089* (QRS). *Wide Bay District* — Fraser Island, vi.1914, *F.C. Epps 134* (BRI, NSW).

***Glochidion perakense* Hook. f. var. *supra-axillare* (Benth.) Airy Shaw in *Kew Bull.* 27: 72 (1972). See *Kew Bull.* 31: 349 (1976).**

Phyllanthus ferdinandi var.? *mollis* Benth., *F1. Austr.* 6: 97 (1873), pro parte.

Glochidion benthamianum, 'poor collection', sec. Airy Shaw in *Kew Bull.*, 31: 344 (1976), in obs., non Domin.

NORTHERN TERRITORY. Adelaide River, slender tree up to 30 feet [9 m], 1890, 1892, [*Holtze*] 1128 (MEL); Black Jungle, 32 miles [51 km] SE of Darwin, infrequent in seasonal swamp near creek, tree 12' [3.5 m] high, but branches fallen, corolla yellow, fruit green-brown, 27.v.1958, *Chippendale 4490* (BRI, NSW, NT); Daly River levee, 13° 40' S., 130° 30' E., 12.ix.1962, *Muspratt SS069* (NT 9687, DNA 5729); Coomalie Creek, edge of permanent stream, tree ± 25 ft. [7.5 m], 18.xii.1968, *Byrnes NB 1223* (NT); *Ibid.*, Batchelor Road, 13° 01' S., 131° 07' E., in water at edge of creek, tree to 5 m high, small yellow flowers, green furry fruit, 30.iii.1976, *Must 1352* (NT 49761, DNA 10854).

These are the first specimens of this plant that I have seen from the Northern Territory. The five localities all lie within a comparatively limited area to the south and south-east of Darwin. The twigs, leaves, female flowers and fruits and even the pedicels and exterior of the male flowers in this form are strongly puberulous.

QUEENSLAND. *North Kennedy District* — Rockingham Bay, 1870, *Dallachy s.n.* (MEL, K, syntype of *Phyllanthus ferdinandi* var. *mollis* Benth.). *South Kennedy District* — S.F.R. 652, Cauley, 20° 50' S., 148° 30' E., rain-forest, alt. 800 m, tree, trunk 20 cm d.b.h., bark papery flaky, 7.v.1975, *Hyland 4181* RFK.

The latter collection represents the northernmost locality from which I have seen var. *supra-axillare* in its more southerly area in east Queensland, which extends southwards to Brisbane. North of this it reappears in the region of Rockingham Bay.

It is now evident that *Phyllanthus ferdinandi* var.? *mollis* Benth. was based upon material of two quite distinct species.

Since (*Kew Bull.* 31: 344 (1976)) referring to a plant of the Dallachy collection cited above as a 'poor collection' of *G. benthamianum*, I have been able to examine the very much better sheet of the same gathering in the herbarium at Melbourne. Whereas the Kew duplicate consists of a single leafy branchlet with seven fruiting pedicels from which all the fruits have fallen, the Melbourne sheet bears four such branchlets to which four capsules are still attached. From this it is at once evident that the plant is not *G. benthamianum*, but a puberulous form of *G. perakense* var. *supra-axillare*. Both sheets bear the determination '*P. ferdinandi* var. *mollis*' in Bentham's handwriting, and form part of his type material of that variety.

The remainder of Bentham's type material of var. *mollis* is a good collection (Rockingham Bay, 1872, Dallachy (K); see *Kew Bull.* 27: 58 (1972)) of *Glochidion philippicum* (Cav.) C.B. Rob. I now designate this collection as the **lectotype** of var. *mollis*.

***Glochidion philippicum* (Cav.) C.B. Rob. See *Kew Bull.* 31: 349 (1976).**

NORTHERN TERRITORY. Port Darwin, n.d., *Bleeser 60* (teste O. Schwarz in *Feddes Repert. Spec. Nov. Regni Veg.* 24: 87 (1927)); Wagait Reserve, 13° 12' S., 130° 40' E., monsoon rain-forest, tree 8 m high, trunk straight angular and white, fruit red, 16.i.1973, *Dunlop 3106*.

QUEENSLAND. *Cook District* — Daintree River, 1881, *Pentzcke 8* (MEL); *Ibid.*, 1890, *Pentzcke s.n.* (MEL); *Ibid.*, iii.1914, *Rosenstrom 7* (BRI); Greenhills, nr. Cairns, n.d., *Illingworth 74* (BRI); Kemerunga, n.d., Cowley 34 (BRI); State Forest Reserve Danbulla, slope near creek, loam from granite, on scrub edge, alt. 660 m, tree 9 m high, 105 cm g.b.h., crown sparse and spreading, 19.x.1929, *Doggrell A21* (BRI); 1 mile [1.6 km] SW of Mossman, gallery rain-forest along river, alt. 15 m, spreading tree 15 m high, bark cracked and fissured, mid grey-brown; leaves rather dull glossy dark green above, paler below; flowers yellowish; fruit deep scarlet when ripe, 9.x.1964, *Schodde 4158* (BRI); Whitefield Range, nr. Cairns, on edge of rain-forest, tree 9 m, spreading crown, 6.v.1967, *Olsen 376* (BRI, NSW); Nesbit River, 13° 30' S., 143° 25' E., alt. 30 m, small tree 15 m tall, bark flaky, 8.ix.1973, *Hyland 6830* (BRI). *North Kennedy District* — Herbert River, small tree 20 ft [6 m] high, small yellow flowers, dark green shining leaves, leaves alternate, 4.x.1866, *Dallachy s.n.* (MEL); *Ibid.*, large tree, yellow flower, 14.x.18., *Dallachy s.n.* (MEL); *Ibid.*, 7.xii.1867, *Dallachy s.n.* (MEL).

These records represent considerable extensions of the known range of *G. philippicum* in Queensland, both northward into the Cape York Peninsula and southward into North Kennedy District. The species has apparently not been re-collected in the latter district for over a century. It is also evidently extremely scarce in the Northern Territory.

Glochidion pruinosum Airy Shaw, sp. nov.

Inter *G. ferdinandii* (Muell. Arg) F.M. Bailey et *G. pungens* Airy Shaw quasi medium tenens, sed foliis subtus conspicue glauco-pruinosis supra opacis nec nitidis ab utroque recedit; a *G. pungente* praeterea flore ♀ minore stylo breviora graciliore lobis divaricatis manifeste differt. TYPUS: Queensland, Hyland 7064 (K, holotypus; QRS, isotypus).

Frutex vel *arbor parva*, ramulis glabris (Hyland 7064) vel breviter adpresse fulvo-puberulis (Sayer 129). *Folia* elliptica vel oblongo-elliptica, 4-9 cm longa, 2-4 cm lata, basi late cuneata vel subrotundata, ima basi in petiolum brevissime decurrentia, apice breviter vel brevissime acutata et saepe acutissime mucronata, margine integro plano vel angustissime reflexo, firme chartacea, glabra, laevia, siccitate supra olivaceo-brunnea vel fusca, subtus conspicue glaucescentia vel purpurascens-pruinosa; costa modice gracilis, subtus prominula, supra vix elevata vel sulco tenui percursa; nervi laterales 6-8-jugi, gracillimi, late arcuato-patuli, contra glaucedinem conspicui, prope marginem diffuse anastomosantes; nervi minores tenuissimi, laxe reticulati; petiolus 2-4 mm longus, 1 mm crassus, glaber; stipulae anguste subulatae, acutissimae, 2-3 mm longae. *Inflorescentiae* axillares, valde pauciflorae. *Flos* ♂ pedicello usque 8 mm longo glabro suffultus. *Tepala* exteriora late elliptica, 2-3 mm longa, 1.75 mm lata, obtusa, interiora aequilonga sed angustiora, 1.5 mm lata, omnia carnosula, glabra. *Stamina* 3, antheris oblongis 1 mm. longis, connectivis subulatis erectis conspicuis 0.5-0.6 mm longis. *Flos* ♀ pedicello crassiore glabro (Hyland) vel puberulo (Sayer) 2-3 mm longo suffultus. *Tepala* ovata, 1.5-2 mm longa, 1-1.5 mm lata, acuta, glabra, dorso (praesertim inferne) carinata, crassiuscula, erecta, apice leviter divaricata. *Ovarium* globosum, 1-1.5 mm diametro, glabrum. *Stylus* 2 mm longus, 0.5 mm crassus, glaber, apice in segmenta (4-)5(-6) angusta 0.5-1 mm longa acuta primum erecta serius divaricata divisus. *Capsula* 5-6-locularis, depresso pulviniformis, 10-13 mm diametro, 7-8 mm alta, adpectu inflata, late rotundato-lobata, glabra, loculis saepe distincte carinatis, vertice profunde intruso, stylo in vertice persistente lobis demum erectis, pedicello gracili 5-6 mm longo puberulo (Sayer); semina (immatura?) triquetra, 4 mm longa, dorso rotundata.

QUEENSLAND, Cook District — N.P.R. 164 Thornton Peak, 16° 10' S., 145° 20' E., montane rain-forest bordering on heath, alt. 1260 m, shrub or small tree, 13.xi.1973, Hyland 7064 (type); Mt. Bellenden-Ker, alt. 1560 m, tree 35 ft [10.5 m], 12 in [30 cm] diam., 1887, Sayer 129 (MEL).

Herbarium material of this montane plant attracts attention by the whitish or purplish pruinosity of the leaf-undersurface. It is, however, obviously closely related to *G. pungens*, having the same sharply pointed leaf-apex and a similar tendency for the lamina to be folded along the line of the midrib. The female flower with its conspicuously exerted style is midway in size between those of *G. pungens* and *G. ferdinandii*.

The two collections cited, from Thornton Peak and Mt. Bellenden-Ker, are not quite identical, the former being entirely glabrous but the latter having puberulous branchlets and female pedicels. Further collections are needed to show the extent of variation in the species and also to assess the relationship of the plant to *G. ferdinandii* var. *pubens* Maiden ex Airy Shaw (*Kew Bull.* 31: 346 (1976)) and *G. hylandii* Airy Shaw (l.c.: 347).

Glochidion cf. **sessiliflorum** Airy Shaw in *Kew Bull.* 31: 350 (1976).

QUEENSLAND, Cook District — T.R. 146, Tableland Logging Area, 15° 45' S., 145° 15' E., rain-forest, alt. 660 m, tree, trunk 50 cm d.b.h., buttressed, fluted; bark tessellated, flaky, 9.vii.1975, Hyland 3221 RFK (QRS, K); R 1073, Rooty Logging Area, 16° 40' S., 145° 30' E., rain-forest, alt. 440 m, tree, 40 cm d.b.h., fissured, tessellated and flaky bark; buttresses present; dead bark layered, 2.iii.1976, Hyland 3392 RFK & 3393 RFK (QRS, K); State Forest Reserve 251, Charmillan Logging Area, 17° 40' S., 145° 30' E., clearing in rain-forest, alt. 750 m, shrub 3 m tall; flowers cream; fruit greenish yellow, some with pink suffusions, 29.ix.1976, Dockrill 1271 (QRS, K). North Kennedy District — Sea View Range, fine small tree 20 to 30 feet high, fruit white, foliage dark green, 31.v.1864, Dallachy 23 (MEL); Ibid, small tree; fine light green foliage; flower small, yellow, does not dry well; no seed, 10.xi.1864, Dallachy 31 (MEL).

Dallachy's gatherings were no doubt subsumed by Bentham under his all-embracing *Phyllanthus ferdinandii*.

The above collections from an area extending from Cooktown to south of Ingham, differ from the type of *G. sessiliflorum* (Hyland 7805, Claudie River, Cape York Peninsula) in possessing a distinct pedicel to the female flower, almost 5 mm long in Dockrill 1271. In the dried state the foliage assumes a rather characteristic dark, smooth, oily green, which is

not the case in the type specimen. *Hyland 3221* RFK is distinct in the possession of a short but conspicuous style. It is possible that a distinct taxon is involved, but further material from the type area will be needed in order to assess the constancy of these features.

Glochidion xerocarpum (O. Schwarz) Airy Shaw, comb. nov., cum descr. amplif.

Phyllanthus xerocarpus O. Schwarz in Feddes Repert. Spec. Nov. Regni Veg. 24: 87 (1927); cf. McKee in *Contrib. N.S.W. Natl. Herb.* 3: 233 (1963). Type: Northern Territory, Darwin, 1927 *Bleeser 495* (B; NSW, isotype).

G. ferdinandii sec. Specht in Specht & Mountford (ed.), *Rec. Amer.-Aust. Sci. Exped. Arnhem Land*, 3, Bot. & Ecol.: 252, 398, 461 (1958), pro parte, non (Muell. Arg.) F.M. Bailey.

G. mindorense subsp. *mindorense* sec. Airy Shaw in *Kew Bull.* 27: 21 [non 66 nec 72] (1972) & 29: 291 (1974), pro majore parte, non C.B. Rob.

G. disparipes sec. Airy Shaw in *Kew Bull.* 31: 345 (1976), quoad *Specht 24 & 860*, non Airy Shaw s. str. (1972).

Glochidion sp., Dunlop, Latz & Maconochie in *N. Terr. Bot. Bull.* 1: 22 (1976).

A formis glabrescentibus *G. disparipedis* Airy Shaw foliis ad aspectu crassiusculis laevissimis subtus opacis interdum leviter glaucescentibus, venis minoribus fere immersis nec prominulis, a *G. ramifloro* J.R. & G. Forst. fructu majore subsessili subinflato, a *G. mindorensi* C.B. Rob. calyce ♀ puberulo capsula 5-loculari dignoscendum.

Frutex vel *arbor* usque 10 m alta, ramulis modice robustis primum breviter pubescentibus demum minute puberulis, cortice vivo interdum insigniter cinereo. *Folia* ovata vel oblongo-elliptica, 4-10 cm longa, 2-5 cm lata, basi (saepe leviter asymmetrica) rotundata vel interdum cuneata vel raro cordatula, in apicem obtusum vel rotundatum vel rarius subacutum citius contracta, rarius late obtusissime cuspidata, margine integro anguste reflexo, firme chartacea vel subcoriacea, costa excepta glaberrima, laevissima sed paulum tantum nitidula vel imo opaca, siccitate plumbeo-brunnescentia vel viridula; costa gracilis, utrinque prominula vel supra fere plana, glabra vel basin versus parce puberula; nervi laterales gracillimi, 6-12-jugi, utrinque tenerime prominula, late patuli, prope marginem arcuato-anastomosantes; nervi minores tenuissimi, fere immersi, inconspicui; petiolus 2-5 mm longus, 1-2 mm cressus, minute puberulus; stipulae subulatae, 1-1.5 mm longae, acutae, puberulae, caducae. *Fasciculi* uni- vel bi-sexuales, pauciflori, axillares. *Flos* ♂ pedicello tenui glabro 5 mm longo suffultus; tepala obovata vel spatulata, obtusa, glabra, exteriora fere 3 mm longa, interiora paulo minora; antherae in massam oblongam fere 1 mm. longam connatae. *Flores* ♀ solitarii vel bini, sessiles vel subsessiles; tepala oblongo-ovata, 2.5 mm longa, exteriora 1.5 mm lata, interiora angustiora, obtusa vel subacuta, extra puberula; ovarium depresso globosum, 1.5 mm diametro, 1 mm altum, dense adpresse puberulum; styli in massam depresso pulviniformem 0.5 mm diametro apice 6-lobulatam circa foramen centrale connati, glabri. *Capsula* pedicello brevi puberulo suffulta, depresso globosa, ad aspectu quasi inflata, 1.5-2 cm diametro, 5-8 mm alto, 5-locularis, firme crustacea, minute puberula, siccitate castanea, quoque segmento sulco mediano percurso; semina triquetro-sphaerica, 4 mm diametro, laete rubra.

NORTHERN TERRITORY. Port Darwin, 1884, *M. Holtze 385* (MEL); Port Darwin, Mindel Beech, dry jungle, iv. 1927, *Bleeser 495* (NSW, isotype); Nightcliff, Darwin, 12° 22' S., 130° 53' E., in monsoon forest on truncated lateritic podsol, 20.iii.1948, *Specht 24*; Lee Point, 12° 20' S., 130° 55' E., beach front, shrub to 4 m high, small yellow flowers, 30.i.1974, *Must 1171* (NT); Gunn Point, 12° 09' S., 130° 58' E., shrub to 2 m, cream flowers, red berries, 27.vii.1973, *McKean 1123* (NT); Smith Point, Port Essington, 11° 10' S., 132° 10' E., rain-forest, alt. 5 m, tree 20 cm d.b.h., bark fissured, flaky, 25.xi.1975, *Hyland 3374* RFK (QRS, K); Elcho Island, Warangaiyu Lagoon, 11° 57' S., 135° 43' E., deciduous vine thicket, stabilised coastal dune, 20.vii.1975, *Dunlop 3960* (NT); Wessel Is., 11° 11' S., 136° 44' E., rare in crevice of dissected sandstone, small tree to 3 m, 1.x.1972, *Latz 3365* (NT 36887); Yirrkala, 12° 12' S., 136° 47' E., in monsoon forest on coastal dune, 11.viii.1948, *Specht 860* (K); Gove, 12° 15' S., 136° 50' E., open forest on the edge of a swamp between sand dunes, alt. 5 m, 7.xi.1974, *Hyland 7861* (QRS); Groote Eylandt, Angurugu, 13° 59' S., 136° 27' E., edge of jungle, small spindly shrub, small yellow flowers and green seed-capsule with red seeds, 25.vii.1973, *Levit 320* (DNA 9243); Gulf of Carpentaria, Maria Island, 14° 54' S., 135° 44' E., limestone outcrop, patch of monsoon scrub, 17.vii.1972, *Dunlop 2873* (N.T. 36358).

I had prepared the above description on the assumption that this was a new species, when my attention was drawn by John Maconochie, Australian Botanical Liaison Officer at

Kew for 1976-7, to Schwarz's paper in Fedde's *Repertorium (l.c.)* on plants collected by Bleeser in tropical Australia. Schwarz's description of *Phyllanthus xerocarpus* agreed quite well with my supposed new species. I then found from McKee (l.c.) that a duplicate of the type of *P. xerocarpus* was preserved in the New South Wales National Herbarium and I was able to borrow this crucial specimen. The material is very poor, consisting of two branchlets, half-a-dozen detached leaves, one male and a few female flowers and a detached capsule, but is sufficient for recognition, and is certainly the plant in question. Clyde Dunlop, of Darwin, kindly went to Mindil Beach, the type locality, to discover whether *Glochidion xerocarpum* still persisted there, but found that the considerable area of monsoon forest that it formerly held had recently been completely cleared for playing fields and a caravan park.

This species extends through Eastern Malesia to Java, Celebes, Sabah and the southern Philippines; see collections cited under *G. mindorensis* in *Kew Bull.*, l.c. It differs from true *G. mindorensis* C.B. Rob. in its densely puberulous ♀ calyx, in its depressed pulvinate style, and in its usually 5-(not 4-) locular capsule; from *G. ramiflorum* in its considerably larger, subinflated, subsessile capsule (as well as in its puberulous ♀ calyx); and from both these species and the closely related *G. disparipes* Airy Shaw in its characteristically thickish smooth-looking leaves with the minor nerves almost immersed beneath. From *G. sessiliflorum* Airy Shaw it differs in its puberulous ♀ calyx, and usually in the rounded leaf-base, as well as in the texture of the leaves. It has a predilection for sublittoral situations, at low altitudes, frequently on off-shore islands.

Glochidion mindorensis subsp. *harveyanum*, subsp. *glabrum* and subsp. *paludicola* (*Kew Bull.* 27: 22-23 (1972)) must be restored to specific rank; cf. *Kew Bull.* 31: 347, 352 (1976).

Securinega Juss.

(P. & H. 27)

Securinega leucopyrus (Willd.) Muell. Arg. in DC., *Prodr.* 15 (2): 451 (1866); Benth., *Fl. Austr.* 6: 116 (1873); Airy Shaw in *Kew Bull.* 25: 493 (1971) & 26: 340 (1971), q.v. for further synonymy.

Flueggea leucopyrus Willd., *Spec. Pl.* 4: 757 (1805); Bailey, *Queensl. Fl.* 5: 1426 (1902).

Records additional to those of Bentham, l.c.:

QUEENSLAND. *Cook District* — Chillagoe, amongst boulders on limestone outcrop, alt. 360 m, tree about 3-5 m high, green leaves, 22.i.1931, *Winders 6770*. *Port Curtis District* — Pine Mountain, 22° 45' S., 149° 50' E., shrub or small tree 3.6 m high, outer bark dark grey and fissured slightly, 17.x.1951, *L.S. Smith 4758*; North of Marlborough, 22° 45' S., 149° 45' E., alt. 100 m, open forest, 10.x.1976, *Hyland 9107* (QRS).

Securinega leucopyrus has an extremely sparse and scattered distribution in north-eastern Queensland. The only localities mentioned by Bentham were the Gilbert River, the Bowen River and Rockhampton.

Securinega melanthesoides (F. Muell.) Airy Shaw in *Kew Bull.* 31: 352 (1976).

WESTERN AUSTRALIA. Kimberley, 1884, *Panton s.n.* (MEL).

NORTHERN TERRITORY. First large outcrop 4 miles [6.5 km] E. of Desert Block, N. of road, Amburla Stn., 23° 20' S., 133° E., tree about 5' high, 3.i.1967, *Latz N.T. 12079* (NT).

This is the most southerly locality from which I have seen this species.

QUEENSLAND. *Burke District* — 'Laurel-leaved shrub, 8-10 ft in height, branching abundantly at ground level. A frequenter of creek-sides in the Cloncurry district, and an associate of *Vitex viminifolia* in the channels, which on the Gulf fall takes the place of lignum [? *V. lignum-vitae* A. Cunn.? *Muehlenbeckia* sp.?]. Shrub loses its leaves in the dry time of year, but freshens up at once with early summer rains, flowering profusely when creeks run with thunderstorm water. Not browsed by stock, as there is generally other feed about when this shrub is in leaf.' S.E. *Pearson 136* (BRI).

No such name as '*Vitex vimilis*' is listed in the *Index Kewensis*. It was probably a mistake for *Ventilago viminalis* Hook. (*Rhamnaceae*).

var. **aridicola** (Domin) Airy Shaw, comb. nov.

Flueggea virosa var. *aridicola* Domin in *Biblioth. Bot.* 22: 878 (Heft 89: 324) (1927).

QUEENSLAND. *Burke District* — dürre Hügel bei Cloncurry, ii.1910, *Domin 5954, 5955* (type, PR).

This is no doubt an extreme ecotypè from an exceptionally arid situation. I have seen no other collections to match it in the small size of the leaves (rarely exceeding 2.5 cm in length and mostly much less) and in the character of venation. It seems therefore to deserve recognition. On the other hand *Domin's f. reticulata* (l.c.) is typical of many of the more strongly nerved forms of *S. melanthesoides* and is not worth maintaining.

Margaritaria L.f.

(P. & H. 27/a, from 29 Sect. XII)

Margaritaria dubium-traceyi Airy Shaw & Hyland in *Kew Bull.* 31: 357, fig. 1 (1976).

QUEENSLAND. *Burke District* — Adel's Grove, Lawn Hill River [c. 55 km from Northern Territory boundary], tree 3-5 m high, with dense bright green foliage, c. 1926, *A. De Lestang 142* (BRI); 25 km SSE of Normanton, on Normanton-Croydon road, 17°53' S., 141° 12' N., in low woodland of *Melaleuca acacioides*, *Bauhinia carronii* and *Terminalia* sp., vi. 1972, *G.R. Beeston 1* (BRI); 65 km ESE of Normanton, 18° 02' S., 141° 38' E., in low open forest of *Melaleuca acacioides*, *Bauhinia carronii* and *Terminalia* vi. 1972, *G.R. Beeston 73 & 76* (BRI); Approximately 5 km S. of Clarina Creek on Gum Creek Homestead road, just S. of Normanton-Croydon road, 17° 3' S., 141° 0' E., growing in Duplex Dy 3.8 soil, in *Melaleuca acacioides*, *Bauhinia* & *Terminalia* forest, 7.v.1974, *T.J. Hall s.n.* (BRI). *Cook District* — Robertson River (S. of Forsayth, approx. 19° S., 143° 30' E.), c. 1877-82, *Armit 740* (2 sheets) (MEL).

Phyllanthus L.

(P. & H. 29)

Phyllanthus (§*Nymania*) **clamboides** (F. Muell.) Diels in *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 309 (1931); Airy Shaw in *Kew Bull.* 31: 359 (1976), q.v.

Hexaspermum paniculatum Domin in *Biblioth. Bot.* 22: 870 (Heft 89: 316) (1927), *synon. nov.*

The type collection of *Hexaspermum paniculatum* from Harvey's Creek, is typical material, in female flower and fruit, of the common New Guinea and Solomons species that has long been known under the name *Phyllanthus choristylus* Diels, but which is now regarded as a synonym of *P. clamboides* (see *Kew Bull.*, l.c.).

Phyllanthus (§ *Nymania*) **cuscutiflorus** S. Moore in *J. Bot. Brit. & For.* 43: 148 (1905); Webster & Airy Shaw in *Kew Bull.* 26: 99 (1971); Airy Shaw in *Kew Bull.* 31: 360 (1976), in obs.

QUEENSLAND (early collections). *Cook District* — Endeavour River, 1882, *Persiech 177, 195* (MEL); *Ibid.*, 1882, *Persiech 709* (MEL); 1883, *Persiech 96* (or 196 or X96?) (MEL); 1886, *Persiech 743* (MEL); Trinity Inlet, small tree, n.d., *W. Hill 262* (MEL).

Two modern collections, *Brass & White 153*, from the Cook Highway 19 miles [30 km] N. of Cairns, and *Stephens* in *N. Queensl. Nats. Club* 11696, from Brinsmead Road, Freshwater (both only a few miles from the type locality), differ strikingly in their male inflorescences. In the *Brass & White* collection the male flowers are borne directly in the axils of the foliage leaves, on exceedingly elongate capillary pedicels up to 2.5 cm long. In the *Stephens* specimen they are borne on very slender fascicled leafless branchlets up to 8 cm long, arising from the axils of the foliage leaves on the main branches, and the flowers, which are still in the bud stage, are much more shortly pedicelled, up to 5 mm. The latter point may not be important, as the male pedicels of *Phyllanthus* sometimes undergo enormous elongation at anthesis, but the slender leafless branchlets are striking. Both collections exhibit the thin, brittle leaves, glaucous beneath, that seem to be characteristic of *P. cuscutiflorus*. There is need of observations on the variation of this plant in the field.

Phyllanthus (§ *Emblacastrum*) **lamprophyllus** Muell. Arg. See *Kew Bull.* 31: 361 (1976). Add to references: S. Moore in *J. Linn. Soc. Bot.* 45: 217 (1920).

P. buxifolius sec. F. Muell., *Descript. Notes Papuan Pl.* 1 (2): 23 (1876) & *Fragm.*

Phytogr. Austr. 10: 121 (1877); Bailey, Queensl. Fl. 5: 1423 (1902); non *Scepasma buxifolium* Reinw. ex Bl.

QUEENSLAND. *Cook District* — Cairns, 1877, *Fitzalan* (MEL). Barron River, 1891, *S. Johnson* (MEL). *North Kennedy District* — Estuary of the Burdekin River, n.d., *Fitzalan* (MEL). *Port Curtis District* — Basin Creek, 21° 45' S., 149° 22' E., gallery forest, alt. 20 m, shrub, 18.x.1976, *Hyland 9113* (QRS).

The latter locality lies some 370 km south of the mouth of the Burdekin River, the previous southernmost known locality.

Phyllanthus (§ **Kirganelia**) **ciccoides** Muell. Arg. See Webster & Airy Shaw in *Kew Bull.* 26: 88 (1971).

P. novae-hollandiae see Baill., *Adansonia* 6: 343 (1866), non Muell. Arg.

P. baccatus F. Muell. ex Benth., Fl. Austr. 6: 102 (1873); Ewart & Davies, Fl. N. Terr. 163 (1917); Gardner, Enum. Pl. Austr. Occid. 72 (1931); Chippendale in *Proc. Linn. Soc. N.S.W.* 96: 245 (1972); Airy Shaw in *Kew Bull.* 31: 361 (1976); *synon. nov.*

For further synonyms see Webster & Airy Shaw, l.c.

var. **ciccoides**.

The following specimens are additional to those cited in Bentham, l.c. and in *Kew Bull.* 31: 361 (1976) under *P. baccatus*.

WESTERN AUSTRALIA. E. Kimberley District, 1896, *Helms 217*.

NORTHERN TERRITORY. Fitzroy River, 1881, *G. Paterson s.n.* (MEL); Timber Creek [Victoria River, Newcastle Range], on creek alluvium, woody bramble-like shrub, 19.v.1971, *Byrnes 2209*.

var. **puberulus** Airy Shaw, var. nov.

Ramulis foliis utrinque pedicellis crispule puberulis.

QUEENSLAND. *Cook District* — Near Cooktown, Endeavour River, bank of river at dry season level, on sand; slender erect stem 2.5 m tall; dull greenish leaves, pallid beneath; black fleshy fruit, 14.v.1970, *S.T. Blake 23229* (K, holotype; BRI, isotype).

P. ciccoides has a rather wide distribution from New Guinea eastwards and south-eastwards. It occurs as two distinct varieties, the typical one, var. *ciccoides*, which is glabrous, and the above-described var. *puberulus*, which is usually rather densely and crispulously puberulous. All the plants that I have seen from Western Australia and the Northern Territory represent the glabrous var. *ciccoides* (*P. baccatus* F. Muell. ex Benth.), but the solitary gathering so far seen from Queensland is densely puberulous, and I have made it the type of var. *puberulus*.

Both varieties occur in north-eastern New Guinea and Papua, but apparently only var. *puberulus* in the Louisiades and the Bismareks. I have seen no representative of *P. ciccoides* from Western New Guinea. By far the most prevalent form in the Solomons and the Santa Cruz group is var. *puberulus*, but I have seen a single collection of var. *ciccoides* from Santa Ysabel (Mt. Sasari, near Maringe Lagoon, 1963, *Whitmore* BSIP 2426). On the other hand in the New Hebrides (*P. ciccoides* was described from a *Forster* collection from the island of Tanna) the common form is var. *ciccoides*, but at Kew there is a specimen from the "New Hebrides", without further locality, coll. *Dr. A. Morrison s.n.*, 18.v.1896, which is certainly var. *puberulus*.

Having now examined more closely than hitherto the rather copious material of *P. ciccoides* preserved at Kew, I have no hesitation in reducing *P. baccatus* to it.

Phyllanthus (§ **Kirganelia**) **novae-hollandiae** Muell. Arg. See Webster & Airy Shaw in *Kew Bull.* 26: 89 (1971). Add to references: Bailey, Queensl. Fl. 5: 1418 (1902).

QUEENSLAND. *Cook District* — "From Lat. 140° [? 14°] Eastern Watershed 30 miles from coast", shrub, 2.ix.1873, *R. Stewart 139* (Hann, Cape York Exped.) (K); Endeavour River, 1886, *Persich 829* (MEL); Open sandy floodbanks of Coen River, alt. 200 m, tree 5 m high, flowers green, fruit blackish-purple, 5.viii.1948, *Brass 19811*; Murray Island, E. of Torres Straits, 9° 55' S., 144° 02' E., 23.viii.1970, *M. Lawrie 93* (BRI); Ingham Island, 27.vii.1973, *Stoddart 4055*; East Hope Island, 4.ix.1973, *Stoddart 4431*; Pelican Island, 27.x.1973, *Stoddart 4924*. *North Kennedy District* — Edgecumbe Bay, n.d., *Dallachy s.n.* (type collection — MEL, K); Kinrara Homestead, 18° 30' S., 145° 3' E., is closed forest on basalt rock, shrub about 2.5 m with long spreading branches; leaves green above, paler beneath; flowers greenish, alt. 570 m, 22.xi.1941, *S.T. Blake 14444* (K).

Phyllanthus (§ ?) **brassii** C.T. White in *Proc. Roy. Soc. Queensl.* 1935, 47: 81 (1936).
 QUEENSLAND. *Port Curtis District* — Bulburin State Forest, 10 km E. of Builyan, 24° 30' S., 151° 30' E.,
 rain-forest, alt. 400 m, shrub 1.5 m high, flowers [♂] red, 14.iv.1974. *Monteith* in *Moriarty* 1976 (QRS).

This is a remarkable range extension for a species that has hitherto been regarded as an endemic confined to the summit of Thornton Peak, about 65 km north of Mossman, in Cook District. The ample material (5 sheets) seems to agree with the type perfectly. *Phyllanthus brassii* is not closely related to any other Australian (or New Guinea) species, but shows probable affinity with some from New Caledonia, e.g. *P. aeneus* Baill., *P. francii* Guillaum., *P. baladensis* Baill.

Phyllanthus (§?) **sauropodoides** Airy Shaw, sp. nov.

Forsan ex affinitate remotiore *P. caesii* Airy Shaw & Webster et *P. verrucicaulis* Airy Shaw (novo-guineensium), sed foliis chartaceis multo minoribus usque 6 x 2.8 cm tantum, staminibus liberis, capsula usque 6 mm diametro, sepalis femineis persistentibus longe distat. TYPUS: Queensland, Bulburin Forest, A.C. Robinson 27A1 (BRI, holotypus).

Frutex vel *arbor*, statura ignota, ramulis teretibus vel junioribus interdum distincte complanatis 1-3 mm. crassis laevissimis glaberrimis foliosis. *Folia* elliptica vel ovata, 3.5-10.5 cm longa, 1.5-4.2 cm lata, basi late cuneata, apice brevissime acute caudata, ipso apice aristato-mucronato, margine integerrimo plano, chartacea, laevia, glaberrima, siccitate opaca, obscure viridia vel juniora subtus leviter rubescentia; costa gracillima, subtus vix prominula, supra tenuiter insculpta; nervi laterales tenuissimi, 5-6-jugi, acute adscendentes; nervi minores omnino immersi; petiolus 3-4 mm longus, gracillimus, glaber; stipulae triangulares, 2-3 mm longae, acutae, conspicue ochraceo-marginatae et brevissime fimbriatae. *Inflorescentiae* numerosae, axillares, multiflorae, plerumque mere masculae sed interdum flore singulo femineo comitatae. bracteis numerosis minutis brunneis scariosis confertis. *Flos* ♂ pedicello filiformi usque 6 mm longo glabro suffultus. *Sepala* 5, suborbicularia, 1.5-2 mm diametro, integra, membranacea, valde imbricata. *Disci glandulae* 5, cum sepalis alternantes, majusculae, subglobosae, valde lacunosae, interdum superne cuspidatulae. *Stamina* 5, oppositasepala, libera, erecta, filamentis brevibus crassiusculis, antheris extrorsis ovoideis demum oblique deorsum spectantibus. *Flos* ♀ in inflorescentia semper solitarius, pedicello robustiore gestus primum vix 1 cm. longo statu fructifero usque 2.2 cm accrescente. *Sepala* 5, suborbicularia vel late spatulata, 2.5 mm longa et lata, breviter unguiculata, firme herbacea, glabra. *Discus* interrupte annularis, 0.5 mm altus, herbaceus vel submembranaceus, margine leviter erosulus. *Ovarium* subglobosum, 1.5 mm diametro, glabrum, in stylum robustum 0.5 mm longum desinens, stylo apice breviter 3-ramoso, ramis divaricatis truncatis. *Capsula* pedicello usque 2.2 cm longo sursum incrassato suffulta, depresso globosa, 6-7 mm diametro, 5-6 mm alta, laevis, glaber, stylo persistente. *Semina* triquetra, 3 mm longa, 2 mm crassa, laevia vel dorso levissime longitudinaliter striatula, ochracea, minute brunneo-notata.

QUEENSLAND. *Port Curtis District* — Bulburin Forest, 10 km E. of Builyan, 24° 31' S., 151° 28' E., Site No. 27A, 11.i.1975, A.C. Robinson 27A1 (holotype, BRI) (voucher for plant material collected in connection with rat-trapping).

The extent to which this plant mimics some of the smaller-leaved forms of *Sauropus macranthus* Hassk. is quite remarkable. The mimicry is not confined to the foliage but extends also to the conspicuous pale-margined stipules and the long-pedicelled female flowers and fruits with large persistent unguiculate sepals. But the male flowers are simple *Phyllanthus* flowers, with none of the specialisations of *Sauropus*, and the style-branches are extremely simple structures, not the coiled ramshorns of *Sauropus*.

I believe I am right in suggesting an affinity with the two New Guinea species mentioned above. (For an illustration of *P. caesius* see Hook. Icon. Pl. 38: t.3704 (1974)). There is much similarity in the type of venation, and the male flowers, apart from the free condition of the stamens, are almost identical. The large lacunose disk-glands recall those in many species of sect. *Nymania*. It seems surprising that a species with such northern affinities should occur so far south in Queensland.

The occurrence of *P. sauropodoides* and *P. brassii* (q.v.) in Bulburin State Forest suggests that the flora there may show peculiar features which would be worth closer investigation.

Actephila B1.
(P. & H. 36)

Actephila sessilifolia Benth., Fl., Austr. 6: 90 (1873); Bailey, Queensl. Fl. 5: 1414 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. xv: 194 (1922).

QUEENSLAND. *North Kennedy District* — Seaview Range, 18° 55' S., 146° 10' E., alt. 915 m, 5.iv.1947, *Flecker* in N. Qld. Herb. 10880 (QRS); Lower western slopes of Mt. Dryander, 20° 15' S., 148° 33' E., rain-forest on soil derived from granite, alt. 250 m, 21.vii.1974, *Moriarty 1866* (QRS). *Port Curtis District* — "Shrub of 4-6 ft at the Caves Mountain, 5 miles west of Morinish", n.d., *Thozet s.n.* (MEL, lectotype, here chosen; K).

The two specimens from North Kennedy District cited above appear to be the only collections made of this very distinct species since it was first described. In October 1976 B. Hyland and the writer attempted to rediscover the plant on and around the Caves Mountain, north of Rockhampton, but without success. Some uncertainty attaches to the data on Thozet's label. He implies that the locality Morinish (which he elsewhere — e.g. in field note to *Croton acronchioides* F. Muell. — terms "Morinish Digging" and Bentham, l.c., erroneously cites as 'Morinisi') lies 5 miles (8 km) east of Caves Mountain, but no such place can be found in that area, whereas a locality Morinish is clearly marked on modern maps some 35 kilometres north-west of the Caves. It is possible that Thozet inadvertently wrote 'west' instead of 'east', or that 100 years ago there was in fact another Morinish to the east of Caves Mountain.

Actephila sessilifolia has a curiously disjunct distribution. It has only been collected at three isolated spots within its range from Caves Mountain to its northernmost locality (Seaview Range) some 685 kilometres north of Rockhampton.

Actephila petiolaris Benth., Fl. Austr. 6: 89 (1873); Bailey, Queensl. Fl. 5: 1414 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. xv: 194 (1922); Airy Shaw in *Kew Bull.* 25: 498 (1971), in obs.

QUEENSLAND. *Cook District* — State Forest Reserve 675, Mulgrave Logging Area, 17° 05' S., 145° 40' E., rain-forest, alt. 160 m, small tree 5 m tall, 5.vi.1974, *Hyland 7243*; *Ibid.*, alt. 100 m, tree 10 cm d.b.h., nondescript bark, buttresses absent, blaze odour freshly shelled peas, 25.xi.1976, *Hyland 3481-2-3* RFK; East Mulgrave Logging Area, alt. 100 m, small slender tree 6 m x 10 cm d.b.h., flower buds [♂] white, 22.xii.1976, *Hyland 9249*.

These collections, agreeing perfectly with the rather scrappy syntype material at Kew, are apparently the only collections of this scarce or extremely local species made since Dallachy obtained the type in the Rockingham Bay area over 100 years ago. They dispose of the tentative speculation that I expressed in 1971 (l.c.) that *A. petiolaris* might be a form of the variable *A. lindleyi* (Steud.) Airy Shaw. The broadly ovate, elliptic or obovate leaves, and especially the elongate petioles (up to 7.5 cm), are characteristic. Bentham found only 3 stamens in the flowers he dissected; in Hyland's recent material I found 4 or 5. Female flower and fruit are desiderata: Bentham described the female flowers from Dallachy's gatherings, but none survive in the Kew syntype, and there appear to be none in Hyland's material.

Actephila foetida Domin. See *Kew Bull.* 31: 363-364 (1976).

QUEENSLAND. *Cook District* — Harvey Creek, Russell River, 1887, *Sayer s.n.* (MEL).

This is the 'third gathering' of *A. foetida* referred to in *Kew Bull.*, l.c. It is actually the first known collection, from the type and only known locality, of this rare and unmistakable plant.

Neoroepera Muell. Arg. & F. Muell.
(P. & H. 45)

Neoroepera banksii Benth., Fl. Austr. 6: 117 (1873); Bailey, Queensl. Fl. 5: 1425 (1902); Britten, Ill. Bot Cook Voy. Endeavour, 88, t.289 (1905).

QUEENSLAND (early collections). *Cook District* — Endeavour River, vii.1819, *Cunningham 291 & 292* (K,

type); Cape Sidmouth (approx. 14° 30' S.), no date or collector's name (MEL); Lizard Island, xii.1871, *Walter s.n.* (MEL); Cooktown, n.d. *Fitzalan s.n.* (MEL).

The distributions of, and the distinctions between, the two species of *Neoroepera* need further investigation, but I believe that Walter's Lizard Island specimen, referred by Bentham (l.c.) to *N. buxifolia* Muell. Arg. & F. Muell., belongs rather to *N. banksii* Benth. *N. buxifolia* is probably confined to a small area in Port Curtis District to the north-west of Rockhampton. Besides the type (Princhester Creek, *Bowman*) I have only seen the following specimen: Between Marlborough and Yaamba, common along creeks, small tree, flowers [♂] cream, 27.x.1937, *C.T. White 12095* (BRI, photo at K). *N. banksii* has been collected a number of times from the north of the Cape York Peninsula south to Cooktown.

The sterile specimens of '*Sersalisia obovata*', collected by *Cunningham* (no. 119) on the Endeavour River in June 1819 and referred by Bentham doubtfully to *N. buxifolia*, do not, I believe, belong to *Neoroepera* and are probably not euphorbiaceous at all. The petioles are appreciably longer than those of either species of *Neoroepera* (up to 4.5 mm, compared with 1-2 mm), and the lamina, when examined by transmitted light, shows a few small translucent gland-dots, mostly irregularly distributed, but occasionally grouped together near the apex of the leaf.

Petalostigma F. Muell.
(P. & H. 49)

Petalostigma banksii Britten & S. Moore. See *Kew Bull.* 31: 369 (1976).

NORTHERN TERRITORY. Coburg Peninsula, 8 km SW of Danger Point, infrequent in groves in tall Eucalyptus forest, tree 3.5-4.5 m, trunk dark, tessellated, 23.vii.1961, *Chippendale 8284* (BRI).

QUEENSLAND. *Burke District* — Normantown, [c. 1867] *B. Gulliver s.n.* (MEL); 88 km N. of Hughenden, common on stony ridges, 11.ix.1937, *Brass & C.T. White 50* (BRI); 93 km SE of Burketown, 14.vii.1974, *Ollerenshaw P.O. 1412* (CBG 058086; BRI). *Cook District* — Silver Plains-Goanna Creek road, in tea-tree scrub, xi.1956, *Webb 3187* (BRI); Cooktown, in open forest on rocky hillsides, small irregular tree with very dark grey tessellated furrowed bark and rather sparse sometimes shapely green crown; fruit yellow, 31.vii.1943, *S.T. Blake 15079* (BRI), [Untypical; leaves up to 2.5 cm broad, mostly ± acute; ? tending towards *P. pubescens*]. *Mitchell District* — Alice River, 1896, *Miss May Dixon s.n.* (MEL).

Petalostigma nummularium Airy Shaw in *Kew Bull.* 31: 373 (1976).

NORTHERN TERRITORY. Bonney Creek, 8 km off Stuart Highway, in red sandy loam flat above creek, tree: 3.5 m, multitrunked [!], dark rough bark; leaves: upperside bright green, underside grey-green, hairy; stems: brown-hairy; flower: 4 greenish cream sepals, cream stamens; fruit: immature, green, hairy, gooseberry-like, 1.vii.1973, *Una Johnson 73/68* (NSW).

QUEENSLAND. *Maranoa District* — Property of A. Murray, Calabah, 75 miles [120 km] south-east (sphalm. 'south-west') of Charleville [Warrego District], Boatman road, mulga-box country, sandy soil, 28.iii.1962, *J. Ebersohn s.n.* (BRI).

Petalostigma pachyphyllum Airy Shaw in *Kew Bull.* 31: 372 (1976).

QUEENSLAND. *Leichhardt District* — Blackdown Tableland, 19 km SSE of Bluff, above North Scarp, in open Eucalypt forest on sandy soil with numerous rock outcrops, alt. 660 m, shrub to 1 m, fruit reddish-orange, 19.ix.1959, *R.W. Johnson 961* (MEL).

Petalostigma pubescens Domin. See *Kew Bull.* 31: 368 (1976); cf. George & Kenneally in Miles & Burbidge (ed.), *Biol. Surv. Prince Regent River Reserve, Wildlife Res. Bull. W. Aust.* 3: 47 (1975).

WESTERN AUSTRALIA (early collections). Prince Regent's River, 1891, *Bradshaw & Allen s.n.* (NSW); Fitzroy River, 1896-97, *Keartland s.n.* (Calvert Exped.) (NSW); Dillon's Springs, E. Kimberley, x.1906, *W.V. Fitzgerald s.n.* (NSW).

QUEENSLAND (early collections). *Burke District* — Scrub near Saxby River (SE of Normanton), tree, viii.1913, *Miss F. Sulman 8* (NSW); Woolgar River (N. of Richmond), viii.1915, *E.W. Bick s.n.* (NSW).

Petalostigma quadriloculare F. Muell. See *Kew Bull.* 31: 370 (1976).

A further obvious reason for typifying this species by Mueller's female material (cf. *Kew Bull.* 31: 366) is the fact that he not only called the genus '*Petalostigma*', from the female flowers, but named the species '*quadriloculare*', from the fruit.

WESTERN AUSTRALIA. "Mount Broome, W. Kimberley, May 1905, *W.V. Fitzgerald s.n.* (MEL). Shrub of 3 feet high." — The specimen of *P. humile* W.V. Fitzg. so labelled in the Melbourne Herbarium is probably part of the type collection, from the King River in E. Kimberley. The mistake in locality is possibly due to some confusion of labelling during the sorting of the material of Fitzgerald's two expeditions.

NORTHERN TERRITORY. Palmerston [Darwin], shrub springing in burnt ground, flowers yellow, n.d., *Rev. T.S. Lea s.n.* (MEL).

Add the following reference to the citations for *P. humile* W.V. Fitzgerald (synonym of *P. quadriloculare*): S. Moore in *J. Linn. Soc. Bot.* 45: 218 (1920).

***Petalostigma triloculare* Muell. Arg.** See *Kew Bull.* 31: 369 (1976).

QUEENSLAND. *Port Curtis District* — between Water Park Creek and The Peaks, 22° 45' S., 150° 45' E., dry sclerophyll forest, alt. 100 m, tree 13 m x 25 cm d.b.h., with a dark somewhat flaky and fissured bark, 7.x.1976, *Hyland 9065* (QRS); Junction of Manifold and Freshwater roads, 22° 40' S., 150° 45' E., dry sclerophyll forest, alt. 100 m, shrub or small tree with orange fruit, 6.x.1976, *Hyland 9060* (QRS).

These recent collections carry the distribution of *P. triloculare* some 370 kilometres north of its previously known most northerly station near Maryborough, thus more than doubling the latitudinal extent of its area. The 13-metre high tree was by far the tallest *Petalostigma* that I had ever seen.

***Austrobuxus* Miq.** (P. & H. 52)

***Austrobuxus nitidus* Miq.** See Airy Shaw in *Kew Bull.* 25: 506 (1971) & 29: 309 (1974) & in *Kew Bull. Addit. Ser.* IV: 43 (1975).

QUEENSLAND. *Cook District* — S.F.R. 143, North Mary L.A., 16° 30' S., 145° 15' E., alt. 1100 m, tree 30 m x 50 cm d.b.h., with a slightly flaky bark; fruit green, probably immature, 17.vii.1973, *Hyland 6740*; E/P 18, North Mary Logging Area, R 143, Mt. Lewis, 16° 30' S., 145° 16' E., rain-forest, alt. 1000 m, 10.x.1973, *Sanderson 472* (QRS); Mt. Lewis Road, 16° 34' S., 145° 11' E., tree 30 m high with gnarled bole 60 cm diameter, epicarp [of fruit] splitting at base and up the side leaving endocarp enclosing seeds; seeds with orange arillus, 31.viii.1957, *L.S. Smith 10095*; Mt. Lewis, 16° 35' S., 145° 15' E., rain-forest, alt. 1050 m, 21.xii.1967, *Hyland 1255* RFK; S.F.R. 143, South Mary L.A., 16° 35' S., 145° 15' E., rain-forest, alt. 900 m, 17.viii.1973, *Irvine 616*; S.F.R. 143, Carbine L.A., 16° 35' S., 143° 15' E., rain-forest, alt. 1200 m, tree 20 m x 30 cm d.b.h.o.b., with a flaky bark and slightly fluted stem, 18.xii.1974, *Hyland 7917*; State Forest Reserve 310, 17° 20' S., 145° 40' E., rain-forest, alt. 700 m, 24.ix.1973, *Dansie s.n.* (QRS); S.F.R. 310, Bora L.A., 17° 20' S., 145° 45' E., rain-forest, alt. 720 m, tree 25 m x 50 cm, with a fluted trunk and pink somewhat fibrous outer blaze, female tree, 8.x.1973, *Hyland 6917*; *ibid.*, tree 20 m x 60 cm, with a fluted trunk and flaky bark, male tree, 8.x.1973, *Hyland 6918*; Swipers Logging Area, 17° 21' S., 145° 46' E., rain-forest, alt. 700 m, tree 23 m high x 75 cm d.b.h.; stem fluted; bark flaky; outer blaze pink, fibrous; inner blaze pink, fibrous, 27.vi.1972, *Risley 59*.

I cannot distinguish this plant from narrow-leaved forms of the common *A. nitidus* of Malaya, Sumatra and Borneo. The disjunction in distribution of nearly 3840 km between East Indonesian Borneo, the nearest otherwise known locality, and this North Queensland population is remarkable. It seems probable that the plant must occur in small quantity in the intervening area.

***Austrobuxus swainii* (de Beuzev. & C.T. White) Airy Shaw** in *Kew Bull.* 25: 508 (1971) & 29: 308 (1974), in clavi.

Longetia swainii de Beuzev. & C.T. White in *Proc. Linn. Soc. N.S.W.* 71: 236 (1947); Francis, *Aust. Rain-Forest Trees*, ed. 3, 230 (1970).

In my key to the species of *Austrobuxus* (1974, l.c.) I expressed doubt as to whether *A. swainii* was rightly referred to this genus. Having now examined isotype and other material of this species in the National Herbarium at Sydney (NSW), I am satisfied that the assignment is correct, although the crenate-dentate leaves are unique in the genus. This feature suggests comparison with *Choriceras tricornis* (Benth.) Airy Shaw and, less strongly, with *Dissiliaria muelleri* Baill. The bilocular ovary, however, and the seeds with a conspicuous pale fibrous finely lacinate aril (as in *Austrobuxus clusiaceus* (Baill.) Airy Shaw and *A. carunculatus* (Baill.) Airy Shaw) are characters at variance with both *Choriceras* and *Dissiliaria*. The 8-stamened male flowers can be compared with those of few-stamened New Caledonian species such as *A. depauperatus* (Baill.) Airy Shaw, *A. gynotrichus* (Guillaum.) Airy Shaw, *A. eugenifolius* (Guillaum.) Airy Shaw, etc.

Dissiliaria F. Muell. ex Benth.
(P. & H. 53)

Dissiliaria laxinervis Airy Shaw, sp. nov.

D. baloghioidi F. Muell. ex Benth. affinis, sed nervatione foliorum laxo subtus manifeste elevato distincta. TYPUS: Queensland, Hyland 2578 RFK (K, holotypus).

Arbor usque 25 m alta, anteridifera, fere glaberrima, ramulis junioribus laevibus vetustioribus lenticellis crebris ellipticis pustulosis. *Folia* opposita vel terna, elliptica vel late elliptica, usque 18 x 7 cm, basi cuneata vel (*L.S. Smith 14372*) rotundata, apice aut pari ratione angustata aut subrotundata, ipso apice semper obtuso, margine integro saepe undulato, coriacea, laevia, nitida, glaberrima, siccitate aut viridula aut (*Smith 14372*) brunnea; costa gracilis, utrinque prominens; nervi laterales gracillimi, 5-8-jugi, acute adscendentes, parum curvati, diffuse anastomosantes, supra immersi vel vix prominuli, subtus argute elevati; nervi minores laxe reticulati, supra obscuri, subtus permanifesti; petiolus 5-8 mm longus, glaber; stipulae interpetiolares, triangulares vel ellipticae 2-9 x 2-5 mm, acutae vel obtusae, caducae; alabastra axillaria parva, globosa, dense ferrugineo-tomentella. *Flores* et ♂ et ♀ ignoti. *Capsulae* in axillis per 1-4 fasciculatim gestae, pedicellis 1.5-4.5 cm longis rigidis sicut ramuli lenticellosis, subglobosae, 1.5 cm diametro, pericarpio crassiusculo ab endocarpio solubili tenuiter ochraceo-velutino. *Semina* (immatura) applanata, semi-orbicularia, 8 x 5 mm, laevissima, nitida, saturate castanea.

QUEENSLAND. *Cook District* — Claudie River, 12° 45' S., 143° 15' E., gallery rain-forest, alt. 80 m, tree 60 cm d.b.h., with a coarsely flaky bark, red heartwood and conspicuous buttresses, 29.vi.1972, *Hyland 2578* RFK (type); *Ibid.*, rain-forest, alt. 60 m, tree 25 m x 60 cm d.b.h., with a flaky bark and pink blaze, 22.ix.1976, *Hyland 9028*; Gap Creek, 15° 45' S., 145° 10' E., granite wash, alt. 30 m, 18.v.1969, *L.S. Smith 14372*; *Ibid.*, 12 km N. of Aylton on Cooktown road, roadside remnant of lowland rain-forest, 15° 50' S., 145° 20' E., small tree, 4 m, fruit yellow-green with rusty tomentum, 23.vi.1973, *Blaxell 1170*.

This species is manifestly distinct from *D. baloghioides* in the lax venation of the leaves, which is sharply elevated on the lower surface. If further collections confirm the distinctness of the form from Gap Creek, with a rounded leaf-base, drying brown, it may deserve taxonomic recognition.

Choriceras Bail.
(P. & H. 53/a)

Choriceras majus Airy Shaw, sp. nov.

A. C. tricorni (Benth.) Airy Shaw foliis multo majoribus et praesertim latoribus fere integris facile distinctum. TYPUS: Queensland, *Hyland 9365* (K, holotypus; QRS, isotypus).

Arbor parva, ramulis teretibus 1-4 mm crassis, cortice pallido glabro, novellis minute adpresse puberulis. *Folia* opposita, ovata vel late elliptica, 7-14 cm longa, 3-7 cm lata, basi late cuneata usque rotundata, apice breviter subacuminata vel cuspidata vel raro rotundata, ipso apice obtuso rarius subacuto, margine integro vel obscurissime sinuato-denticulato anguste reflexo vel revoluto, chartacea vel vix tenuiter coriacea, laevia, opaca vel vix nitidula, utrinque primum minute dissite adpresse puberula, supra mox subtus tarde glabrescentia, superficie superiore sub lente minute granulata; costa mediocris, subtus prominens, supra latiuscule prominula; nervi laterales gracillimi, 8-10-jugi, patuli, utrinque inconspicue prominuli, prope marginem diffuse anastomosantes; nervi minores valde inconspicui; petiolus 7-10 mm longus, 1-2 mm crassus, primum minute puberulus, demum glabrescens; stipulae ad lineam transversam prominulam redactae. *Inflorescentiae* ♂ axillares (verosimiliter cymae congestae), multiflorae, perulis parvis convexis puberulis numerosis suffultae. *Pedicelli* filiformes, usque fere 1 cm longi, glabri. *Tepala* 5-6, obovata vel suborbicularia, 1.5-2 mm diametro, valde convexa, hyalino-membranacea, crema, medio fusca. *Stamina* 5-6, 1-1.5 mm longa, e margine receptaculi exorta, antheris late ellipsoideis, receptaculo centrali elevato hemisphaerico spongioso longe piloso. *Pistilodidium* nullum. *Inflorescentiae* ♀ axillares, plerumque biflorae, axi primaria gracili 3-12 mm longa minute puberula apice flores 2 oppositos bracteis subulatis 1.5 mm longis suffultos gerente. *Pedicelli* rhachi primaria crassiores, 3-4 mm longi, minutissime

puberuli. *Tepala* 3 + 3, ovario arcte adpressa: exteriora late ovata, 1.5-2 mm longa et lata, acuta, carinata, hyalino-herbacea, minute puberula, margine crosula; interiora multo minor, suborbicularia vel anguste ovata, vix 1 mm longa, apice obtuso vel rotundato. *Ovarium* (anthesi jam peracta) profunde tricocum, 3.5-4 mm longum et latum, minute adpresse puberulum, oculis ovoideis dimidio inferiore tantum connatis superne liberis cornutis in stigmata conspicua uncinata desinentibus. *Fructus* ignotus.

QUEENSLAND. *Cook District* — Portion 62 Alexandra, 16° 10' S., 145° 25' E., rain-forest, alt. 5 m, small tree with cream flowers [♂]; young leaves red, 19.xii.1972, *Hyland* 6612; T.R. 165, Pieter Botte L.A., 16° 06' S., 145° 23' E., rain-forest, alt. 450 m, small tree overhanging the creek, flowers [♀] cream, flowers in F.A.A., 1.vi.1977, *Hyland* 9365 (type).

This is a rain-forest counterpart of the closely related *A. tricorne*, a locally common species of sandy heaths, savanna forest, monsoon forest, etc., in the Northern Territory, north-east Queensland (S. to Rockingham Bay), and southern Papua. The only tangible differences between the two are the much greater size, and especially breadth, and practically obsolete tothing of the leaves. In floral characters they seem almost indistinguishable.

The foliage of *C. majus* bears an uncanny resemblance to that of certain species of *Palmeria* (Monimiaceae). The only certain point of distinction that I have found is the absence of minute translucent oil-dots in the leaves of the *Choriceras* when viewed by powerful transmitted light.

Cleistanthus Hook.f.

(P. & H. 63)

Cleistanthus myrianthus (Hassk.) Kurz. See *Kew Bull.* 31: 378 (1976).

QUEENSLAND. (modern collections). *Cook District* — Bailey's Creek, north of Daintree River, rainfall 125" annual average, 1962, *L.S. Smith & Tracey* 6513 (BRI); Range just N. of the Daintree River, 16° 30' S., 145° 30' E., 11.x.1967, *Hyland* 1087 (BRI); Roaring Meg, 16° S., 145° 15' E., 16.iv.1969, *Hyland* 2218 (BRI); Half mile [0.8 km] W. of Cedar Bay, Bloomfield River area, rainfall estimated 1800 mm per annum, alt. 20 m, v.1969, *Webb & Tracey* 8985 (BRI); Oliver Creek, a tributary of Noah Creek, 16° 06' S., 145° 27' E., alt. under 100 m, 21.viii.1972, *Webb & Tracey* 10883 (BRI); Portion 62 Alexandra (Noah Creek), 16° 10' S., 145° 25' E., rain-forest, alt. 4 m, small tree 7 m tall, 10.v.1973, *Hyland* 6724 (BRI); T.R. 146, Fritz L.A. (Gap Creek), 15° 45' S., 145° 20' E., rain-forest, 25.vii.1973, alt. 60 m, small tree with reddish fruits, *Hyland* 6781 (BRI).

This common Malesian species appears to be confined in Australia to a relatively small area south of Cooktown.

Cleistanthus dallachyanus (Baill.) Baill. ex Benth., *Fl. Austr.* 6: 122 (1873); Bailey, *Queensl. Fl.* 5: 1412 (1902); Jabl. in Engler, *Pflanzenreich* IV. 147. viii: 36 (1915).

Amanoa dallachyana Baill. in *Adansonia* 6: 335 (1866). Syntypes: Rockhampton, 1862-63, *Dallachy* 17 (MEL); *Thozet* 337 (MEL); Mount Mueller & Port Denison, n.d., *Dallachy* s.n. (MEL).

QUEENSLAND. *Cook District* — New Holland, Endeavour River, 1770, *Banks & Solander* (MEL). *North Kennedy District* — Whitsunday Group, Hook Island, leaves stiff, dark green, pointed oval; flowers in small sprays, greenish yellow, small stars; buds velvety brown, viii.1971, *S. Webster* s.n. (BRI). *South Kennedy District* — Sarina, in rain-forest on river-bank in dark grey loam, alt. 15 m, tree about 6 m high, 14.i.1931, *Hubbard & Winders* 6509 (BRI).

The above records, taken together with the earlier ones from Rockhampton, the Herbert River, Northumberland and Cumberland Islands, suggest a preference for coastal or estuarine situations.

Cleistanthus xerophilus Domin. See *Kew Bull.* 31: 381 (1976).

QUEENSLAND. *Cook District* — Upper Massey Creek, in riverine rain-forest, 24 km a little S. of ENE of Coen, alt. 105 m, 11.x.1962, *L.S. Smith* 11772 (BRI); 2.5 km SE of Coen, on Port Stewart road, around rocky gully in hills, alt. 225 m, small tree 6 m high, 16.x.1962, *L.S. Smith* 11947 (BRI); Coen, in deciduous vine thickets on granite outcrops, 1962, *Webb & Tracey* 8017 (BRI); Nolan Creek, 16° 50' S., 144° 10' E., on the bank of an ephemeral creek in open riparian eucalypt forest, alt. 230 m, small shrubby tree 4.5 m tall, fruit green, 26.xii.1974, *Hyland* 7926 (BRI); *ibid.*, 20.ii.1975, *Hyland* 8051 (BRI); Maytown Road (SW of Coktown), shrub to 3 m, 5.xi.1947, *S.E. Stephens* in *N. Qld. Nats. Club* 11830 (BRI).

Domin described his species from a small-leaved plant with leaves only 1-4.5 cm in length, but in individuals from more favourable habitats the leaves may be as much as 11 cm long and 4 cm broad.

Cleistanthus (§Leiopyxis) peninsularis Airy Shaw & Hyland, sp. nov.

A. C. semi-opaco F. Muell. ex Benth. indumento cinnamomeo potius quam ferrugineo, foliis supra multo minus nitentibus, floribus majoribus bene distinctus. TYPUS: Queensland, near Musgrave, *Hyland 6927* (K, holotypus; QRS, isotypus).

C. semiopacus var. *curvaminis* Airy Shaw in *Kew Bull.* 31: 380 (1976).

Frutex vel *arbuscula* usque 10 m alta, ramulis gracilibus 1-2 mm crassis primum adpresse cinnamomeo-puberulis mox glabrescentibus. *Folia* anguste obovata vel oblonga, rarius elliptica, 5-11 cm longa et 2-4.6 cm lata, vel interdum (*L.S. Smith 11973*) 3.5-5.5 cm longa, 1-2 cm lata, basi cuneata usque rotundata, apice breviter acuminata vel cuspidata, ipso apice acuto vel obtuso, margine integro angustissime reflexo, chartacea, siccitate viridia, supra vix nitidula, parce evanido-albido-puberula, subtus opaca, persistenter adpresse minute albido-puberula; costa gracilis, subtus prominula, supra fere plana; nervi laterales gracillimi, 6-8-jugi, patuli vel acutius adscendentes, non nisi apicem folii versus manifeste anastomosantes; petiolus 5-8 mm longus, 1 mm crassus, primum cinnamomeo- vel ferrugineo-pubescentis, mox glabrescentis; stipulae oblongae, 2-3 mm longae, 1 mm latae, puberulae. *Inflorescentiae* axillares, glomerulis globosis multifloris multibracteatis 5-10 mm diametro conspicue cinnamomeo-sericeis. *Flos* ♂: calyx infundibuliformis, inferne in pedicellum 1.5 mm longum angustatus, totus 7 mm longus (pedicello incluso), extra longe cinnamomeo-sericeus, intus glaber, segmentis oblongis vel subulatis 3 mm longis, 1 mm latis (quinto saepe latiore) acutis; discus inconspicuus, calycis tubo arcte adhaerens, tenuis, brevissime lobulatus; petala valde varia, rhomboidea vel spatulata, apice acuta vel lobulata vel truncata, 1.5 mm longa; columna staminalis 2.5 mm longa, filamentis liberis patentibus 1.5 mm longis, antheris majusculis oblongis 2 mm longis apice acutis; pistillodium anguste ovoideum, triquetrum, puberulum, fere 2 mm longum, acutum. *Flos* ♀: calyx ovoideus, sessilis, 4-5 mm longus, extra longe cinnamomeo- vel ferrugineo-sericeus, segmentis triangulari-lanceolatis 3 mm longis acutis; petala rhomboidea, acuta, denticulata, 0.5 mm longa; discus exterior humillimus, annularis; discus interior late cupularis, sed exteriorem brevissime tantum excedens, margine subintegro; ovarium globosum, 2 mm diametro, dense pilosum; styli 1 mm longi, fere usque ad medium bifidi, ramis brevibus divaricatis sursum appanatis et expansis vel brevissime bilobulatis. *Capsula* non visa.

NEW GUINEA. *Papua* — Dauan Island (politically part of Cook District, Queensland), Torres Strait, 9° 25' S., 142° 30' E., low vine-forest/woodland on tops of hills and in gullies, small tree or shrub, 31.vii.1975, *Cameron 2267, 2282, 2285, 2289, 2294, 2303, 2323* (QRS); *Ibid.*, dominant tree in low forest, 6-8 m tall, lower leaves worn and reddish — deciduous?, 31.vii.1975, *Cameron 2317* (QRS).

QUEENSLAND. *Cook District* — *Islands in the Torres Strait*: Banks (Mao) Island, 10° 10' S., 142° 15' E., road to Kubin, interior of island, closed forest, 24.ii.1975, *Cameron 20605, 20627* (QRS); Thursday Island, 10° 35' S., 142° 15' E., 3.vii.1974, *Heatwole & Cameron 66* (QRS); Hammond Island, 10° 35' S., 142° 10' E., 5.vii.1974, *Heatwole & Cameron 184* (QRS); *Ibid.*, 6.vii.1974, *Heatwole & Cameron 202* (QRS); Prince of Wales Island, 10° 45' S., 142° 15' E., SE side, opposite Packe Island, closed forest, 16.ii.1975, *Cameron 20105, 20106* (QRS); Prince of Wales Island, Cox's Beach, closed forest, tree, 13.ii.1975, *Cameron 20143, 20171, 20196* (QRS); Prince of Wales Island, Big Creek, closed forest, soil rocky, understory shrub, 11.ii.1975, *Cameron 20214* (QRS); Prince of Wales Island, creek bank in savannah woodland, 13.ii.1975, *Cameron 20286* (QRS). *Cook District* — *Cape York Peninsula*: Between Portland Roads and Iron Range, 12° 40' S., 143° 25' E., dry rain-forest — monsoon forest, alt. 60 m, tree 20 cm d.b.h., 4.vii.1972, *Hyland 2616* RFK (QRS, K); The Bend, 2 miles NNW of Coen, on banks of Coen River, alt. 210 m, 16.x.1962, *L. S. Smith 11973*, (type of *C. semi-opacus* var. *curvaminis* Airy Shaw), (BRI; K); Timber Reserve 14 (Rocky River Catchment), 13° 50' S., 143° 25' E., dry rain-forest, alt. 150 m, small tree 10 m tall, with flaky bark, 10.ix.1973, *Hyland 6845* (QRS, K); Few miles north of Musgrave on the Peninsular Road, 14° 40' S., 143° 30' E., riparian forest, alt. 75 m, small short-boled tree 10 m x 30 cm d.b.h., with a flaky bark; buds, flowers and fruits in F.A.A., *Hyland 6927* (holotypus, K; isotypus, QRS).

The duller or less conspicuously shining upper surface of the leaves, the paler, cinnamomeous rather than ferrugineous indumentum, and the considerably larger flowers, are the distinguishing marks of this species in relation to *C. semi-opacus*. On sterile branches, in material from the Torres Strait (e.g. *Cameron 20605, 20171*), the leaves may reach much larger dimensions, up to 17 x 8 cm, with a slightly cordate base. As the species

occurs commonly, even to the extent of dominance, on Dauan Island, only a few kilometres off the coast of Papua, it is virtually certain that it must occur also on the adjacent mainland

Bridelia Willd.
(P. & H. 65)

Bridelia penangiana Hook. f. See *Kew Bull.* 31: 382 (1976).

QUEENSLAND (early collections). *Cook District* — Mossman's River, 40 ft, 1886, *Sayer 178* (MEL, BRI). *North Kennedy District* — Herbert River ('No. X'), n.d., *Dellachy* (MEL); Murray River, small straggling tree with small red fruit, no flower, 4. xii. 1866, *Dallachy* (MEL); Johnstone River, n.d., *H.G. Ladbroke 142* (BRI).

QUEENSLAND (modern collections). *Cook District* — Bailey's Creek area, ¼ mile [0.4 km] E. of sawmill (7½ miles [12 km] ENE of Daintree), in somewhat swampy lowland rain-forest on grey soil, alt. 15 m, small tree 3 m high; trunk 1.5 in [3.75 cm] in diameter, with a few sparse spines; outer bark greyish; inner bark cream, oxidizing to a pale salmon colour, 2. x. 1962, *L.S. Smith 11565* (BRI); Little Mulgrave, tree 12 m, 0.3 m d.b.h., 17° 08' S., 145° 42' E., 29. i. 1954, *K.J. White 54/354 (677)* (BRI); Cucania, 17° 14' S., 145° 55' E., tree to 15 m, 30. viii. 1954, *L.S. Smith 5319* (BRI); Bingil Bay (NE of Tully), 17° 52' S., 146° 06' E., on creek bank. small tree with somewhat glaucous leaves; leaves much paler beneath, 2. xi. 1951, *L.S. Smith 4912* (BRI).

It is strange that Dallachy's records were not cited by Bentham (*Flora Australiensis*, 1873). The remaining records help to fill in the gap between the localities of Claudie River and Mission Beach, cited by me in 1976 (l.c.).

Bridelia phyllanthoides W. V. Fitzg. = **B. tomentosa** Bl. var. **tomentosa**; vide infra.

Bridelia tomentosa Bl. See *Kew Bull.* 31: 382 (1976).

B. phyllanthoides W. V. Fitzg. in *J. & Proc. Roy. Soc. W. Aust.* 3: 163 (1918), synonym. nov. Type: W. Australia, base of Mt. Broome, 1905, *Fitzgerald 823* (NSW).

var. **tomentosa**

QUEENSLAND. *Cook District* — First large granite hill SE of Almaden on Petford Road, 17° 20' S., 144° 40' E., open forest, alt. 560 m, shrub 1-2 m tall growing among granite boulders, 30. xii. 1974, *Hyland 7934* (BRI).

Bentham's record (*Fl. Austr.* 6: 120 (1873)) of this species from the Port Curtis District: Rockhampton, *O' Shanesy*, needs confirmation. I have seen no modern material from so far south.

var. **glabrifolia** (Merr.) Airy Shaw in *Kew Bull.* 31: 383 (1976). Additional early collections are:

WESTERN AUSTRALIA. Beagle Bay (Dampier Land), 1869, *All. Hughan s.n.* (MEL); Roebuck Bay, iii. 1890, *Tepper jun. 122* (MEL.); Prince Regent River, 1891, *Bradshaw & Allen s.n.* (MEL).

NORTHERN TERRITORY. Timber Creek, v. 1856, *Mueller* (MEL); Victoria River, near Stokes & Fitzroy Range, on rocky declivities, vi. 1856, *Mueller* (MEL); Port Darwin, 1884, *Holtze 445* (MEL).

QUEENSLAND. *Cook District* — Endeavour River, 1883 & 1884, *Persieh s.n.* (MEL).

Croton L.
(P. & H. 66)

Croton acronychioides F. Muell., *Fragm. Phytogr. Austr.* 4: 142 (1864); *Baill. in Adansonia* 6: 300 (1866); *Benth., Fl. Austr.* 6: 127 (1873); *Bailey, Queensl. Fl.* 5: 1437 (1902); *Francis, Aust. Rain-Forest Trees*, ed. 3, 227 (1970). Syntypes: Fitzroy River, nr. Rockhampton, *Thozet*; Broad Sound, *Bowman*.

C. affinis Maid. & R.T. Baker in *Proc. Linn. Soc. N.S.W.* II, 9: 160, t. 12 (1894); *Francis, l.c.*, 230 (1970); synonym. nov. Type: New South Wales, near Tintenbar, Richmond River, viii. 1893, *Bauerlen s.n.*

QUEENSLAND (early collection). *Port Curtis District* — Rockhampton area, Morinish Digging, tree 10-25 ft high; thick, corky, longitudinally fissured bark, like in some Solaneae, n.d., *Thozet 476* (MEL).

NEW SOUTH WALES. Tintenbar, shrub or small tree 8-15 ft high, x. 1891, *Maiden 525* (MEL) — topotype of *C. affinis*.

I was in error in 1976 (*Kew Bull.* 31: 386) in equating *C. affinis* with *C. verreauxii*

Baill. *C. affinis* almost certainly represents a form of *C. acronychioides* F. Muell. and a southerly extension of range for that species.

Croton argyratus Bl. See *Kew Bull.* 31: 385 (1976).

NORTHERN TERRITORY. Unlocalised, but doubtless from Darwin or neighbourhood, shrub, 1891, *Maurice Holtze 1233* (MEL); (In a copy of Bentham, (Flora Australiensis, 1873) in the Melbourne Herbarium the following note has been pencilled by Mueller against the description of *Croton schultzii* Benth.: "In specimens from Holtze the ♀ pedic. — 1" long. Leaves partly cordate or ovate or orbic."); East Point, Darwin, in monsoon forest, shrub 1 m, 14.xi.1967, *Byrnes NB284* (NT 14345).

The plant was also noted on Elcho Island in July 1975, as a shrub of the deciduous vine thicket, by Dunlop, Latz & Maconochie (*N. Terr. Bot. Bull.* 1: 21 (1976) as *C. schultzii* Benth.). As, however, it was sterile, it was not collected.

The above occurrences seem to dispose of my surmise (*Kew Bull.* l.c.) that the specimen collected at Darwin in 1870 by *Schultz* (609) might have been a casual port introduction. The sparse isolated population on Elcho Island, northern Arnhem Land, appears to represent an extreme eastern outlier of the otherwise almost continuous distribution of *C. argyratus*, extending from South-East Asia to Bali and the Moluccas.

Holtze's material agrees well with Schultz's, but is considerably more ample. It falls well within the ambit of the variable *C. argyratus*.

Croton armstrongii S. Moore in *J. Linn. Soc. Bot.* 45: 219 (1920). Type: Port Essington, *Armstrong s.n.* (BM).

C. habrophyllus Airy Shaw in *Kew Bull.* 31: 386 (1976), *syn. nov.* Type: Port Darwin, *Schultz 680* (K).

NORTHERN TERRITORY. Port Darwin, 1882, *Holtze 40* (MEL); 1883, *Holtze 322, 370* (MEL); 1886, *Tenison-Woods & Holtze 40, 592* (MEL); Elizabeth Creek, 1885, *Holtze 592* (MEL); Sine loc., 1891, *Holtze s.n.* (MEL); Melville Island, semi-evergreen vine forest, v.1966, *Stocker s.n.* (BRI); Wessel Is. 11° 11' S., 136° 44' E., rare on stable coastal dunes, shrub to 1.5 m, 28.ix.1972, *Latz 3289* (BRI).

It is regretted that Moore's 1920 paper was overlooked by me when describing *Croton habrophyllus*, as also by Chippendale when listing the plants of the Northern Territory in *Proc. Linn. Soc. N.S.W.* 96: 207-267 (1972).

Croton armstrongii is apparently scattered widely but thinly over the northern part of Arnhem Land and adjoining islands. Though collected by Latz in the Wessel Islands in 1972 (see above), it was not noted by Dunlop, Latz & Maconochie in their account of the plants of Elcho Island (*N. Terr. Bot. Bull.* 1: 21 (1976)). The specimen *Byrnes 2833*, from Cannon Hill, to which I drew attention in 1976 as being somewhat aberrant, must be excluded from *C. armstrongii*. The taxon it represents has now been re-collected and is described below (p. 000) as a new species, *C. byrnesii*.

Croton brachypus Airy Shaw, *sp. nov.*

C. triacro F. Muell. affinis, sed petiolis fere duplo brevioribus praesertim differt. TYPUS: Queensland, Tozer Range, 1948, *Brass 19462* (K, holotypus).

C. mirus sec. Airy Shaw in *Kew Bull.* 31: 385 (1976), quoad *Brass 19462* tantum, non Domin.

Frutex vel *arbor* usque 4 m alta, novellis et inflorescentiis parce lepidotulis, ceterum fere glabra. *Folia* cuneato-obovata, 5-17 cm longa, 2.5-6 cm lata, basi plerumque sensim cuneato-angustata, ipsa basi anguste rotundata vel cordatula, apice cito contracta et breviter acuminata vel cuspidata, ipso apice acuto vel obtuso, margine levissime repando-sinuato vel subintegro, chartacea vel vix tenuiter coriacea, laevia, matura fere glaberrima, siccitate viridia, subtus pallidiora, ima basi glandulis binis minimis e facie prominentibus aucta; costa subtus prominens, supra fere plana; nervi laterales tenuissimi, 7-9-jugi, late patuli, subtus et supra tenerrime sed argute prominuli, arcuato-anastomosantes; nervi minores fere invisibiles, laxissimi; petiolus 2-5 mm longus, parce lepidotulus; stipulae minutissimae vel obsoletae. *Inflorescentiae* terminales, 3-5 cm longae, androgynae, parce lepidotulae. *Flos* ♂ (alabastro juniore) 2 mm pedicellatus. *Sepala* parvissime stellato-lepidota. *Petala* spatulata. *Stamina* 10-12, basi vix pilosa. *Flos* ♀ brevissime pedicellatus. *Sepala* ovato-oblonga, 2 mm longa, acuta, parvissime stellato-lepidotula. *Petala* 0. *Ovarium* depresso

suborbiculare, 1.5 mm diametro, densissime albo-lepidotulum; styli 2 mm longi, fere usque ad basin bifidi, segmentis linearibus acutis glabris. *Capsula* integra non visa, valvis delapsis 6-7 mm longis parvissime lepidotulis; semina latissime ellipsoidea, 4-5 mm longa, fere 4 mm lata, 3 mm crassa, laevia, castanea vel fusco-badia, lineis brevibus ochraceis longitudinaliter marmorata.

QUEENSLAND. *Cook District* — Puffdellooney Ridge, 12° 45' S., 143° 13' E., heath scrub, alt. 360 m, shrub 1.6 m high, small white flowers, 3.vii.1972, *Irvine 249* (QRS); Lower northern slopes of Mt. Tozer, 12° 45' S., 143° 15' E., dry rain-forest, alt. 200 m, shrub, 30.vi.1972, *Dockrill 441* (QRS); Tozer Range, 0.8 km east of Mt. Tozer, a characteristic species of rain-forest undergrowth, alt. 425 m, tree 3-4 m tall, leaves smooth and shining much paler below, flowers white, 6.vii.1948, *Brass 19462* (K, holotype). Lankelly Creek, on western fall of Mellwraith Range, approx. 13° 55' S., 143° 15° E., semi-deciduous mesophyll vine-forest along stream, on alluvial soils derived from a mixture of granite and metamorphic rocks, some sclerophyll emergents — *Melaleuca argentea* and *Eucalyptus pellita*, permanent waterhole at this point, alt. 200 m, x.1969, *Webb & Tracey 9625* (BRI).

This plant from the Cape York Peninsula is closely related to *C. triacros*, of the Atherton Tableland and Rockingham Bay region, but differs in its consistently and conspicuously short petioles.

***Croton byrnesii* Airy Shaw, sp. nov.**

C. armstrongii S. Moore arcte affinis, sed statu maturo glabritie fere tota, stipulis magis evolutis, et glandulis petiolaribus usque 1 mm a basi laminae semotis satis distinctus. TYPUS: Northern Territory, Cannon Hill, *Byrnes 2833* (DNA, holotypus; BRI, NT, K, isotypus).

Frutex vel *arbor* 2-4 m alta, habitu gracili patente, novellis et inflorescentiis parvissime stellato-lepidotulis exceptis fere glaberrima, ramulis teretibus 2-4 mm crassis, cortice brunnescente vel cinereo. *Folia* ovata vel interdum elliptica, 6-10(-15) cm longa, 2-6(-9) cm lata, basi rotundata (raro levissime cordata vel latissime cuneata), apice sensim angustata vel breviter acuminata, ipso apice insigniter obtuso (raro acuto), margine leviter crenato vel subserrato vel rarius subintegro, membranacea, laevia, nisi valde juvenilia glaberrima, siccitate viridia, opaca; costa gracilis, subtus prominula, supra fere plana; nervi laterales gracillimi, circiter 8-jugi, patuli, subrecti, prope marginem curvati et diffuse anastomosantes; nervi minores tenuissimi, laxi; petiolus gracillimus, 1-3(-5) cm longus, vix 1 mm crassus, glaberrimus, apice glandulis binis breviter vel longe stipitatis usque 1 mm a basi laminae (vel interdum juxta laminam) sitis ornatus; stipulae lineares, usque 1.5 mm longae, caducae. *Inflorescentiae* terminales, 7-15 cm longae, mixtae, parce, stellato-lepidotulae, laxae multiflorae, bracteis minutis ovatis acutis ciliatis, fasciculis paucivel multifloris. *Flos* ♂ pedicello tenui 3-6 mm longo parce stellato suffultus. *Sepala* oblongo-ovata, 2-3 mm longa, 1-1.5 mm lata, acuta apice minute albo-pilosula, extra sub ipso apice callo minuto rubido ornata, crebriuscule translucido-glandulosa. *Petala* 5, linearia, 3 mm longa, apice densiuscule albo-pilosula. *Disci glandulae* 5, sepalis oppositae, transversae, carnosulae. *Stamina* 8-10, e fundo tenuiter longe piloso exorta, 3 mm longa, antheris oblongis. *Flos* ♀ pedicello robustiore ei masculi fere aequilongo parce stellato-lepidotulo suffultus. *Sepala* ovato-oblonga, 3 mm longa, 1.5 mm lata, apice ut in masculis. *Petala* deficientia. *Disci glandulae* fere ut in flore ♂. *Ovarium* 2 mm diametro, 1 mm altum, trilobum, dense stellato-pilosum; styli a basi liberi, divaricati, rigidi, appanati, sulco mediano percursi, superne bifidi, ramulis quasi tortis vel sigmoideis vel truncatis. *Capsula* tricocca, dissite albedo-stellato-lepidotula, 8-9 mm diametro, 5-6 mm alta, sepalis fusco-brunneis revolutis persistentibus; semina brevissime oblongo-globosa, fere 4 mm longa, fere 3 mm crassa, utrinque rotundata et minute apiculata, laevissima, ochraceo-brunnea, immaculata.

NORTHERN TERRITORY. Cannon Hill, base of sandstone cliff, shrub c. 2 m high, 18.xii.1972, *Byrnes 2833* (DNA 5663, holotype; BRI, NT, K, isotypes); 1 mile [1.6 km] SW Cannon Hill, broadleaf scrub associated with small sandstone outcrop, spreading tree 4 m high, bark smooth mid-grey, fruit pale green, 1.ii.1973, *Martensz & Schodde AE648* (NT 38582); 2½ miles [4 km] N. of Cannon Hill Airstrip, monsoon rain-forest, small tree 2.4 m high, fruit green, 9.ii.1973, *Martensz AE812* (NT 38652, DNA 6200); Cannon Hill, 12° 22' S., 132° 56' E., at base of sandstone outcrop, sandy soil, small tree, xi.1976, *G. Miles s.n.* (DNA, K); East Alligator River, 12° 29' S., 133° 03' E., sandy soil, edge of creek with *Tristania lactiflua*, slender tree 3 m high, wood aromatic, 15.ii.1973, *Dunlop 3235* (NT 41542, DNA 7741).

When describing *Croton habrophyllus* (now reduced to *C. armstrongii* — see page

224) in 1976, I referred to *Byrnes* 2833 as possibly representing a slightly divergent local population of that species. Having now examined further collections of the Byrnes entity from the Cannon Hill area, and having seen both it and typical *C. habrophyllus* in the field, I am satisfied that it merits taxonomic recognition. It represents yet another micro-species in the critical section *Gymnocroton*. The most obvious feature is the almost complete glabrescence of the plant (except when very young). The apical petiolar glands are variable, but when long-stipitate and well distant from the base of the lamina they are striking. Further gatherings must show whether other characters (e.g. staminal number) show constant differences.

***Croton capitis-york* Airy Shaw, sp. nov.**

C. wassi-kussae Croiz. et *C. insulari* Baill. affinis, sed floribus ♂ sessilibus vel subsessilibus differt., a *C. insulari* praeterea foliis plerumque majoribus et tenerioribus distinctus. TYPUS: Queensland, Silver Plains Holding, 1973, *Stocker 1077* (QRS, holotypus).

Frutex 1.5-3.5 m altus, ramulis teretibus laevibus 2-4 mm crassis dense minute ochraceo-lepidotis raro patenti-pilosulis. *Folia* elliptica usque fere oblonga, 5-16 cm longa, 4-6 cm lata, basi rotundata vel late cuneata, apice breviter acuminata vel abrupte obtuse cuspidata, ipso apice obtuso vel interdum acuto, margine integro vel obscure sinuato anguste reflexo vel rarius plano, tenuiter vel firme chartacea, siccitate viridula vel brunnescentia, supra dissite ochraceo-stellato-lepidotula; costa gracilis, supra fere plana, subtus prominens; nervi primarii laterales gracillimi, 8-11-jugi, late patuli, prope marginem arcuato-anastomosantes; nervi minores tenuissimi, aut primariis sub-paralleli aut laxe reticulati; petiolus gracilis, 1-5 cm longus, 1 mm crassus, supra alte canaliculatus, dense ochraceo-lepidotulus, apice glandulas binas laterales conspicuas breviter stipitatas gerens; stipulae non visae, forsan obsoletae. *Inflorescentiae* (juniores tantum visae) terminales, interrupte spicatae, usque 8 cm longae, dimidio inferiore nudae vel usque ad basin floriferae, rhachi pro rata robusta dense minute lepidotula. *Flores* alabastro tantum visi: *masculi* sepalis 5 petalis 5 spatulatis staminibus circiter 10, *feminei* sepalis 5 crassiusculis petalis 5 vestigialibus minutissimis triangularibus fimbriatis ovario triloculari dense piloso stylis 3 bis bifidis instructi.

QUEENSLAND. Cook District — Bamaga Mission, 11.2 km SW of Cape York, east to mill and beyond, 11° 1' S., 142° 3' E., stony red hill, shrub 0.9-3.6 m high, 24.x.1965, *L.S. Smith 12393*; 8 km N. of crossing on Massey Creek, on road between Silver Plains Station and Rocky River, 13° 50' S., 143° 29' E., in evergreen vine thicket 5-6 m with emergents to 15 m usually also evergreen, notably *Eugenia banksii* & *Eugenia* sp. (nov.?) but an occasional deciduous species, notably *Terminalia sericocarpa*, 'soil' is fine white sand with dark stained topsoil, alt. 70 m, x.1969, *Webb & Tracey 9740* (NSW); Temple Bay Yards, 12° 20' S., 143° 05' E., monsoon forest, alt. 40 m, 17.ix.1976, *Hyland 8971* (QRS); Hann Creek Watershed, 12° 27' S., 142° 56' E., monsoon forest, alt. 150 m, shrub 4 m tall, 19.ix.1976, *Hyland 9021* (QRS, K); West Claudie River, 12° 45' S., 143° 15' E., dry rain-forest, alt. 100 m, shrub 2 m tall, 29.vi.1972, *Hyland 6170* (QRS, K); Silver Plains Holding, between Rocky River and Massey Creek, 13° 40' S., 143° 28' E., dry rain-forest, bush 1.5 m high, 13.ix.1973, *Stocker 1077* (holotype, QRS).

var. ***pilosus*** Airy Shaw, var. nov.

Ramulis petiolis costa nervis inflorescentiis patentim pilosis distincta. TYPUS: Queensland, Temple Bay Outstation, 1976, *Hyland 8995* (QRS, holotypus).

QUEENSLAND. Cook District — Olive River, 12° 10' S., 143° 05' E., low forest/heath, alt. 10 m, shrub 1-2 m tall, 13.ix.1974, *Hyland 7449* (QRS); 2 km south of Temple Bay Outstation, 12° 22' S., 143° 05' E., vine thicket, alt. 20 m, shrub 10 m tall, 17.ix.1976, *Hyland 8995* (holotype, QRS).

The peltate scales of this plant give a pale green sheen to the lower surface of the leaves, without the pinkish tinge that is usually present in *C. insularis*. The leaves are also larger and thinner in texture than in that species. The variety *pilosus* seems to make an approach towards *C. densivestitus* White & Francis (*C. pubens* Domin), but in that species the hairs are strictly fasciculate, without any lepidote base. It is probably even closer to *C. wassi-kussae* var. *stockeri* (p. 229, below) which has a very dense tomentose indumentum arising out of a dense lepidote covering. The var. *pilosus* is, in fact, somewhat intermediate between *C. wassi-kussae* var. *stockeri* and typical *C. capitis-york*, and it is perhaps significant that the two last-named taxa were collected by G.C. Stocker on the same day, within a short distance of each other (*Stocker 1076* & *1077*). The *Croton* populations in the area concerned would repay closer investigation.

Croton densivestitus White & Francis. See *Kew Bull.* 31: 385 (1976).

QUEENSLAND. (early collections). *Cook District* — Harvey's Creek, Russell River, 1886, 1887, *Sayer* (MEL); *Ibid.*, 1889, *F.M. Bailey* (MEL, type!); *Ibid.*, 1892, *S. Johnson* (MEL).

Croton dockrillii Airy Shaw, sp. nov.

Ab affini *C. armstrongii* S. Moore foliis angustioribus ellipticis longiuscule acuminatis, margine obscure sinuato- vel repando-dentato saepe conspicue reflexo vel revoluta manifeste recedit. TYPUS: Queensland, Alligator Creek, 1972, *Dockrill 589* (QRS, holotypus).

Frutex 2-3 m altus, ut videtur laxus, ramulis teretibus 2-3 mm crassis, cortice laevi pallido juniore albedo-stellato-pubescente demum glabro. *Folia* elliptica, 5-15 cm longa, 2-5.5 cm lata, basi late cuneata vel anguste rotundata, apice sensim (rarius subabrupte) longiuscule acuminata, ipso apice acuto vel obtuso, margine obscure sinuato- vel repando-dentato saepe conspicue reflexo vel revoluta, tenuiter chartacea vel submembranacea, supra glabra, subtus glabrescentia vel parce stellato-lepidota (juniora supra parcissime subtus dissite stellata), siccitate laete viridia vel ochracea; costa gracilis, subtus prominens, supra prominula; nervi laterales gracillimi, 8-10-jugi, patuli, marginem versus anastomosantes, infimi (basales) arcte adscendentes; petiolus gracilis, 1-3.5 cm longus, 1 mm crassus, apice glandulas binas parvas laterales breviter vel longe stipitatas gerens; stipulae anguste subulatae, 2-4 mm longae, acutae, dense albedo-stellatae, citissime caducae. *Inflorescentiae* terminales, bisexuales, 1-5 cm longae, rhachi parce albedo-stellata, bracteis subulatis 1-2 mm longis. *Flores* ♂ in parte superiore evoluti, pedicellis gracilibus 2-3 mm longis parce albedo-stellatis. *Sepala* 5, elliptica, 2 mm longa, 1 mm lata, acuta, extra parce stellata, apice pilosula. *Petala* 5, anguste spatulata, 2-2.5 mm longa, 0.5 mm lata, apice subobtusa, densiuscule pilosa, saepe revoluta. *Disci glandulae* subglobosae. *Stamina* 11-13, 2-4 mm longa, filamentis glabris e fundo dense lanato exortis. *Flores* ♀ pauciores, plerumque ad basin, rarius per dimidium inferius inflorescentiae exorti. *Pedicellus* 1-1.5 mm longus, crassiusculus, stellatus. *Sepala* 5, ovato-oblonga, 3-3.5 mm longa, 1.5-2 mm lata, subacuta, dorso parce albedo-stellata, apice breviter pilosula. *Petala* 0. *Discus* annularis, humillimus. *Ovarium* globosum, 2 mm diametro, dense stellato-tomentosum, stylis basi brevissime connatis in segmenta 2 linearia acuta 5 mm longa glabra alte divisis. *Capsula* immatura 5-6 mm diametro, pilis stellatis minutis numerosis cum paucis majoribus conspersa. *Semina* ignota.

QUEENSLAND. *Cook District* — Galloway's Creek, Bamaga, littoral vine woodland, small tree, v.1962, *Webb & Tracey 6083* (BRI); Portland Roads, 12° 35' S., 143° 24' E., rain-forest near beach, alt. 20 m, flowers white, 10.iv.1944, *Flecker 8507* (QRS); Alligator Creek, 12° 35' S., 143° 20' E., riparian rain-forest, alt. 60 m, shrub 3 m high, flowers cream, fruits green, flowers in F.A.A., 14.x.1972, *Dockrill 589* (QRS, holotype); Iron Range, ix.1962, *Volck 2418* (BRI); Claudie River, 12° 45' S., 143° 15' E., 24.x.1973, wilding transplant, 70 cm tall, flowers [♂] pale greenish, perianth with conspicuous white anthers that produce dominant colour of flower, cultivated as a pot plant in glasshouse at Forestry & Timber Bureau, Atherton, 5.ix.1974, *Dockrill 844*, & 14.i.1975, *Irvine 1115* (QRS); Rocky River, 13° 50' S., 143° 25' E., dry rainforest, shrub 2-3 m tall, with all-white flowers, 6.ix.1973, alt. 75 m, *Hyland 6814* (QRS).

This is rather closely related to *C. armstrongii* S. Moore (*C. habrophyllus* Airy Shaw), a thin-leaved species from the Northern Territory, but differs clearly in the narrower and more elongate outline of the leaves, which are often conspicuously acuminate, and especially in the more distantly and shallowly slightly repand-denticulate leaf-margin, which is usually somewhat undulate or sinuate and conspicuously reflexed or revolute. The basal glands are sometimes notably stipitate. In *C. armstrongii* the leaf-base is broadly rounded or cordate, and the margin is flat, and crenate or closely serrate-crenulate.

Croton magneticus Airy Shaw, sp. nov.

C. pilophoro Airy Shaw (novoguineensi) arcte affinis, a quo stylis linearibus foliis minoribus inflorescentiis densifloris imprimis differt; nulli ali speciei australiensi manifeste affinis, nisi forsan *C. wassi-kussae* var. *stockeri* Airy Shaw, a quo pube ramulorum multo breviora demum obsoleto, pilis erectis nullis, foliis oblongo-ellipticis 1.5-4 cm tantum latis basi rotundatis (raro angustissime cordatis), nervis supra prominulis nec insculptis, inflorescentiis densifloris nec interruptis inter alia abunde discrepat. TYPUS: Queensland, Magnetic Island, 1938, *Goy 329* (BRI, holotypus).

Frutex incomptus, statura ignota, ramulis divaricatis inferne nudis 2-4 mm crassis primum dense brevissime fulvo-stellato-tomentellis demum glabrescentibus, cortice

ruguloso lenticellis parvis prominulis notato. *Folia* apicem ramulorum versus conferta, oblongo-elliptica, 3-10 cm longa, 1.5-4 cm lata, basi rotundata val raro angustissime cordata, apice rotundata vel obtusa vel interdum subacuta, margine plano manifeste leviter indentato-crenato, sinubus glandulam parvam stipitatam deorsum spectantem saepe gerentibus, chartacea, siccitate supra fusco-brunnescentia, subtus pallida vel cinerascens, supra pilis dissitis minutissimis fasciculato-stellatis instructa, subtus pilis minutis fasciculatis creberrimis albidis fere contiguas dense induta, pilis majoribus ochraceis hinc inde interspersis; costa modice gracilis, subtus prominens, supra vix prominula; nervi laterales gracillimi, 6-8-jugi, patuli, haud manifeste anastomosantes; petiolus 5-15 mm longus, gracilis, dense fulvo-stellato-tomentellus, glandulis solitis apicalibus stipitatis minimis et inconspicuis vel saepe nullis; stipulae obsoletae vel pube stellato celatae. *Inflorescentiae* androgynae, densiflorae, 6-8 cm longae, apice interdum cernua, rhachi dense minute albido-stellato-piloso. *Bracteae* 1 mm longae, patentes, brunneo-pubescentes. *Flos* ♂ pedicello 2 mm longo suffultus. *Sepala* 5, ovata, 2.5 mm longa, fere 2 mm lata, subacuta, membranacea, dorso albido- et rufo-stellata, intus glabra. *Petala* 5, spatulata, fere 3 mm longa, tenerrima, margine lanata. *Stamina* circiter 12, filamentis pilosulis e fundo dense piloso exortis. *Flores* ♀ pauci, basales, pedicello et sepalis masculis similibus. *Petala* nulla. *Disci glandulae* parvae, transversae. *Ovarium* depresso globosum, 4 mm diametro, 3 mm altum, dense cinereo-tomentosum. *Styli* fere usque ad basin bifidi, segmentis linearibus vel taeniiformibus 3-4 mm longis late patentibus glabris. *Capsula* non visa.

QUEENSLAND. *North Kennedy District* — Magnetic Island, Townsville, 9.vi.1922, *Sabine Helms 1125* (BRI); *Ibid.*, common along rocky seashore, straggling shrub, 24.vii.1938, *D.A. Goy 329* (BRI, holotype).

This is a surprising species. Its closest relative is *C. pilophorus*, described in *Kew Bull.* 27: 83 (1972) from a single collection from the Morobe District of Papua New Guinea. This was growing in montane forest near a limestone ridge at an altitude of 1740 m only 7° south of the equator — a very different situation from a rocky seashore at about 15° S. The two species are distinguished from all others in the Australasian region by their very characteristic scaberulous indumentum, the shallowly indentate-crenate leaf-margin, and the dull muddy brown colour assumed on drying. The indumentum and leaf-margin suggest the possibility of a distant relationship with the common *C. caudatus* Geisel., of West Malesia. *C. magneticus* must surely occur somewhere else along the coast of North Queensland.

Croton cf. storckii (Muell. Arg.) A.C. Sm. in *Bernice P. Bishop Mus. Bull.* 141: 83 (1936).

C. storckii Seem. in *Bonplandia* 10: 297 (1862), nomen.

C. verreauxii var. *storckii* Muell. Arg. in *Linnaea* 34: 117 (1865) & in DC., *Prodr.* 15 (2): 621 (1866); Seem., *Fl. Vit.* 222, t. 57 (1867).

QUEENSLAND. *Cook District* — Claudie River, 12° 45' S., 143° 15' E., open forest. alt. 75 m, shrub or small tree with aromatic bark, old leaves turn orange-red prior to falling, 17.x.1974, *Hyland 7817*.

The specimen is sterile, but is distinctive on account of its complete glabrescence (except for the minutely pale-lepidote terminal bud). The leaves are broadly elliptic, up to 11 x 6 cm, thinly chartaceous, and green when dry. The base is narrowly rounded or broadly cuneate; the margin is practically entire; the apex (mostly damaged) rounded or subcuspidate; the lateral nerves 6-8 pairs, very slender, sharply prominent on the lower surface. The petiole is relatively long and slender, 1.5-3.5 cm long, and deeply grooved on the upper surface.

The only Australian species that this could conceivably be is *C. triacros* F. Muell., of the Atherton Tableland, but that usually has much shorter petioles and more or less immersed venation, and the sparse stellate pubescence is ferruginous. I have therefore tentatively suggested a comparison with the Fijian *C. storckii*, which is sometimes remarkably similar in vegetative features. It is hoped that complete flowering and fruiting material from the Claudie River may soon become available.

Croton tomentellus F. Muell., *Fragm. Phytogr. Austr.* 4: 141 (1864); Airy Shaw in *Kew Bull.* 33: 55 (1978), q.v.

NORTHERN TERRITORY (modern collections). East Arm, Darwin, tall open forest, edge of mangrove, lateritic red soil, tall shrub, light grey persistent bark, smooth, 2.xi.1965, *Palzer FRI 14793* (QRS); Mt. Bundy Mine area, 12° 52' S., 131° 38' E., among granite boulders, shrub ± 3.5 m, 13.x.1968, *Byrnes NB 942* (NT 14693, DNA D1911); *Ibid.*, shrub ± 4.5 m, 9.x.1968, *Byrnes NB 1204* (NT 14805, DNA D2130).

These are the first modern gatherings that I have seen of this rarely collected species, originally described from the Upper Victoria River.

***Croton tomentellus* F. Muell., var.**

QUEENSLAND. *Burke District* — 9 km E. of Lawn Hill Homestead, 18° 37' S., 138° 40' E., limestone outcrop about 1 km S. of road, fragmented deciduous vine thicket, v.1970, *Webb & Tracey 10637* (BRI, CANB).

Leaves ovate, up to 8 x 3 cm, rounded at base, shortly acutely acuminate, densely minutely adpressed-stellate-pubescent beneath, margin almost entire; young growth densely ochraceous-stellate.

***Croton* sp. nov.? aff. *C. tomentellus* F. Muell.**

WESTERN AUSTRALIA. *Kimberleys* — Bushfire Hill, Prince Regent River Reserve, 15° 28' S., 125° 39' E., in basaltic loam on slope, in open woodland, 14.viii.1974, *A.S. George 12282* (BRI, PERTH).

Leaves large, ovate, 13-28 x 9-11 cm, gradually narrowed to the apex, shallowly, inconspicuously and obtusely serrulate, densely minutely whitish-stellate beneath and softly puberulous from the erect central rays, glabrous above, drying ochraceous.

***Croton wassi-kussae* Croiz. in *J. Arnold Arbor.* 3: 375 (1942).**

var. ***stockeri* Airy Shaw, var. nov.**

Pube dense tomentosa valde distincta.

QUEENSLAND. *Cook District* — Old sand dune between Rocky River and Massey Creek, 13° 40' S., 143° 25' E., dry rain-forest, alt. 80 m, bush about 2.5 m high, flowers cream, scarcely opening, buds in F.A.A., 13.ix.1973, *Stocker 1076* (QRS, holotype; NSW, K, isotypes).

This is close to *C. wassi-kussae* Croiz., described from Papua, even to the definitely cordate-based leaves and rather few main nerves incised on the upper surface. With the narrow specific distinctions that seem usual in *Croton* it is not impossible that this taxon should be given specific rank, but until more is known of the local population I prefer for the present to draw attention to it as a well-marked variety. The dense tomentum gives it a very distinct appearance.

***Croton* sp. nov.?**

NORTHERN TERRITORY. *Gulf of Carpentaria* — Maria Island, 14° 54' S., 135° 44' E., limestone outcrop, patch of monsoon scrub, 17.vii.1972, *Dunlop M327* (NT 38939).

This is a sterile branch which I cannot match with any known species. The leaves are rather large, ovate, 9-14 cm long, 5-7.5 cm wide, rounded to very broadly cuneate at the base, narrowed to a subobtuse apex but not acuminate, thinly chartaceous or submembranaceous, smooth, virtually glabrous when mature, pale greyish green when dry, 5-nerved at the base, with 8-9 pairs of slender patulous laterals, the margin subentire; petiole elongate, 4-7 cm long, 1-2 mm thick, terete, sparsely minutely white-lepidote; apical 5 mm slightly darker in colour, as though pulvinate, but not thickened; apical glands small, lateral, sessile; young parts very minutely and densely whitish-stellate-lepidote. This probably represents an undescribed species and should be looked for by any future collector on the island.

***Croton* sp. nov.**

QUEENSLAND. *Cook District* — Archer River, 13° 25' S., 142° 10' E., gallery forest, alt. 30 m, small tree 6 m tall, with a spicy or peppery odour in the blaze, 16.ix.1974, *Hyland 7579* (QRS).

The material consists of leafy branchlets only, without flower or fruit, but is distinctive for the rather narrowly elliptic or oblong-elliptic outline of the larger leaves, which reach a size of over 13 x 4.5 cm, and for the deep almost chocolate-brown stellate indumentum of

the very young terminal growth. The leaves, which are thinly chartaceous in texture, bear small scattered brown stellate hairs on the lower surface, especially on the midrib; the margin is sometimes obscurely serrulate. The species seems very distinct from all the known Australian (and New Guinea) taxa, but I cannot at present suggest an affinity.

Croton sp. nov.

QUEENSLAND. *Cook District* — 19.2 km N. of Laura, 15° 25' S., 144° 25' E., Site No. 4A, 28.x.1974, A.C. Robinson 4A-9 (BR1).

Densely grey- or ochraceous-tomentose; leaves badly crumpled, perhaps up to 7 cm long, very shallowly and acutely serrulate; inflorescence up to 12 cm long; styles narrowly linear.

Aleurites J.R. & G. Forst.

(P. & H. 92)

Aleurites moluccana (L.) Willd., *Spec. Pl.* 4: 590 (1805); Airy Shaw in *Kew Bull. Addit. Ser.* 4: 29 (1975), q.v. for further references and for synonyms.

var. **moluccana**

QUEENSLAND. *Cook District* — Claudie River, 12° 45' S., 143° 15' E., rain-forest, alt. 80 m, tree 24 m high x 45 cm d.b.h., 29.vi.1972, *Irvine 219*; *Ibid.*, rain-forest margin, tree 13 m high, x 38 cm d.b.h., 10.x.1972, *Dockrill 533*; *Ibid.*, gallery rain-forest, alt. 80 m, tree 20 cm d.b.h., 13.x.1972, *Hyland 2696* RFK; Rocky River, 13° 55' S., 143° 30' E., gallery rain-forest, alt. 50 m, 15.ix.1971, *Hyland 5513*; S.F.R. 144 (Windsor Tableland), 16° 15' S., 145° 5' E., dry rain-forest, alt. 900 m, tree 30 m x 80 cm with slightly flaky bark, bark flakes tend to be quite large e.g. 12 x 5 cm, note 2-celled ovary, 7.x.1971, *Hyland 5577*.

var. **rockinghamensis** Baill. in *Adansonia* 6: 297 (1866).

A. moluccana sec. Benth., *Fl. Austr.* 6: 128 (1873); Bailey, *Queensl. Fl.* 5: 1434 (1902); *Hyland, Card Key Rain Forest Trees N. Queensland.*, 22 (1971); *vix* (L.) Willd.

QUEENSLAND. *Cook District* — About 6 miles [9.5 km] NW of Daintree on bank of Daintree River, 16° 10' S., 145° 18' E., fringing forest, sandy loam, tree 7 m, d.b.h. 20 cm, light grey bark, dark green leaves, 2 yellow glands at petiole/leaf-blade junction, fruits green, about 5 cm diameter, 21.xi.1967, *Boylard (& Gillieatt) 516*; Portion 188 Alexandra (Hutchinson Creek), 16° 10' S., 145° 25' E., in grassland which was recently rain-forest, alt. 15 m, tree 25 m x 60 cm d.b.h., flowers cream, 10.v.1973, *Hyland 6726*; Mowbray River, 16° 33' S. at its mouth, rain-forests, tree 12-15 m high; slightly ridged pale bark, pale brown when cut; leaves stiff, shining above, prominently reticulate beneath; midrib and principal lateral nerves rufous brown; inflorescence pale brown; flowers sweet-scented, 21.i.1932, *Brass 1991*; S.F.R. 933, 17° 00' S., 145° 50' E., rain-forest, alt. 100 m, flowers white, 14.ii.1975, *Hyland 8014*; S.F.R. 185, Nursery L.A., 17° 10' S., 145° 40' E., dry rain-forest, alt. 720 m, tree 20 m tall, 30 cm d.b.h., flowers with cream petals, ovary 3-locular, 31.xii.1971, *Hyland 5737*; S.F.R. 194, on the Dividing Range near Oak Creek, 17° 15' S., 145° 25' E., dry rain-forest margin, alt. 900 m, flowers with white petals, female flowers with 3- or 4-locular ovaries, 5.i.1972, *Hyland 5749*; Lake Eacham, Atherton Tableland, common in rain-forest on edge of lake, alt. 800 m, large tree 30 m high, leaves dark glossy green, young stems silvery, fruit brown, 4.viii.1929, *Kajewski 1180*. *North Kennedy District* — Rockingham Bay, n.d., *Dallachy s.n.* (holotype, MEL; isotype, K).

B. Hyland has pointed out to me that *Aleurites moluccana* occurs in two distinct forms in Queensland. The more northerly form, occurring in the Cape York Peninsula and again on the Windsor Tableland (16° 15' S.), is typical var. *moluccana*, with a very thin or evanescent indumentum, rather narrow leaves and a 2-celled ovary and fruit. The more southerly form, extending from the Daintree River (16° 10' S) and the Atherton Tableland to Rockingham Bay in North Kennedy District, has a more strongly developed subfloccose indumentum, often broader cordate leaves and a 3(-4)-celled ovary and fruit. (Note the slight geographical overlap of the two forms.) The southern form is evidently var. *rockinghamensis* Baill., a taxon that has been ignored or overlooked by later botanists including Bentham, Bailey, Domin and Pax & Hoffmann. The taxon was based upon a single collection from "Rockingham Bay", an area in which var. *moluccana* apparently does not occur. It is unfortunately not very clear, from Baillon's description, as to what he regarded as the main diagnostic features of his variety. The isotype in the Kew Herbarium consists of two detached broadly ovate leaves (the larger measuring 27 x 23 cm) and an

inflorescence consisting (as Baillon notes) almost entirely of male flowers. Both leaves and inflorescence bear the subfloccose indumentum of the southern form.

Var. *rockinghamensis* approaches the New Guinea plant described (*Kew Bull.* 20: 26 (1966)) as var. *floccosa* Airy Shaw, and it is probable that the latter may have to be reduced to Baillon's variety. The New Guinea form is extreme in its densely floccose indumentum, and sometimes produces unusually large flowers. Very few specimens with female flower or fruit have yet been collected, but in *Floyd NGF 7436*, from the Bulolo Valley, Morobe District, the female flowers have a clearly trilocular ovary, with 3 deeply bifid styles.

Rockinghamia Airy Shaw
(P. & H. 105/a)

Rockinghamia angustifolia (Benth.) Airy Shaw in *Kew Bull.* 20: 29 (1966).

QUEENSLAND. (early collections). *Cook District* — Daintree River, 1881, *Pentzcke 7 & 22* (MEL).

Rockinghamia brevipes Airy Shaw in *Kew Bull.* 31: 389 (1976).

QUEENSLAND (early collections). *Cook District* — Mt. Bellenden-Ker, alt. 1560 m, 1887, *Sayer 118* (MEL); Mt. Bartle Frere, "A small tree 25 ft. about 600 ft. lower than Bartle Frere on the south side". 1891, 1892, *S. Johnson s.n.* (MEL).

Claoxylon Juss.
(P. & H. 119)

Claoxylon angustifolium Muell. Arg. in *Linnaea* 34: 165 (1865) & in DC., *Prodr.* 15 (2): 786 (1866); Benth., *Fl. Austr.* 6: 129 (1873); Bailey, *Queensl. Fl.* 5: 1441 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* 1V. 147. vii: 125 (1914).

Mercurialis angustifolia (Muell. Arg.) Baill. in *Adansonia* 6: 323 (1866).

QUEENSLAND. *South Kennedy District* — Pease's Lookout, 21° 07' S., 148° 31' E., rain-forest, alt. 880 m, shrub, 12.x.1976, *Hyland 9131* (QRS); Mt. Etna, 23° 10' S., 150° 25' E., monsoon forest, alt. 200 m, shrub, 9.x.1976, *Hyland 9106* (QRS).

These are somewhat more southerly stations than the previously recorded localities of Bowen and the Cumberland Islands. *C. angustifolium* is a very isolated species, perhaps related to *C. nervosum* Pax & Hoffm., of eastern New Guinea.

Claoxylon tenerifolium (Baill.) F. Muell. See *Kew Bull.* 31: 390 (1976). Extension of range:

NORTHERN TERRITORY. Deaf Adder Gorge, 13° 02' S., 132° 58' E., sandstone rain-forest, in sink hole, shrub 2.5 m, 21.ii.1977, *Fox 251i*.

This represents the first record of any species of *Claoxylon* from the Northern Territory. The specimen is in fruit, and bears exceptionally large leaves, up to 23 x 12.5 cm.

The following records are of interest either for the localities or for the accompanying field notes.

QUEENSLAND. *Cook District* — New Holland, Endeavour River, 1770, *Banks & Solander* (MEL) (Britten, III. Bot. *Cook's Voy. Endeavour* 88, t. 290 (1905), as *C. hillii* Benth.); Thursday Island, vi.1897, *F.M. Bailey* (BRI); Murray Island, 9° 55' S., 144° 02' E., vii. 1970, *M. Lawrie* 20 (BRI); Base of Black Mountain (= Black Trevethan Range), SW of Cooktown, in open space in depauperate rain-forest at upper limit of vegetation, small tree, trunk sprawling over rocks, branches erect, branchlets ascending, leaves dark shiny green, flowers [♂] greenish-white, bark whitish, shallowly fissured, 23.xii.1966, *A. Rodd* 216 (NSW); Sweet Creek, west side of Cook Highway, 16° 4' S., 145° 4' E., ridge above creek, clay, tree, these specimens from ridge where it is pioneering very successfully, but more commonly seen at the edge of rain-forest, flowers [♂] greenish-yellow, no smell, x.1974, *H.E. Brown* 6007 (BRI).

B. Hyland's comments on the blaze odour of this plant are entertaining — "conspicuous but difficult to describe" (*Hyland 2156*, from SFR 194); "rather unpleasant" (*Hyland 2347*, *ibid.*); "obnoxious" (*Hyland 2052*, Mission Beach); "like rotten tomatoes" (*Hyland 6197*, Iron Range).

Mallotus Lour.
(P. & H. 125)

Mallotus (§**Rottleropsis**) **claoxyloides** (F. Muell.) Muell. Arg. in *Linnaea* 34: 192 (1865) & in DC., *Prodr.* 15 (2): 972 (1866); Airy Shaw in *Kew Bull.* 20: 42 (1966), q. v. for further references and synonyms, & 31: 392 (1976) in clavi.

var. **cordatus** (Baill.) Airy Shaw, comb. nov.

Echinus claoxyloides (F. Muell.) Baill. var. *cordata* [sic.] Baill. in *Adansonia* 6: 315 (1866).

Mallotus claoxyloides var. *macrophylla* [sic] Benth., Fl. Austr. 6: 141 (1873); Bailey, Queensl. Fl. 5: 1447 (1902), synonym. nov.

Baillon's varietal name for this luxuriant large-leaved tomentose form has apparently been overlooked, or perhaps by Bentham deliberately neglected, but it antedates Bentham's var. *macrophylla* by seven years, and should be restored. It was based by Baillon on four collections: *Dallachy 4*, from 'salt water creeks' at Rockhampton; *Mueller s.n.*, from Moreton Bay; and *Beckler s.n.*, from Richmond River and Clarence River. The form is possibly an ecotype growing in unusually favourable conditions.

var. **angustifolius** F.M. Bailey, Contrib. Queensl. Fl., in *Queensl. Dept. Agric., Bull.* No. 7 (*Bot. Bull.* No. 2): 18 (1891), & Queensl. Fl. 5: 1447 (1902); apparently not accounted for by Pax & Hoffmann (1914).

This very distinct form was described from Yandina, some 84 kilometres north of Brisbane, and there is a specimen at Kew (*Longman s.n.*) from Buderim Mt., a few kilometres south of this. In its cuneate-oblongate or cuneate-elliptic, sharply dentate leaves it is very distinct, and may deserve specific rank.

A very similar form, but with broader and only minutely dentate leaves, was collected on Lizard Island (Cook Distr., N. of Cape Flattery, viii.1820, *A. Cunningham 106*, 3rd voyage). It could well represent a variation of var. *angustifolius*, but further collections are needed from the locality. Bentham and Bailey both cite it merely as *M. claoxyloides*.

var. **ficifolius** (Baill.) Benth., Fl. Austr. 6: 141 (1873); Bailey, Queensl. Fl. 5: 1447 (1902); Britten, Ill. Bot. Cook. Voy. Endeavour 89, t. 292 (1905).

Echinus claoxyloides (F. Muell.) Baill. var. *ficifolius* Baill. in *Adansonia* 6: 315 (1866). Type: "*Dallachy*, n. 47, Queensland; Rockhampton (herb. *F. Muell.*!)"

Mallotus ficifolius (Baill.) Pax & Hoffm., in Engler, *Pflanzenreich* IV. 147. vii: 151 (1914).

QUEENSLAND (early collections). *Cook District* — New Holland [Endeavour River], 1770, Banks & Solander (MEL). *South Kennedy District* — Port Mackay, n.d., *Amalia Dietrich 1834, 2479* (MEL). *Port Curtis District* — near Rockhampton, always growing in the dry beds of creeks or amongst stones, small tree, flower [♂] yellow, 24.xii.1862, *Dallachy 47* (type, MEL); Rockhampton, n.d., *Thozet 4* (MEL).

The status of this taxon in relation to var. *cordatus* is uncertain.

Mallotus (§ **Rottlera**) **discolor** F. Muell. ex. Benth., Fl. Austr. 6: 143 (1873); Bailey, Queensl. Fl. 5: 1449 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. vii: 183 (1914); Francis, *Aust. Rain-forest Trees*, ed. 3, 230 (1970); descr. hic amplif. Type: N.S.W., Clarence River, mountain brush forests, 1862, *London Exhibition 82* (K).

Rottlera discolor F. Muell. in Coll. Northern Woods N.S.W. London Exhib. no. 82 (1862), nomen.

Macaranga mallotooides sec. F. Muell., *Fragm. Phytogr. Austr.* 4: 140 (1864), in obs., non F. Muell. 1863.

Mallotus repandus sec. F. Muell., *Fragm. Phytogr. Austr.* 6: 185 (1868), in obs., non (Willd.) Muell. Arg.

The following items of information were noted on field labels to collections of this

species. "Tree pendulous in habit" (Grafton, N.S.W., 1914, *Boorman*). "Fruits soft, succulent when ripe" (Barney View, Qld., 1953, *E. F. Constable*). "This tree . . . has round yellow to clear when ripe berries, beloved by flying foxes" (Lower Clarence River, N.S.W., 1966, *A.A. Cameron*).

The following specimens represent the farthest north from which I have seen this species.

QUEENSLAND, *North Kennedy District* — 6 km N. of Elliot River, Cape Upstart, 19° 5' S., 147° 5' E., on frontal dune in low closed forest, tree 4 m tall, 9.iv.1975, *McDonald & Batianoff 1395* (BRI); Palm Islands (off Ingham), n.d., *Bancroft 72* (BRI). (The identification of the latter specimen is somewhat doubtful).

The female inflorescence and fruit of *M. discolor* seem not yet to have been adequately described. The following description is based upon two specimens from the Richmond River, N.S.W.: *Fawcett F31*, n.d. (MEL) and *Mrs Hodgkinson s.n.*, 1875 (MEL).

Inflorescentiae ♀ graciles, usque 3 cm longae, 3-7-florae, inferne nudae. *Pedicelli* 1.5 mm. long, late patentēs, bractea minuta suffulti. *Calyx* irregulariter 3-5-fidus, segmentis subulatis 2 mm longis basi carinato-crassiusculis breviter cupulari-connatis dimidio superiore tenui reflexis vel revolūtis apice acuto extra dense brevissime adpresse cinereo-puberulis intus fere glabris. *Ovarium* breviter ovoideum, 3-4-loculare, 2 mm longum et fere aequae latum, granulis aurantiacis dense obductum, stylis 3-4 subulatis 2-3 mm longis arcte reflexis dense breviter plumoso-papillosis. *Capsula* depresso globosa, usque 8 mm diametro et 4 mm alta, 3-4-locularis, dense rubro-aurantiaco-granularis; semina (e capsula 4-loculari) triquetro-globosa, 4 mm diametro, laevia, fusco-brunnea.

Mallotus* (§ *Mallotus*) *mollissimus (Geisel.) Airy Shaw in *Kew Bull.* 26: 297 (1971) & 31: 391 (1976), q.v.

QUEENSLAND, *North Kennedy District* — Port Denison, n.d., *Amalia Dietrich 2753, 2760* (MEL). *Port Curtis District* — Near Manifold, 22° 40' S., 150° 45' E., vine thicket, alt. 100 m, small tree, 6.x.1976, *Hyland 9061* (QSR).

The latter locality is possibly the most southerly from which *M. mollissimus* has yet been recorded.

Mallotus* (§ *Rottlera*) *nesophilus Muell. Arg. in *Linnaea* 34: 196 (1865) & in DC., *Prodr.* 15 (2): 981 (1866); Benth., *Fl. Austr.* 6: 143 (1873); Bailey, *Queensl. Fl.* 5: 1449 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. vii: 183 (1914). Syntypes: Cape Flinders, July, 1819, *Cunningham 295* (MEL, K); Sweers I., n.d., *Henne s.n.*; Quail I., 1855, *Flood s.n.* (MEL, K).

Echinus nesophilus (Muell. Arg.) Baill. in *Adansonia* 6: 314 (1866).

WESTERN AUSTRALIA, Roebuck Bay, July 1890, *Tepper 129* (MEL); W. Kimberley, Windjana Gorge, small tree, on river banks, 27.v.1974, *Beard 6962* (NSW).

NORTHERN TERRITORY, Port Darwin, 1881, *Holtze 157* (MEL); Ibid., small tree with round head, up to 30 feet [9 m], dioecious, ?1891, *Holtze 1153* (MEL); Quail Island, 1851, *Flood s.n.* (MEL); Sweers I., large shrub, 3.ix.1867, *B. Gulliver s.n.* (MEL); Maria I., fine spreading shrub with minute flowers, 6.ix.1867, [*B. Gulliver s.n.*] (MEL); Near Caledon Bay, shrub about 12 feet [3.5 m] high, with brownish leaves and yellow flowers, sandy situations, 1.x.1867, *B. Gulliver s.n.* (MEL); Melville Bay, small shrub with minute yellow flowers, found in dry places, 4.x.1867, *B. Gulliver s.n.* (MEL).

QUEENSLAND, *Cook District* — Edward River Mission, W. coast Cape York Peninsula, 14° 54' S., 141° 37' E., in monsoon woodland on shell sand, fruit orange, 20.viii.1974, *L. Johnson 7816* (NSW).

Mallotus* (§ *Stylanthus*) *oblongifolius (Miq.) Muell. Arg. in *Linnaea* 34: 192 (1865) & in DC., *Prodr.* 15 (2): 973 (1866); Airy Shaw in *Kew Bull.* 26: 306 (1971) & *Kew Bull. Add. Ser.* 4: 173 (1975), q.v. for full references & synonymy, & *Kew Bull.* 31: 392 (1976) in obs.

QUEENSLAND, *Cook District* — Johnstone River, xii.1882, *Berthoud s.n.* (MEL).

This isolated record confirms the suggestion that I made in 1976 (l.c.) that *Mallotus oblongifolius*, a widespread Malesian species, might occur in North Queensland. The species seems never to have been collected in the state since 1882. Botanists in the Innisfail region are asked to watch for the plant.

None of the hitherto known Australian species of *Mallotus* belongs to the section

Stylanthus. *M. oblongifolius* may be distinguished by its elliptic or elliptic-oblong, chartaceous, slenderly petioled, subentire leaves, sparsely granular-glandular beneath and often either alternate or opposite on the same branch; by the spathaceous female calyx, by the sparsely and softly echinate capsule, and by the noticeable odour of fenugreek given off by dried herbarium material. Pubescence is variable, usually rather slight, but a more strongly pubescent form, var. *villosulus* Pax & Hoffm. in Engler, *Pflanzenreich* iv. 147 (Heft 7): 194 (1914) occurs in New Guinea. Berthoud's specimen from the Johnstone River is somewhat pubescent, but is scarcely referable to Pax & Hoffmann's variety.

Mallotus (§ Rottlera) repandus (Willd.) Muell. Arg. in *Linnaea* 34: 197 (1865) & in DC., *Prodr.* 15 (2): 981 (1866); Benth., *Fl. Austr.* 6: 142 (1873); Bailey, *Queensl. Fl.* 5: 1449 (1902); Airy Shaw in *Kew Bull.* 26: 301 (1971), q.v. for fuller references and synonymy.

QUEENSLAND. *Cook District* — Three Isles, Mangrove I., 12.ix.1973, *Stoddart 4519* (BRI, K). *North Kennedy District* — Rockingham Bay, climber growing on the beach, 8.vii.1865, *Dallachy s.n.* (MEL); *Ibid.*, straggling-growing plant on the beach, 7.x.1867, *Dallachy s.n.* (MEL); Herbert River, small tree, flower [♂] yellow, foliage small, light green, 10.ix.1868, *Dallachy s.n.* (MEL); Port Denison, n.d., *Fitzalan s.n.* (MEL, K); Proserpine Creek, 11.ix.1863, *Dallachy s.n.* (MEL).

Mallotus (§ Axenfeldia) resinosus (Blanco) Merr. See *Kew Bull.* 31: 392 (1976).

M. muricatus (Wight) Muell. Arg. var. *walkerae* (Hook. f.) Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147, xiv (Euph.-Addit. vi): 18 (1919).

QUEENSLAND (early collections). *Cook District* — Endeavour River, 1881, 1882, 1886, 1887, *Persieh 118* (MEL); Cooktown, iv-vi.1889, *Warburg 19456, 19457* (*testibus* Pax & Hoffmann, l.c.; non vidi).

These early records extend the distribution of *M. resinosus* some kilometres southeast of Altonmoui, where Hyland collected it in 1972. It seems, however, never to have been re-collected on the Endeavour River, and may well now be extinct there, although the fact that Persieh obtained it at least four times in seven years suggests that in his day it may have been locally abundant.

Pax & Hoffmann's reference to the Warburg records of this species from Cooktown was overlooked by me in my earlier paper.

Mallotus (§ Rottleropsis) tiliifolius (Bl.) Muell. Arg. in *Linnaea* 34: 190 (1865) & in DC., *Prodr.* 15 (2): 969 (1866); Airy Shaw in *Kew Bull.* 26: 305 (1971) & *Kew Bull. Add. Ser.* IV: 170 (1975), q.v. for full references and synonymy, & *Kew Bull.* 31: 392 (1976) in obs.

Croton enantiophyllus K. Schum. in K. Schum. & Lauterb., *Nachtr. Fl. Deutsch. Schutzgeb. Südsee*, 296 (1905), *synon. nov.*

QUEENSLAND. *Cook District* — Big Creek, Prince of Wales Island, Torres Strait, 10° 45' S., 142° 15' E., mangroves and adjacent paper-bark swamps, tree or shrub, fruits greenish, *E. Cameron 20314, 20315, 20316* (QSR); Trinity Beach, 16° 48' S., 145° 42' E., sandy soil, alt. 4 m, tree 25 ft [7.5 m] high, fruit orange-coloured, 22.ix.1936, *Flecker 2591* (QSR).

These collections confirm the vague record of *M. tiliifolius* from 'Australia' (leg. *F. Bauer*) given by Pax & Hoffmann (in Engler, *Pflanzenreich* IV. 147. vii: 149 (1914)) and commented upon by myself (1976: 392). They also confirm the predilection of this species for coastal situations. Botanists from Cairns or Atherton are asked to search in forest remnants along the coast in the region of Trinity Beach to ascertain whether the species still persists there.

Among Australian species *Mallotus tiliifolius* is most closely related to *M. claoxyloides* (F. Muell.) Muell. Arg. It differs most obviously in the very broadly triangular-ovate shape of the leaves, in their almost entire or weakly repand-dentate margins and in the densely minutely grey-papillose foveolate-areolate ultimate venation of the undersurface, to which I have more than once drawn attention (1971, 1975, l.c.). Moreover the inflorescences of *M. tiliifolius* are typically elongate, sometimes as much as 20 cm long, whereas those of *M. claoxyloides* are usually greatly abbreviated (the females often candelabriform), rarely exceeding 5 cm in length.

Mallotus derbyensis W. V. Fitzg. in *J. & Proc. Roy. Soc. W. Aust.* 3: 165 (1918). Type: W. Australia, Derby, iv. 1905, *Fitzgerald 200* [NSW]. = *Grewia* cf. *breviflora* Benth., *Fl. Austr.* 1: 270 (1863).

Fitzgerald's specimen is in fruit only. It is certainly a *Grewia* and not a *Mallotus*, but the above suggested specific identification should be checked by someone familiar with the Australian species of *Grewia*.

Alchornea Sw.
(P. & H. 136)

***Alchornea rugosa* (Lour.) Muell. Arg.** See *Kew Bull.* 31: 393 (1976).

QUEENSLAND. *Cook District* — Russell River, small tree n.d., [*S. Johnson?*] 92 (MEL), (mixed with *Croton verreauxii* Baill.); Brinsmead Gap, between Cairns and Redlynch, on edge of complex notophyll vine-forest, on red soils derived from metamorphic rocks, small tree to 4 m, x. 1973, *Webb & Tracey 10783* (NSW); State Forest Reserve 607, Bridle Logging Area, 17° 00' S., 145° 35' E., in power-line clearing in dry rain-forest, alt. 500 m, shrub 1 m tall, fruit green but probably fully developed, 21.xi.1973, *Hyland 7125* (NSW). *North Kennedy District* — Rockingham's Bay, n.d., *Dallachy* (MEL).

The above gatherings extend the Australian distribution of *A. rugosa* many kilometres south of the previous record from Iron Range, to the region of Cairns and Cardwell. It is strange that *Dallachy's* record was missed by Bentham (*Fl. Austr.* (1873)).

***Alchornea thozetiana* (Baill.) Baill. ex Benth. var. *longifolia* Benth.**, *Fl. Austr.* 6: 137 (1873); Bailey, *Queensl. Fl.* 5: 1445 (1902). Type: Rockingham Bay, *Dallachy s.n.* (K).

QUEENSLAND (early collections). *Cook District* — Endeavour River, 1885, *Persieh 500* (MEL); *Ibid.*, 1886, *Persieh 832* (MEL).

These and *Hyland 7739* (from State Forest Reserve 607) are the only collections of var. *longifolia* that I have seen with male inflorescences. The type and one or two other recent collections (*Hyland 6472, 7125, 7738; Hartley & Hyland 14127*, also from S.F.R. 607) all bear female flower or fruit. It is possible that var. *longifolia* may deserve specific rank.

Cleidion Bl.
(P. & H. 156)

***Cleidion javanicum* Bl.** See *Kew Bull.* 31: 394 (1976).

QUEENSLAND (further collections). *Cook District* — Upper Massey Creek, c. 24 km a little S. of ENE of Coen, in riverine rain-forest, alt. 105 m, fruits mostly 2-celled or occasionally 1-celled by abortion, 9.x.1962, *L.S. Smith 11707* (BR1, NSW); Gordon Creek, gallery rain-forest, 12° 45' S., 143° 20' E., alt. 60 m, 24.x.1973, *Hyland 6998* (BR1); McIvor River, 15° 10' S., 145° 05' E., gallery rain-forest, tree 10 m high x 20 cm d.b.h., 25.vii.1972, *Hyland 6270* (BR1). *North Kennedy District* — SFR 299 Conway, 20° 20' S., 148° 45' E., rain-forest, alt. 50 m, shrub 2-3 m tall, 2.viii.1974, *Hyland 7387* (BR1).

Not previously recorded from North Kennedy District.

Macaranga Thou.
(P. & H. 157)

***Macaranga dallachyana* (Baill.) Airy Shaw** in *Kew Bull.* 23: 90 (1969) (sphalm. '-us') & 31: 396, in clavi (1976). Type: "*Dallachy* (1865), Rockingham's Bay, 'salt water creeks' (herb. *F. Muell.*)".

QUEENSLAND. *Cook District* — Near Mt. Bellenden-Ker, alt. 3500 ft [1050 m], huge tree, 60 miles from coast [?!], 1888, *Christie Palmerston s.n.* (MEL); Danbulla, Stony Creek logging area, 17° 09' S., 145° 35' E., small tree, female, fruits greenish, 2.ix.1957, *L.S. Smith 10118* (BR1, K) growing with *M. subdentata* Benth. q.v., *infra*, p. 236). *North Kennedy District* — Saltwater Creek [? nr. Cardwell], small tree, yellow flowers, 10.xii.1864, *Dallachy s.n.* (MEL); *Ibid.*, small shrub, light green foliage, 2.iii.1865, *Dallachy s.n.* (MEL, type).

Macaranga dallachyana seems to be by far the scarcest member of the genus in Australia.

Macaranga fimbriata S. Moore. See *Kew Bull.* 31: 395 (1976).

QUEENSLAND. *Cook District* — T.R. 14, 13° 45' S., 143° 20' E., rain-forest, alt. 450 m, tree, 20 cm d.b.h., buttressed, 25.ix.1975, *Hyland 3327* RFK (QRS).

This is not far from the Rocky River locality where *Hyland 2860* RFK, recorded in 1976, l.c., was collected.

Macaranga inamoena F. Muell. ex Benth., *Fl. Austr.* 6: 145 (1873); Bailey, *Queensl. Fl.* 5: 1451 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. vii: 360 (1914); Airy Shaw in *Kew Bull.* 31: 396 (1976), in clavi. Type: Rockingham Bay, n.d., *Dallachy s.n.* (MEL, K).

QUEENSLAND (early collection). *Cook District* — Upper Russell River, 30 ft, (♂ flower and fallen fruit), 1887, *Sayer 222* (MEL).

Macaranga inamoena seems to be a relatively frequent species in the rain-forests of the Atherton Tableland. There are numerous recent collections in QRS and BRI, and about ten in K.

Macaranga inermis Pax & Hoffm. See *Kew Bull.* 31: 395 (1976).

QUEENSLAND (early collections). *Cook District* — Innisfail, ? 1918, *Rev. N. Michael 206* (NSW); Johnstone River, n.d., *Rev. N. Michael s.n.* (NSW) (type of *M. multiflora* C.T. White; cf. *Kew Bull.* l.c.). *North Kennedy District* — Rockingham Bay, n.d., *Dallachy s.n.* (MEL); King Ranch, in Tully River Valley, very common in swamps, with *Melaleuca quinquenervia* and *Archontophoenix alexandriae* in the high rainfall areas of North-east Queensland, n.d., collector? (NSW).

This is another of Dallachy's collections that failed to find a place in Bentham (*Fl. Austr.* (1873)).

Macaranga involucrata var. **mallotoides** (F. Muell.) Perry. See *Kew Bull.* 31: 394 (1976).

QUEENSLAND (early collection). *Cook District* — New Holland [Endeavour River], 1770, *Banks & Solander* (MEL).

Macaranga subdentata Benth., *Fl. Austr.* 6: 145 (1873); Bailey, *Queensl. Fl.* 5: 1451 (1902); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. vii: 361 (1914); White & Francis, *Contrib. Queensl. Fl.*, in *Queensl. Dept. Agric. & Stock, Bot. Bull.* 22: 36 (1920); Airy Shaw in *Kew Bull.* 31: 396 (1976), in clavi. Type: Rockingham Bay, n.d., *Dallachy s.n.* (K).

QUEENSLAND. *Cook District* — Johnstone River, 1885, *Dr. Bancroft jun.* Barron River, not a very large tree, about 35 feet [10.5 m] high, 1891, *Stephen Johnson* (MEL); Gap Creek, 38 km S. by E. of Cooktown (9.5 km by road from Rossville), 15° 43' S., 145° 14' E., alt. 230 m, 7.ix.1960, *L.S. Smith 11121* (BRI, K); Ridge of McDowal Range, 16 miles [26 km] NNW of Daintree, 16° 03' S., 145° 13' E., mesophyll vine-forest, red clay soil, 17.xi.1967, tree 6 m, d.b.h. 7.5 cm, leaves dark shiny green above, paler beneath, fruits yellowish-green, *Boylard (& Gillieatt) 418* (BRI, K); Danbulla, Stony Creek logging area, 17° 09' S., 145° 35' E., small tree, male spikes terminated [occasionally] by a female flower, 2.ix.1957, *L.S. Smith 10122* (BRI, K) (Apparently growing with *M. dallachyana*, q.v., supra); Pine Creek forestry road, Murray Prior Range, nr. Cairns, in complex mesophyll vine-forest in gully, on soils derived from granite, alt. 200 m, small tree to 15 m, x.1973, *Webb & Tracey 10776* (NSW). *North Kennedy District* — Mount Macalister, deal of this in the scrub; small yellow flower; has been sent before, 3.iv.1867, *Dallachy s.n.* (MEL); Telegraph Line [Rockingham Bay area], 2.viii.1870, *Dallachy s.n.* (MEL); *Ibid.*, shrub or small tree, leaves very long, light or dark green, fls. [♀] brown or brownish, 2 & 23.xi.1870, *Dallachy s.n.* (MEL).

Acalypha L. (P. & H. 158)

Acalypha wilkesiana Muell. Arg. in DC., *Prodr.* 15 (2): 817 (1866); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. xvi: 153 (1924).

QUEENSLAND. *Cook District* — Murray's Island, Torres Strait, 1878, *Rev. Chalmers s.n.* (MEL). *South Kennedy District* — Port Mackay, no date or collector's name (MEL 69829) (a single leaf only).

NEW SOUTH WALES (north-east). Richmond River, n.d., *Ramsay s.n.* (MEL).

Native of Polynesia; doubtless introduced into Australia as an ornamental garden plant.

Codiaeum Bl.
(P. & H. 193)

Codiaeum variegatum (L.) Bl., *Bijdr. Fl. Ned. Indie* 606 (1825).
Croton variegatus L., *Spec. Pl.*, ed. 3, 1424 (1764).

var. **moluccanum** (Decne) Muell. Arg. in DC., *Prodr.* 15 (2): 1119 (1866); Benth., *Fl. Austr.* 6: 147 (1873); Pax & Hoffm. in Engler, *Pflanzenreich* IV. 147. iii: 24 (1911).
Codiaeum moluccanum Decne in *Nouv. Ann. Mus. Hist. Nat. Paris* 3: 485 (1834).
Croton mirus Domin in *Biblioth. Bot.* 22: 882 (Heft 89: 328), t. 31, figs. 1-10 (1927)
synon. nov. [Non sec. Airy Shaw in *Kew Bull.* 31: 385 & 388 (1976)].

I felt a considerable sense of shock when I set eyes on the type-specimen of *Croton mirus*, kindly sent on loan from the Prague Herbarium, and found that it was no *Croton* but a *Codiaeum*. The material, which is ample, gives the impression of having perhaps come from an exposed locality, causing a certain amount of stunting of the growth, especially of the petioles and inflorescences, and thus lacks the typical rain-forest appearance of *Codiaeum*. I confess to having been quite deceived by Domin's description and plate.

The specimen from the Cape York Peninsula, *Brass 19462*, that I identified with *Croton mirus* in *Kew Bull.* 31: 385 (1976), is described above (p. 224) as a new species, *C. brachypus* Airy Shaw.

Codiaeum cf. **membranaceum** S. Moore in *J. Linn. Soc., Bot.* 45: 219 (1920). Type: Cape York, 1868, *Daemel s.n.* (BM).

QUEENSLAND. *Cook District* — Tip Creek, 13° 00' S., 143° 25' E., rain-forest, alt. 30 m, tree, trunk 10 cm d.b.h., bark nondescript, fissured, flaky; very fine stripes in the inner blaze, 18.x.1973, *Hyland 2919* R.F.K. (K).

The species of *Codiaeum* fall into two distinct groups: those with glabrous ovaries, including *C. variegatum* (L.) Bl., *C. luzonicum* Merr. (Philippines), *C. inophyllum* (Forst.) Muell. Arg. (New Caledonia), etc., and those with adpressed-pubescent ovaries, including *C. stellingianum* Warb. (Kei Islands), *C. bracteiferum* (Roxb.) Merr. (*C. brevistylum* Pax & Hoffm.) (Amboina), *C. cuneifolium* Pax & Hoffm. (Philippines), etc. *Hyland 2919* from the Cape York Peninsula falls into the second group; the ovaries are conspicuously pubescent. The specimen is also notable for the markedly membranous texture of the leaves, and for this reason I think it is probably closely related to *C. membranaceum* S. Moore, which was described from a gathering of *Daemel* from Cape York Peninsula without further details of locality. Unfortunately this *Daemel* collection lacks female flowers, and thus the most diagnostic feature cannot be tested. Further collections of thin-leaved *Codiaeum* from Cape York, and especially from the Tip Creek population, are very desirable.

It is, however, further possible that *C. membranaceum* may be conspecific with *C. stellingianum*, and this in turn with *C. bracteiferum*. Both these species were described as having 'firmly membranaceous' leaves. Pubescent-ovaryed material from the Moluccas, Tenimbar and Kei Islands exhibits distinctly thin foliage, though not quite so membranaceous as that of *Hyland 2919*. I am unable to make use of style-length for specific distinction; it seems to show the protean variability typical of *Codiaeum*. The same remark probably applies to stamen-number.

A further taxon with pubescent ovaries is represented by the *Codiaeum* population of the Louisiade Archipelago. The foliage of this population exhibits the same polymorphism as that of *C. variegatum*, including rheophytic adaptation, but is almost always stiffly coriaceous. Material of *Codiaeum* from the D'Entrecasteaux, Bismarck and Solomon Islands invariably possesses glabrous ovaries, and must be referred to *C. variegatum*. I have described the Louisiade plants elsewhere (*Kew Bull.* 33: 75 (1978)) as *C. ludovicianum*.

Dimorphocalyx Thw.
(P. & H. 195)

Dimorphocalyx australiensis C. T. White in *Proc. Roy. Soc. Queensl.* 47: 80 (1936); Airy

Shaw in *Kew Bull.* 23: 125 (1969) & 29: 328 (1974). Type: Mowbray River, 1932, *Brass* 2019 (BRI).

Tritaxis australiensis S. Moore in *J. Linn. Soc., Bot.*, 45: 218 (1920). Type: Cape York, 1868, *Damel s.n.* (BM, K).

QUEENSLAND (early collections). *Cook District* — Cooktown, 1877, *Persietz s.n.* (MEL); Endeavour River, 1885 & 1886, *Persieh 768* (MEL).

Endospermum Benth.

(P. & H. 234)

Endospermum myrmecophilum L.S. Smith in *Proc. Roy. Soc. Queensl.* 58: 56, t. II (1947); Hyland, *Card Key Rain Forest Trees N. Queensl.*: 66 (1971); Schaeffer in *Blumea* 19: 181, 187, map 3 (1971).

QUEENSLAND. *North Kennedy District* (extreme NE) — Mission Beach, 17° 52' S., 146° 07' E., tree 7 ft [2.1 m] g.b.h., blaze odour like green beans; orange-yellow speckles and stripes in the blaze, 8.x.1968, *Hyland 2050*.

To be expected in other coastal localities of North Queensland. The species was originally described from eastern New Guinea.

Omphalea L.

(P. & H. 237)

Omphalea queenslandiae F. M. Bailey. See Airy Shaw in *Kew Bull.* 20: 415 (1966), 23: 130 (1969) & 25: 550 (1971).

An early (?syntype) collection of this liane from the Johnstone River, 1885, *Dr. Bancroft jun.* (MEL), exhibits a feature which does not appear to be mentioned by any of the authorities that I have consulted: namely, the development of remarkable elongate hooked tendrils, much as in the genus *Ancistrocladus* (Ancistrocladaceae) of tropical Africa and Asia. These tendrils are probably modified inflorescences, but this is a point that could best be tested from observation of living plants in the field.

Homalanthus Juss.

(P. & H. 241)

Homalanthus novo-guineensis (Warb.) Lauterb. & K. Schum. in Schum. & Lauterb., *Fl. Deutsch, Schutzgeb. Südsee* 407 (1901); Airy Shaw in *Kew Bull.* 21: 410 (1968), q.v.

Homalanthus populifolius sec. George & Kenneally in Miles & Burbidge (ed.), *Biol. Surv. Prince Regent River Reserve, Wildlife Research Bull. W. Aust.* 3: 47 (1975), non Grah.

In *Kew Bull.* l.c., 409 I indicated that this common New Guinea species extended into Queensland. The Australian distribution of this species and of *H. populifolius* Grah. is now becoming clearer. The latter species occurs commonly in eastern New South Wales and south-east Queensland, and extends northwards as far as the region of Rockingham Bay (*Dallachy s.n.*) and Dunk Island (*Adams 20039*), in the north-east of North Kennedy District. *H. novo-guineensis*, on the other hand, is now found to occur in Western Australia, in the Northern Territory, and in the region of the Atherton Tableland in the south-east of Cook District in Queensland. Thus the two areas approach rather closely, but apparently do not quite overlap, near the Cook/North Kennedy border.

I have seen the following Australian collections of *H. novo-guineensis*. The specimen from Buderim Mt., *Longman s.n.*, cited in *Kew Bull.* l.c., 411 is excluded as it is found to be *H. populifolius*.

WESTERN AUSTRALIA. Gariyeli Creek, Prince Regent River Reserve, 15° 32' S., 125° 13' E., on creek delta,

in silt in cadjeput forest, shrub to 6 m, bark roughish, latex present, leaves \pm bright green but not shining, fruit green turning dull red, 30.viii.1974, *George 12845*.

NORTHERN TERRITORY. Humpty Doo, 12° 34' S., 131° 20' E., rain-forest, slender tree to 9 m high, bark pale, with obvious leaf scars to base, 19.ix.1974, *Dunlop (& Airy Shaw) 3619*; "The Pines", Douglas River, 13° 43' S., 131° 38' E., rain-forest, spindly tree to 4 m high, 24.x.1974, *Parker 526* (δ), *Must 1293* ($\text{\textcircled{F}}$).

QUEENSLAND. *Cook District* — Daintree River, 10.xii.1929, *Kajewski 1459*; *Ibid.*, light rain-forest, 7.iii.1932, *Brass 2247*; Mowbray River, rain-forests, 23.i.1932, *Brass 2006*; Bridle Creek, about 19 km SE of Mareeba, rain-forest margin, 21.xi.1973, *Hartley & Hyland 14142*; State Forest Reserve 143, South Mary Logging Area, 16° 25' S., 145° 25' E., rain-forest, alt. 900 m, tree 16 m x 30 cm d.b.h., 12.ii.1975, *Irvine 1144*.

The extremely short (0.5-2 mm) and strongly recurved style-branches and the 'tremeloid' bract-glands distinguish this species from *H. populifolius*.

Monotaxis Brongn.
(P. & H. 282)

Monotaxis (§ **Monotaxis***) **tenuis** Airy Shaw, sp. nov.

Ab affini *M. macrophylla* Benth. habitu graciliore laxiore magis folioso, foliis sinuatis vel argute dentatis siccitate glauco-viridulis vel flavescentibus, inflorescentiis siccitate haud gummosis gracillime pedunculatis, floribus pro inflorescentia interdum usque 5 bene distincta. **TYPOS:** Northern Territory, *van Balgooy & Byrnes 1358* (K, holotypus).

Herba annua, 30-40 cm alta, erecta, glaberrima, ramis acute adscendentibus teretibus 0.5-1.5 mm crassis tenuissime striatulis. *Folia* spatulato-oblonga vel spatulato-ovata, 1.5-4 cm longa, 0.5-1 cm lata, basi in petiolum longe cuneato-attenuata, apice obtusa vel subacuta, margine aut sinuato-paucicrenata (raro subintegra) aut superne utrinque argute 3-7-dentata, inferne integra, tenuiter membranacea, laevia, siccitate viridula vel interdum sordide purpurascens vel luride caerulescens vel flavescentia, subtus glaucescens et interdum minute albido-puncticulata; costa gracilis, supra incisa, subtus prominula; nervi laterales gracillimi, 4-5-jugi, acute adscendentes; petiolus fere filiformis, usque 2.5 cm longus; stipulae subulatae, 1 mm longae, acutissimae, inferne paucilaciniatae. *Inflorescentiae* in ramulis lateralibus vel subterminalibus tenuissimis gestae, dense capitatae, 4-6 mm diametro, floribus femineis 1-5 masculis numerosis comitatis. *Flos* δ pedicello 1-2 mm. longo suffultus. *Sepala* 4, ovata, acuta, 1 mm longa, valvata. *Petala* minima, cordato-reniformia, unguiculata. *Stamina* 8, antherarum thecis connectivo angusto sejunctis bilocellatis, locellis alabastro globosis duobus tantum fertilibus dehiscentibus post dehiscentiam transverse ellipsoideis. *Flos* $\text{\textcircled{F}}$ brevissime pedicellatus vel subsessilis. *Sepala* masculis similia. *Ovarium* primo subglobosum, 2 mm diametro, mox breviter oblongum, stylis brevibus basi connatis alte bicurvis segmentis breviter papillois apice attenuatis. *Capsula* brevissime oblonga, 2-3 mm longa et fere aequae lata, viridis, laevis, levissime 3-loba, interdum minute albido-puncticulata, stylis persistentibus erectis, post dehiscentiam columna tenui relictis. *Semina* breviter cylindrica, 2 mm longa, 1.2 mm lata, laevia, nitida, immatura ochraceo-castanea, carunculo fusco, matura rubro-brunnea, carunculo conspicuo albido praedita.

NORTHERN TERRITORY. W. Arnhem Land, 65 km NE of Pine Creek, locally common in sandy bed of dried-up creek, herb up to 40 cm, no milk-sap, stem purplish, $\text{\textcircled{F}}$ flower surrounded by δ flowers, 25.vii.1971, *van Balgooy & Byrnes 1358* (holotype, K); Q59, 31 miles [48 km] ENE of Mudginbarry Homestead, 12° 32' S., 133° 19' E., common in sandstone seepage area with outcrops, associated with mixed forbs, grasses and shrubs, erect perennial herb 1.5-2 ft. [45-60 cm] high, flowers yellowish-green and white, stems and leaves yellowish-green, 19.ii.1973, *Lazarides 7774*.

QUEENSLAND. *Moreton District* — Coomera Gorge, near Canungra, common in patches on rocky sides of the gorge, soft undershrub, flowers greenish-yellow, 30.iii.1937, *C.T. White 11051*.

Although this plant is evidently closely allied to *M. macrophylla*, I do not believe that it represents merely a weak form of that species. The slender stems and branches, the leafy habit, the sinuate or sharply dentate leaves, drying a somewhat glaucous green or even lurid bluish or purplish or yellowish, the very slenderly peduncled inflorescences, which lack all

*Sect. *Linidion* Baill., Sect. *Eumonotaxis* Benth., including the type species of the genus, *M. linifolia* Brongn. According to the International Code the section must now be called Sect. *Monotaxis*.

gumminess, and the female flowers sometimes up to 5 in the inflorescence, are points of positive distinction. The superficial aspect of the plant is that of some rather weak crucifer.

The Queensland plant has sinuate leaves and up to 5 female flowers in the inflorescence, while the Arnhem Land plant has sharply dentate leaves and only 1-2 female flowers in a head. If these differences are constant in the respective populations, they might deserve varietal recognition. The genus is new to the flora of the Northern Territory.

The extraordinary isolation of the two populations should be noted: they lie about 1650 km apart, but the Queensland locality (south of Brisbane) is only a few kilometres from the more northerly of the only two known localities for *M. macrophylla*.

APPENDIX 1

Stilaginaceae *Antidesma* L.

Antidesma schultzii Benth., Fl. Austr. 6: 86 (1873); Pax & Hoffm. in Engler, Pflanzenreich IV. 147. xv: 134 (1922). Syntypes: Port Darwin, *Schultz* 610 & 743 (K).

NORTHERN TERRITORY. Unlocalised, c. 1800, *R. Brown s.n.* (K); Croker's Island, iv.1818, *Cunningham* 269 (K); Port Essington, iv.1840, *Armstrong* 570 & *s.n.* (K); Victoria River & Point Pearce, [1855], *Mueller s.n.* [Port Darwin], 'Small shrubby tree, dioecious. Fruit smaller than *A. dallachyanum*. This seems the same as the plant from Port Essington mentioned by Bentham' [l.c.: 86, sub *A. dallachyanum*], 1891, *M. Holtze* 1243 (MEL); Channel Island, Darwin Harbour, stabilised dunes, shrub spreading to 5 m high, 3.ii.1972, *Byrnes* 2377; Vicinity of El Sharana, Eucalypt woodland, edge of dry creek, shrub 1 m high, fruit pale whitish-green becoming purplish red, glossy, 17.i.1973, *Wolfe* AE 393.

QUEENSLAND. *Cook District* — Claudie River, near airstrip turnoff, 12° 45' S., 143° 15' E., open forest, alt. 75 m, shrub in forest pocket, 17.x.1974, *Hyland* 7819; S.F.R. 144, 16° 20' S., 145° 00' E., open forest, alt. 600 m, shrub or small tree growing in the rocky bed of an ephemeral creek, 20.xii.1975, *Hyland* 8563.

Antidesma schultzii is closely related to *A. ghaesembilla* Gaertn., differing principally in its glabrescence, its acute sepals and its often irregularly shaped fruits with oblique styles. It appears to be rather widespread in the Top End of the Northern Territory. The specimens cited above from the Cape York Peninsula represent the first record of *A. schultzii* from Queensland.

Antidesma parvifolium F. Muell., *Fragm. Phytogr. Austr.* 4: 86 (1864); Benth., Fl. Austr. 6: 86 (1873); Bailey, *Queensl. Fl.* 5: 1433 (1902); Pax & Hoffm. in Engler, Pflanzenreich IV. 147. xv: 135 (1922); Domin in *Biblioth. Bot.* 22: 868 (Heft 89: 315) (1927). Syntypes: Port Denison, *Fitzalan*, *Dallachy*.

QUEENSLAND (early collection). *Port Curtis District* — prope Gladstone, n.d., *A. Dietrich* 327 (MEL).

The distribution of this species, originally described from Port Denison (Bowen), is carried some 350 miles southward by this early collection from near Gladstone (already noted by Domin, l.c. supra).

APPENDIX 2

Notes on some new taxa proposed by Domin
in *Biblioth. Bot.* 22: 860-892 (Heft 89: 306-338) (1927),
based upon examination of type specimens

Bridelia leichhardtii var. *glabrata* Domin, l.c. 879 (325). An unimportant form showing extreme reduction of indumentum.

Cleistanthus xerophilus Domin, l.c. 879 (325). A very distinct species.

- Croton mirus* Domin, l.c. 882 (328) = **Codiaeum variegatum** (L.) Bl. var. **moluccanum** (Decne) Muell. Arg. Vide p. 237, supra.
- Excoecaria dallachyana* (Baill.) Benth. f. *tenuispica* Domin, l.c. 892 (338). An insignificant variation.
- Flueggea virosa* var. *aridicola* Domin, l.c. 878 (324) = **Securinega melanthesoides** (F. Muell.) Airy Shaw var. **aridicola** (Domin) Airy Shaw. Vide p. 213, supra. *F. virosa* f. *reticulata* Domin, l.c., = **S. melanthesoides**, typical.
- Glochidion harveyanum** Domin, l.c. 873 (319). A good distinct species, but type material rather poor.
- Hexaspermum paniculatum* Domin, l.c. 870 (316) = **Phyllanthus clamboides** (F. Muell.) Diels. Vide p. 214, supra.
- Mallothus claoxyloides* f. *grossedentata* Domin, l.c. 388 (334) = var. **ficifolius** Baill.
- M. claoxyloides* var. *glabratus* Domin, l.c. An insignificant variant.

ACKNOWLEDGEMENTS

I wish to express my thanks to the authorities in charge of the herbaria at Melbourne (MEL), Sydney (NSW), Brisbane (BRI), Atherton (QRS), Darwin (DNA), and Alice Springs (NT), for facilities granted during August-December 1976. I wish especially to express my appreciation of the memorable days spent with Mr. Bernie Hyland in October, driving from Rockhampton to Atherton. This was preceded by three days at the forestry camp in the Bowenia-Byfield region (partly with Mr. David Cameron of Darwin), and a few days in and around Rockhampton, and included 2-3 days at Mackay, visiting Eungella, Cape Hillsborough and Cathu. I am very grateful to Mr. Geoff Stocker, Officer-in-Charge at Atherton, for approving this trip.

Sincere thanks are once again due to the Bentham-Moxon Trustees for generously bearing three-quarters of the cost of the 3-month trip, and to the Royal Society for a grant-in-aid covering the remaining quarter.

