

Critical Notes on Pacific Island Plants. 1.

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Many observations on the taxonomy, nomenclature and distribution of vascular plants of the Pacific islands have accumulated in the course of determining the identities and correct names of collections made in Micronesia, Hawaii, south-eastern Polynesia, and various coral islands. Certain of these are placed on record below, involving members of the genera *Casuarina*, *Alternanthera*, *Desmodium*, *Tristellateia*, *Corchorus*, *Abutilon*, *Ambroma*, *Bruguiera*, *Ipomoea*, and *Hemigraphis*. New varieties, forms, or combinations are published in *Casuarina*, *Desmodium*, *Corchorus*, *Abutilon*, and *Ipomoea*.

Casuarina equisetifolia var. *souderi* Fosberg, var. nov.

Ramuli valde condensati, internodis brevissimis, amenta basim mascula apicem femina fructus parvus.

Branches very compact, fastigiatae, needles short 1-3 cm, internodes so shortened that the whorls of scales are somewhat imbricate, cones very small, about 8x15 mm, borne on tips of staminate catkins, other, purely staminate, catkins, at anthesis mostly less than 1 cm long (on same branch).

This is a striking variant that seems to have arisen spontaneously.

MARIANAS IS.: Guam: Orote, Naval Station, *Souder A-1* (BISH, type, US, Fo)

Alternanthera echinocephala (Hook. f.) Christophersen, *Nyt Mag. Naturv. B*, 70: 73, 1932.

Alternanthera menziesii St. John, *Bull. Jard. Bot. Etat Brux.* 27: 49, 1957.

Alternanthera menziesii was described from a Menzies collection, labelled "Sandwich Island, Mr. Menzies," in the British Museum. Curiosity as to what this new Hawaiian endemic looked like led me to examine the type when the opportunity presented itself after the Tenth International Botanical Congress.

The resemblance of this specimen to *A. echinocephala*, from the Galapagos Islands and Peru, which I had observed and collected earlier in the year, was immediately apparent, and indeed, St. John suggested this as its nearest relative. However, the fact that *A. menziesii* was made the basis of the new section *Pacifica* of *Alternanthera* would lead one to presuppose some rather fundamental differences. Such are not evident, even in the original description. The differences from *A. echinocephala* are said to be that the heads are sessile rather than pedunculate, bracts less than half, rather than almost, the length of the perianth, perianth parts not carinate rather than sharply keeled, interior sepals slightly shorter rather than slightly longer than outer ones, and pseudostaminodia entire and longer than, rather than lacerate and equalling, the stamens.

These characters do not hold up well when compared with a series of specimens of *A. echinocephala*, which is a somewhat variable plant. Although the heads

of the latter usually seem to be pedunculate, they are also sometimes sessile between subtending leaves, even on the same plant (cf. *Schmitt*, 119, *Stewart* 1381, 1383). In *A. echinocephala* the bracts vary from less than half to almost as long as the sepals (cf. *Schmitt* 119, *Maggs* I. 77, *Snodgrass & Heller* 680) and the sepals from not at all carinate to somewhat, but scarcely sharply, carinate, or even rarely tricarinate. The staminal tube and pseudo-staminodia seem to vary, but whether this is a matter of age was not determined. The pseudostaminodia did not seem especially lacerate but were curled and torn when old.

The Menzies specimen was obviously badly wilted before drying, so it is difficult to make a very exact comparison, especially of leaf shape. However, the leaves seem within the range of variation of *A. echinocephala* and have exactly the same indument. The heads seem precisely like those of *A. echinocephala*, though possibly somewhat less pilose than is usual for the latter, but some specimens from the Galapagos (cf. *Schimpff* 212) are almost identical. The inner sepals are glabrous or almost so in *A. menziesii*, variably hairy in *A. echinocephala*, but in *Schimpff* 212 practically glabrous. In all characters examined, this Menzies collection seems to fall within or almost within the range of variation of *A. echinocephala*. This suggests that, far from constituting a new section, it belongs in all probability to the latter species, and, indeed, that it was collected in the Galapagos. It seems likely that this is a similar case to that of the mislabelled Menzies collection that led to the description of the supposedly endemic Hawaiian genus *Zemisne* Sherff, a few years ago, which turned out to be a Galapageian *Scalesia*. It is probable that *Alternanthera menziesii* is synonymous with *A. echinocephala*, and that if the section Pacifica is in any way distinct, it is South American rather than Hawaiian.

DESMODIUM Desv.

In the course of preparing a treatment of this genus for the Flora of Micronesia and of identifying collections from French Polynesia, certain observations were made on the Pacific islands species that should be placed on record. In addition to the species mentioned below, the common members of this genus in the Pacific Islands are *D. gangeticum* (L.) DC., a weed in most of the island groups, *D. triflorum* (L.) DC., also generally common on bare ground and in pioneer situations in most islands, *D. umbellatum* (L.) DC., a strand and lowland species widely distributed in the western Pacific, and *D. uncinatum* (Jacq.) DC., a very common lowland weed, also known as *D. sandwicensis* E. Mey., in the Hawaiian Islands, perhaps also in the Marquesas. Some authors have dismembered this very distinctive and natural genus into a number of ill-distinguished segregate genera. Nothing seems to be gained from accepting these, so they are ignored here.

Desmodium canum (Gmel.) Schinz & Thell., Mem. Soc. Neuchatel Sc. Nat. 5: 371, 1914 (1913?)

This species, called in Hawaii "Kaimi Spanish clover," was reported from the Hawaiian Islands by E. Y. Hosaka (Haw. Agr. Expt. Sta. Cir. 22: 1-8, 1945) as having been in the islands at least since 1916. He gives a drawing and description. In 1952 and 1958 I collected it around the military establishment on Kwajalein Islet, Kwajalein Atoll, Marshall Islands (*Fosberg* 34125 (US), 39495 (US)). We have seen it from the Pacific, also, from Tahiti, Papenu (Papenuo?), *Setchell and Parks* 280 (US), New Caledonia near Noumea, *Barrau* in 1960 (US),

and Isle of Pines, near top of Mt. Nja, *Buchholz 1653* (US). It has apparently been introduced into the Marquesas since Brown's trip there in 1921-1922, as it is abundantly represented in collections made in 1963 by Bryce Decker and M. H. Sachet. It was found in the following islands: Nukuhiva, *Decker 2154, 2036, 2064*; Uahuka, *Decker 1800, 1805, 1545, 1882, 1623, 1406, 1460, 1949, 1727*; Hiva'oa, Pacific Entomological Survey *Ex 62* (BISH); *Mumford and Adamson 112* (BISH), 383 (BISH), *Sachet 1236, Decker 1101, 1193, 1249, 661, 676, 702, 733, 752, 773, 1029, 1063*. It is apparently a well-established member of the lowland valley flora and common on open ridges and slopes higher up, being much better represented in the present collections than any of the several other species of the genus found in the Marquesas.

***Desmodium heterocarpon* (L.) DC.**, Prodr. 2: 337, 1825.

Van Steenis and van Meeuwen (*Reinwardtia* 6: 93-96, 1961) have clarified the nomenclature of this species, frequently known as *D. polycarpum* (Poir.) DC., and have divided it into two varieties. The original one, var. *heterocarpon*, characterized by hooked hairs on the rachis of the raceme, though said by van Meeuwen (*Reinwardtia* 6: 251, 1962) to occur from Japan to India, throughout Malaysia and in New Caledonia and Tonga, must be rather uncommon, as it is represented in the Malaysian and Pacific Islands collections of the U.S. National Herbarium by only one sheet, *Kamphövener 686*, from Barren Island. The other one is much more abundant in the Pacific.

***Desmodium heterocarpon* var. *strigosum* v. Meeuwen**, *Reinwardtia* 6: 95, 1961.

This variety, distinguished by its densely strigose inflorescence rachis, has previously been reported from the Pacific Islands only from New Caledonia, by van Meeuwen (op. cit. p. 96). It was described from New Guinea and is known from southeast Asia and throughout Malaysia. It may now be reported from many island groups in the Pacific, from most of which it has been known for a long time, but simply as *D. polycarpum* (Poir.) DC. or *D. heterocarpon* (L.) DC. A variant with less appressed hairs on the rachis, found in the Caroline Islands, is described below. The specimens of f. *strigosum* known to me from Polynesia and Micronesia are cited first.

Desmodium heterocarpon* var. *strigosum* v. Meeuwen f. *strigosum

CAROLINE IS.: Palau: Koror, *Holt 55* (US); Ngarakabesang (Arakabesan) I.: 2 m, *Fosberg 32117* (US, BISH, Fo, NY, L), old seaplane base on west side of island, 2-5 m, *Fosberg 32294a* (US), 19-20 m, *Fosberg 25650* (US, BISH, Fo, NY, L). Ponape: Mt. Peipalap, 750 ft, *Glassman 2316* (US); near outlet of Tawenso-kola River, *Glassman 2445* (US); Palikir, *Kanehira 1517* (US, NY); Kolonia, *Kanehira 1574* (NY); Nipit-One, *Hosokawa 5830* (A); Kapinne Gen'ya, *Hosokawa 9569* (Fo); Jokaj, 300 ft, *Hosaka 3502* (US, BISH, Fo, NY, L).

FIJI: Vanua Levu, Mathuata, Seangangga Plateau, in drainage of Korovuli River, vicinity of Natua, 100-200 m, *A. C. Smith 6811* (US), Taviuni, vicinity of Somosomo, gardens, *Gillespie 4774* (US).

TONGA: Niuafu'ou, near the upper rim of the main central crater, 90 m, *Yuncker 16012* (US); Kao, 200 m, *Yuncker 15871* (US); Eua, on west slope of the east ridge, 250 m, *Yuncker 15654* (US); near the center of the island, 260 m, *Yuncker 15372* (US); Tongatabu, *U.S. Expl. Exped.* (US).

SAMOA: Tau, Sani Ridge, back of Fitiuta, 500 ft, *Garber 603* (US); Savaii,

near Manase plantation, 100 m, *Christophersen 696* (US).

SOCIETY IS.: Raiatea, northwest of Uturoa, 100 m, *de la Rue 31* (US); *U.S. Expl. Exped.* (US); Tahiti, Arue (Chemin Micheli), 150 m, *Maclet 60* (Fo).

MANGAREVA; *Agassiz 105* (US)

MARQUESAS IS.: Uahuna, Hane Valley, 600 ft, *Pacific Entomological Survey (Le Bronnec) 610* (Fo); Uahuka, Vai pae'e, Hane trail, fernland of Vaikii, 430-450 m, *Decker 1946* (Fo, P); Hiva'oa, southwest Puamau, Tohua'oa, 250 m, *Decker 979* (US, BISH, Fo, P); west Puamau valley, Friedman plantation, 100 m, (sterile), *Decker 837* (Fo); *Mumford and Adamson 62* (BISH).

HAWAIIAN IS.: Oahu, Honolulu, Kaliki Valley, *Hitchcock 14103* (US)

***Desmodium heterocarpon* var. *strigosum* f. *substrigosum* Fosb., nova forma.**
Racemi rachis pilis vix adpressis.

Differing from *f. strigosum* in that the hairs on the rachis of the raceme tend to be somewhat spreading rather than strongly appressed.

Known from Yap and Truk, in the Caroline Islands.

CAROLINE IS.: Yap Island, s.l., *Wong 356* (US, Fo); Okau-Kanhu, *Hosokawa 8919* (A). Truk Group, Moen Island, 600 ft, *Hosaka 2704* (US, type, BISH, Fo).

***Desmodium heterophyllum* (Willd.) DC., Prodr. 2: 334, 1825.**

This species so closely resembles *D. triflorum* (L.) DC. that I have previously regarded it as merely an unusually robust state of that species. However, van Meeuwen (*Reinwardtia* 6: 244-245, 252, 1962) has enumerated distinguishing characters that would suggest that it is genetically different, and considered that it should have specific rank. Certainly it is either a species or a very good variety. Pending an opportunity to study material from other parts of its range, I am now inclined to treat it as specifically distinct. It has conspicuously pilose stems, peduncles usually more than 1 cm long, minutely uncinat-pubescent near summit, glabrous lower down. Volkens (*Bot. Jahrb.* 31: 464, 1901) reported it as a species from Yap, and Merrill (*Phil. Jour. Sci. Bot.* 9: 90, 1914) reported it from Guam. I have not seen the Volkens specimens on which the Yap record is based but have ample material from Guam.

MARIANAS IS.: Guam: s.l., *Guam Expt. Sta. 319* (US); Tolijuu River area, Maemong Valley, *Grether 4409* (US); hills between Ylig and Talofofu rivers, *Steere 69* (US); Mt. Almagosa, *Hosaka 3181* (US, BISH, Fo, NY); Mt. Alutom, east of Sumay, 350 m, *Fosberg 25281* (US).

***Desmodium motorium* (Houtt.) Merr., Jour. Arnold Arb. 19: 345, 1938.**

This is a species with the lateral leaflets greatly reduced. It is well known from the extreme western Pacific, but has not been previously recorded from southeastern Polynesia.

SOCIETY IS.: Tahiti: Arue, Montée de Taharaa, 50 m, *Maclet 61* (Fo).

***Desmodium styracifolium* (Osb.) Merr., Amer. Jour. Bot. 3: 580, 1916.**

This species, characterized by orbicular or very broadly obovate terminal leaflets, rounded or retuse at apex, densely silky beneath, small lateral leaflets, very dense racemes produced both laterally and terminally, was reported, as *Desmodium capitatum* (Burm. f.) DC., from Yap Island by Volkens in 1901. It has not apparently been found there or elsewhere in Micronesia since, though common in southeast Asia and Indonesia. It should be looked for to see if it still persists in Yap.

Tristellateia australasiae Rich., Voy. Astrolabe, Atlas: Sert. Astrol. Pl. 15, 1833. Voy. Astrolabe, Bot. 2, Sert. Astrol. 38 (as *T. australis*), 158, 1834.

There has been some doubt about the correct name for this rather widespread southwest Pacific species, which is also occasionally cultivated as an ornamental. Richard actually used both *T. australasiae* and *T. australis* in his original publication.

The name was *T. australasiae* in the caption of the plate (1833) and in the explanation of the plate (p. 158, 1834), but was *T. australis* in the text (p. 38, 1834) and in the table of contents (p. 166, 1834). Unless it can be shown that the text was actually published earlier than or simultaneously with the Atlas, the name *T. australasiae* must be accepted. Sherborn and Woodward (Ann. Mag. Nat. Hist. VII, 8: 161-164, 1901) have discussed the date of publication of this work, establishing the date of the text as 1834, but say nothing about that of the Atlas.

The type locality of the species is also somewhat ambiguous. Richard uses the name *T. madagascariensis* on p. xiv of the text, in a list of plants from Havre Carteret, New Ireland. He does not mention *Tristellateia* at all in the list from Port Dorei, New Guinea, although in the text accompanying the description, p. 40, he specifically says that the plant came from "port Dorey à la Nouvelle-Guinée," and that perhaps this plant is merely a form of *T. madagascariensis*, from which he gives some differentiating characters. Without examination of Richard's specimens, the exact type locality of this species probably cannot be determined, and even then it might not be certain.

Corchorus torresianus Gaud. Voyage Uranie Bot. 477, 1826 (1830).

This plant of elevated coral limestone, usually just above the strand, has a wide but spotty distribution in the Pacific. Its typical variety, var. *torresianus*, is found in the MARIANAS ISLANDS and FIJI, and may also be reported from Anaa Atoll, in the TUAMOTUS, at Tukahora, *St. John 14269, 14306* (BISH). A new variety may be described from Tonga.

Corchorus torresianus* var. *yunckeri Fosb. var. nov.

Folia magna cuneata, capsula acuta 25 mm longa.

Differs from var. *torresianus* in the larger more cuneate leaves, and especially in having the capsules drawn out to a point and 25 mm long, instead of rounded at the apex and about 20 mm.

TONGA: Lifuka, on very rocky shore just above high-tide limit at north end of island, *Yuncker 15985* (BISH, type).

Abutilon indicum (L.) Sweet, Hort. Brit. ed. 1, 53, 1827 (1826).

Sida indica L., Amoen. Acad. 4: 324, 1760.

Even casual examination suggests that two quite distinct plants have been referred to *Abutilon indicum* in the Pacific Islands. One has rather thinly tomentose, somewhat serrate leaves and a relatively small calyx which is flat, not accrescent or enveloping the base of the fruit, which is only moderately hirsute. This seems to be properly referred to *A. indicum* (L.) Sweet. It is known from Guam, as well as being widely distributed in south and southeast Asia. In Guam it may have been introduced.

The other plant is very densely and closely velutinous tomentose, somewhat yellowish, with entire or subentire leaves, a strongly accrescent calyx with carinate lobes, and which envelops the base of the extremely hirsute fruit at maturity.

This plant seems to correspond closely to specimens in Herbarium Bogoriense identified as *Abutilon albescens* Miq., described from Java, and I have so referred to it in one or two recent publications. However, *Abutilon albescens* seems scarcely specifically distinct; the plants so named belong to a complex that extends from India to Australia and the Pacific Islands under several names, the oldest of which seems to be *Abutilon asiaticum* (L.) Sweet.

Abutilon asiaticum (L.) Sweet, Hort. Brit. ed. 1, 53, 1827 (1826).

Sida asiatica L., Amoen. Acad. 4: 324, 1760.

This species, taken in a broad sense, is characterized by the features given above as distinguishing it from the not-too-closely related *A. indicum*. Much closer are plants currently passing under the name *Abutilon graveolens* W. & A., which differ in having long straight stiff hairs on the stems, as well as in other features. The limits of this species are not too clear, but *A. asiaticum*, at least in the sense accepted here, may be separated from it by the tomentose, not pilose stems. *A. asiaticum* may be divided, but not too clearly, into five geographically separate varieties, as follows:

- Plants roughly or flocculently stellate-tomentose, leaves rather venulose beneath.
- Plant grayish, leaves green, only sparsely stellate
above, densely so and pale beneath..... var. *asiaticum*
- Whole plant yellowish, leaves thickly stellate
but not tomentose above..... var. *subasperum*
- Plants softly velutinous tomentose on stems and lower leaf surfaces.
- Tomentum somewhat yellowish or cream color,
calyx carinate to base, leaves tomentose
above and below, less so above..... var. *albescens*
- Tomentum whitish, only the lobes of the calyx
carinate, or if carinate to base, leaves green above.
- Leaves thin, only sparsely stellate above,
strongly acuminate, margins slightly
irregularly repand..... var. *supraviride*
- Leaves thicker, more strongly stellate above,
crenate-serrate..... var. *australiense*

A. asiaticum (L.) Sweet var. ***asiaticum***

INDIA: without locality: *Herb. Wight 178* (CAL), *Gouan* (CAL), Bengala, without collector (CAL), "Ind. Or." *Lem.* (P), "Jardins de Borzy," 1875, without collector (P), without locality or collector, *Herb. Poiret* (P).

The specimens cited above represent the plant generally referred to *Abutilon asiaticum*. However, the original description of *Sida asiatica* refers to "caulis villosus" and "stipulae crassae, reflexae." The villous stems suggest the plant referred to above as *Abutilon graveolens* W. & A., while the presence of thick reflexed stipules scarcely fits an *Abutilon* or *Sida*.

Mr. John Lewis has kindly examined for me the specimen of *Sida asiatica* L. in the Linnean Herbarium. This specimen does not match the description of *Sida asiatica* L. and in Jackson's Index of the Linnean collection it is given the number "3," indicating that it was first listed as being in Linnaeus' herbarium in 1767, rather than 1755. Therefore it cannot be regarded as the type of *Sida*

asiatica. Until a specimen can be located that is properly the type, it seems best to maintain *Abutilon asiaticum* in the generally accepted sense, even though there are some discrepancies from the original description.

A. asiaticum var. **albescens** (Miq.) Fosberg, n. comb.

Abutilon albescens Miq., Pl. Jungh. 285, 1854 (fasc. 3).

JAVA: without locality, *Zollinger 65* (P), *1571* (P); *Horsfield Malv. 13* (CAL). FORMOSA: South Cape, *Henry 374* (P) (calyx less carinate); Tekow, *Henry* (BM). LINE IS.: Christmas Island, Four Brothers, *Fosberg & Metraux 13215* (BISH, P, US); Baker Island, *Christophersen 23* (BISH); Jarvis Island, *Bryan 1394* (BISH, US); *Bergman 49* (BISH, 2 sheets). TUAMOTU ARCHIPELAGO: Toau, *Whitney Exped. 2154* (BISH); Rangiroa, *Sachet 1337* (FO, P, US, BISH). GILBERT IS.: Tarawa, *Catala 124* (BISH). OCEAN ISLAND (BANABA), *Catala 124 bis* (P). WAKE ATOLL: Wake Islet, *Fosberg 34451* (BISH, US), *Sachet 885* (US, Fo), Area E, *Gaston H* (BISH); Peale Islet, *Lyons 23* (BISH). MARIANAS IS.: Saipan, Marpi Point, 30 m *Fosberg 31331* (US, Fo).

This variety has the leaves somewhat greener above, but still closely tomentose, and the margins more or less undulate-serrate to almost entire. It has always been referred to *A. indicum* in the Pacific, but this was doubtless based on a misunderstanding of what *A. indicum* is. The nature of the calyx, as well as other features, is clearly that of *A. asiaticum*. It is possible that the yellowish plants of the islands may eventually prove varietally distinct from the creamy white ones of Java, but so far the color seems to be the only distinction.

Miquel cited as a synonym, but with a query, *Sida populiifolia* Bl. The latter is a later homonym of *Sida populiifolia* Lam., so Miquel's name stands and may be transferred.

Abutilon asiaticum var. **subasperum** Fosb. n. var.

Folia acuminata, valde crenato-serrata; indumentum subasperum.

Suffrutescent herb or shrub, stems densely stellate-tomentose, pubescence of stems and lower leaf surfaces yellowish; leaves broadly ovate, strongly cordate at base, strongly acuminate at apex, subtrilobate, margins irregularly coarsely crenate-serrate, lower surface densely, rather harshly stellate-tomentose, upper green but still rather closely stellate, stellae touching or almost so; calyx carinate to base.

MARIANAS IS.: Tinian: northeast of Carolinas (Lalo) Point, on limestone soil, 60 m, *Fosberg 24827* (US, type, BISH, Fo); north end of island, in waste places, 50 ft, *Hosaka 2851* (US, BISH, Fo).

It may be distinguished from var. *albescens* by the pubescence of the leaves feeling somewhat rough to the touch.

Abutilon asiaticum var. **supraviride** Fosb. var. nov.

Foliorum laminae infra albae supra virides marginibus vix repandis.

Stems very closely tomentulose, leaves with blades thin, white, very closely tomentulose beneath, green and very sparsely stellulate above, not prominently veined, margins irregularly slightly repand; calyx lobes carinate, sometimes to base of calyx, calyx decidedly accrescent, investing the fruit.

INDONESIA: Tanimbar Islands, Jarndena: Kabirat, near Saumlaki, in coconut plantation near beach, *Pleyte 161* (SING, type); Timor Laut, *Forbes 3330* (SING); Java, Buitenzorg Botanical Garden, *Merrill* in 1902 (US).

This differs from var. *albescens* in the green almost glabrous upper leaf surfaces.

A. asiaticum var. **australiense** (Hochr. ex Britt.) Fosberg, n. comb.

A. indicum var. *australiense* Hochr. ex Britt., III. Austr. Pl. Cook's Voy. 1: 10, pl. 19, 1905 (1900).

AUSTRALIA: "New Holland" Banks & Solander in 1770 (P, probably an isotype). QUEENSLAND: without location, *Thozet* in 1870 (P); Rockhampton, *White 3365* (SING, 2 sheets); Heron Island, *Fosberg 41320* (US, Fo), *41587* (US). NEW ZEALAND: without location, *Vedel* in 1847 (P, 2 sheets).

The tomentum is generally whitish, the leaf shape and margins and degree of prominence of the veins are not uniform. A careful analysis of this variation might reveal more entities than one in the Australian populations placed together here.

Ambroma L.f. vs. **Abroma** Jacq.

One of the common species of secondary vegetation in the Indo-Pacific region is a hispid to soft pubescent sterculiaceae shrub usually called *Abroma augusta* L.f. The circumstances surrounding the early history of this species and its name are somewhat confused, and a clarification is here attempted.

Pertinent synonymy:

Theobroma augusta L., Syst. Nat. ed. 13, tom. 3: 233, 1770; Murr., Syst. Veg. ed. 13, 580, 1774.

Abroma fastuosa Jacq., Hort. Vind. 3: 3, t. 1, 1776 (nom. illegit., superfluous, as *Theobroma augusta* is cited in synonymy and genus *Abroma* not validly published.)

Ambroma L.f., Suppl. 54, 1781 (validly published here).

Ambroma augusta (L.) L.f., Suppl. 341, 1781.

Abroma angusta Murr., Syst. Veg. ed. 14, 696, 1784 (refers to "*Theobroma angusta* Syst. ed. 13 p. 580").

Linnaeus' publication of *Theobroma augusta* in Syst. Nat. ed. 13, 3: 233-234, 1770, is accompanied by an unusually full and detailed description of a plant from "Habitat in India orientali." Jacquin published his *Abroma fastuosa* with neither a description of the genus nor a reference to a description under another name. His treatment of the species cannot be accepted as a combined generic-specific description, as he cites *Theobroma augusta* L. in synonymy, making his *Abroma fastuosa* not a new species but a renaming of an old one.

Linnaeus filius, on page 54 of his Supplementum, describes the genus *Ambroma* in detail, giving no earlier references. On page 341 he describes *Ambroma augusta* very briefly, citing *Theobroma augusta* Syst. Veg. ed. 13, 580, 1774, and *Abroma fastuosa* Jacq. in synonymy. As he deliberately spells the name *Ambroma*, on both page 54 and page 341, ignoring Jacquin's spelling, we must accept this unfamiliar spelling, *Ambroma*, and as author we must cite Linnaeus filius as Jacquin did not describe the genus.

There remains the question of the occasional spelling of the epithet *angusta* instead of *augusta*. This was apparently a deliberate change by Murray in his Systema Vegetabilium ed. 14, where he uses this spelling consistently both in his trivial name and in synonymy. The spelling *angusta* must be rejected in favor of the original spelling. Thus the correct name must be *Ambroma augusta* (L.) L.f.

The specific taxonomy of the genus, particularly whether *A. mollis* DC. should

be separated from the hispid form, requires further investigation.

Bruguiera gymnorhiza (L.) Lam., *Encycl. Méth.* 4: 696, 1798.

Ding Hou, in his admirable treatment of the Rhizophoraceae in *Flora Maleisiana* I, 5: 453, 1958, discusses the identity of *Rhizophora conjugata* L., *Sp. Pl.* 443, 1773, which supplies the basionym for the name usually applied to this species, *Bruguiera conjugata* (L.) Merr. It is based on Linnaeus' description in *Flora Zeylanica* 81, 1748, which, in turn, is based on the unpublished plate, Hermann, *Zeyl.* t. 279, which is in the British Museum Herbarium. This plate, according to Ding Hou, is a mixture of a flowering branch of a *Bruguiera* and two fruits of a *Rhizophora*, neither of which is identifiable with certainty. The flowering branch apparently has petals similar to those of *B. sexangula* but is otherwise similar to *B. gymnorhiza*. Ding Hou rejects the name because it is based on a mixture of parts of two genera, invoking Arts. 65 and 66 of the Paris Code. I will agree with the rejection of the name, pending personal examination of the Herman plate, but only on the basis of inability to identify the species illustrated, and hence as a *nomen dubium*, because it cannot be satisfactorily typified (Art. 70, Montreal Code). This makes *Bruguiera gymnorhiza* (L.) Lam. the correct name for the common red-flowered species referred to in almost all recent Micronesian literature as *B. conjugata* (L.) Merr.

Ipomoea indica (Burm.) Merr., *Int. Rumph. Herb. Amb.* 445, 1917.

Convolvulus indicus Burm., *Ind. Univ. Herb. Amb.* 7: 6, 1755.

I. congesta R. Br., *Prodr.* 485, 1810.

In *Blumea* 3: 500, 1940 van Ooststroom has given comprehensive synonymy of this species under the name *I. congesta* R. Br. His rejection of *I. indica* (Burm.) Merr. does not seem warranted, as *Convolvulus caeruleus* Rumph. *Herb. Amb.* 5: 432, 1747 on which it was based seems most probably this species.

Ipomoea indica var. **hosakae** Fosberg, var. nov.

Caulis sparse pilosus, folia glabra hastato-trilobata, cyma laxa.

Stem sparsely pilose, leaves strongly hastate-trilobate, the central lobe much longer than lateral ones, essentially glabrous; inflorescence rather open, pedicels 1-1.5 cm long with ovate acuminate bracts; sepals similar to bracts but longer and more strongly acuminate, tapering gradually to a finely aristate tip.

CAROLINE ISLANDS: Truk Group: Moen Island, Mt. Takeum, 700 ft, *Hosaka* 2713 (US, type, BISH, Fo, NY); Fefan Island, Mt. Tuktyap, *Hosokawa* 8387 (A).

This glabrous form seems to be of local occurrence on Truk. It is named for the collector of the type, the late E. Y. Hosaka, of Honolulu. It seems to belong to *I. indica* rather than *I. nil* as the sepals are gradually tapering to a fine aristate tip and not at all hirsute at base, rather than having a linear abruptly pointed acumen and the base strongly and patently hirsute.

Ipomoea littoralis Bl. *Bijdr.* 713, 1826.

Convolvulus denticulatus Desr., in *Lam. Encycl.* 3: 540, 1789 (1792).

Ipomoea denticulata (Desr.) Choisy, *Mém. Soc. Phys. Genève.* 6: 467, 1833 (non R. Br. 1810).

I. choisiana W. F. Wight in Safford, *Contr. U.S.N.H.* 9: 298, 1905 (not *I. choisyana* Wight & Arnott ex Hall. f. 1894)

I. forsteri Gray ex Hbd., *Fl. Haw. Is.* 316, 1888 (nom. illegit. superfl.)

Comparison of material from various Pacific Islands of the plant commonly referred to *Ipomoea gracilis* R. Br. suggests that van Oostroom (Blumea 3: 516, 1940) adopted too broad a species concept in including the types of both *I. gracilis* and *I. littoralis* in the former species. *I. littoralis* Bl. has glabrous stems and broad sepals, the inner ones as broad as long, and broad toward the slightly mucronate apex, while Brown's plant has pilose stems and ovate-lanceolate sepals, 10 mm long and 3 mm wide, widest below the middle (see below). Abundant material, here referred to *I. littoralis*, from throughout the Pacific, though extremely variable in leaf shape, is remarkably constant in flower characters.

The species, as here defined, is found in the Pacific, eastward as far as the Marquesas, Makatea, Mangareva, and Raivavae, and north to Hawaii, where it is very uncommon. I have seen specimens from Oahu, Hauula, *Swzey* in 1932 (BISH) and Maui: Haiku, *Munro 629* (BISH) and Manawainui Gulch, *Degener 6004* (BISH). Hillebrand reports it, also, from Molokai. Westward it ranges through Micronesia, Melanesia, New Guinea, Malaysia, and to Madagascar, around the coasts of the Indian Ocean.

Ipomoea gracilis R. Br., Prodr. 485, 1810.

This is apparently a rare and local species, confined to the north coast of Australia. The type has pilose stems and ovate-lanceolate sepals. It is from "North Coast Islands" *Brown 2743* (BM). A recently collected specimen from the Gulf of Carpentaria, Groote Eylandt, Little Lagoon, *Specht 231* (BRI) seems the same. Several other sheets in the Brisbane herbarium may be the same, but are not in good enough condition to determine.

Hemigraphis reptans (Forst.) Anders. in Hemsley, Challenger Rept. Bot. 1 (3): 173, 1884.

The plant from Palmyra Island, Line Islands, *Dawson 19846* (Fo), determined by me as *Blechnum brownei* Juss., and so reported by Dawson, Pac. Nat. 1(2): 1959, is really *Hemigraphis reptans*, also a widespread lowland plant in the Pacific.