CERTAMEN MELASTOMATACEIS XVI.

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The current melastome notes are mostly a continuation of information gathered in European herbaria under the auspices of the Smithsonian Research Foundation (Phytologia 20: 369-389. 1970). Loans of critical material from some of the museums visited (BM, BR, C, FI, K, M, OXF, P, W), as well as The New York Botanical Garden and the Instituto Botanico (Caracas, Venezuela), are gratefully acknowledged.

ERNESTIA CONFERTIFLORA Wurdack, sp. nov.

E. minori Gleason, E. pullei Gleason, et E. blackii Brade & Markgraf affinis, floribus subumbelliforme capitellatis differt.

Suffrutex 0.2-0.4 m altus; ramuli subalato-quadrangulati sicut folia inflorescentia hypanthiaque densiuscule glandulosi-pilosuli pilis gracilibus erectis 0.3-1(-1.3) mm longis. Petioli 0.3-1 cm longi; lamina (1.2-)2-3 X (0.5-)0.8-2 cm elliptica vel obovato-elliptica apice late acuto vel rotundato basi acuta, firme membranacea et distanter appresso-serrulata, trinervata. Inflorescentia terminalis capitellata (3-)6-15-flora, bracteis ca. 0.8-1 cm longis subtenta; flores 4-meri breviter (ca. 1 mm) pedicellati, bracteolis 2-3 X 0.6-1 mm oblongis persistentibus. Hypanthium (ad torum) 4-4.5 mm longum; calycis lobi 2 X 1.4 mm oblongo-ovati intus apicem versus sparse glanduloso-setulosi. Petala 6-7 X 4-4.5 mm elliptico-rhomboidea apice late acuta vel rotundata setula unica glandulifera 0.3-0.7 mm longa terminata. Stamina dimorphica glabra; filamenta 5.2-5.7 vel 4-5 mm longa; antherarum thecae 5-5.5 vel 4-4.2 X 0.4 mm subulatae, poro ventraliter inclinato; connectivum usque ad filamenti insertionem 1.2-1.8 vel 0.6-0.7 mm prolongatum in staminibus maioribus ad basim dorsaliter tuberculatum, appendicibus duabus ventralibus aristiformibus 3 vel 2.3-3.5 mm longis in staminibus maioribus basim versus ca. 0.6 mm inflatis. Stigma punctiforme; stylus glaber 11-12 X 0.2-0.3 mm; ovarium 3-loculare glabrum; semina 0.7-0.8 X 0.6 mm manifeste (ca. 0.1 mm) muriculata.

Type Collection: W. A. Egler 47644 (holotype US 2400281; isotype NY), collected in soil-filled depression on large granitic outcrop at Roche Mon Pere, 3° 33' N, 52° 5' W, Rio Oiapoque, Terr. Amapá, Brazil, 17 Aug. 1960. "Subshrub; leaves glutinous; flowers pink."

Paratypes (all Amapá, Brazil): Ph. v. Luetzelburg 20273 (M) and 20398 (M), both from "Roche Monpère"; Pires, Rodrigues & Irvine 50980 and 51143 (NY), both from rocks below Porto Platon, Rio Araguari; Pires & Westra 48819, from granitic outcrop near Mt. Carupina, Rio Oiapoque.

Ernestia minor has cordulate 5-nerved leaf blades, lax few-

flowered inflorescences, and flowers with linear-lanceate sepals (3 X 0.6-0.8 mm) and non-inflated ventral appendages on the stamens; E. pullei has 5-nerved leaf blades with rounded bases, well-developed panicles, and oblong-subulate calyx lobes; and E. blackii (ex char.) has flowers in foliose panicles, connectives long-produced in the large stamens, and styles glandular-pilose. All three suggested relatives share with E. confertiflora the feature of glabrous 3-celled ovaries; the other two species of Ernestia having this ovarial feature, E. glandulosa Gleason and E. cordifolia Berg ex Triana, are more distantly related.

TIBOUCHINA RIGIDULA (Naud.) Wurdack, comb. nov.

Lasiandra rigidula Naud., Ann. Sci. Nat. ser. 3 Bot. 13: 150. 1850.

Cogniaux evidently followed Triana's lead in synonymizing Naudin's species under T. aemula (DC.) Cogn.; the latter is quite a different species vegetatively and in floral structure. Naudin's remarks about the affinities with Lasiandra fontanesiana (Bonpl.) DC. are quite true. The species may be characterized by the finely strigulose upper leaf surfaces (not at all bullate), roughened erect hairs on the lower leaf surfaces, slightly roughened hypanthial hairs, moderately villose-lanate (the hairs caducously gland-tipped) filaments, and the nearly glabrous style; probably the best placement in Cogniaux' monograph would be (ex char.) near T. formosa Cogn. The type locality for T. rigidula, "Villa Principe", is equivalent to present-day Serro in Minas Gerais between Itabira and Diamantina; a recent collection from the same region is Irwin, Maxwell, & Wasshausen 20331 (Serra do Cipó, km 132 ca. 153 km north of Belo Horizonte). Macbride photograph 36149 is of the holotype of Lasiandra rigidula, the collection without number; a duplicate (P) has the St. Hilaire number B^1 996.

Incidentally, I am exceedingly skeptical that T. aemula, T. valtheri Cogn., and T. adamantinensis Brade can be distinguished from one another; indeed, one Vauthier collection cited by Cogniaux as T. aemula (Vauthier s.n., P) comes from the type locality, Marianna (M. Gerais) of T. valtheri; at Paris I noted that Mexia 5703 and 5788 are good matches for the type collection of T. valtheri. Unfortunately no detailed notes were taken at Munich on the holotype (Macbride photograph 6347) of T. aemula.

TIBOUCHINA VIMINEA (D. Don) Cogn.

The only Don-annotated material seen is a specimen in the Fielding Herbarium at Oxford, also annotated by Joseph Hooker; the locality data are "Brazil" and "Liverpool"(?), with no collector indicated. At Munich are two sheets of cultivated material (Presl Herb. s.n. and Hort. Monac. s.n.), both showing somewhat more robust plants than the Oxford collection. A wild collection which is an excellent match for the Fielding Herbarium specimen is L. B. Smith 1532 (Soberbo-Guapy, Organ Mountains, Rio de Janeiro).

MONOCHAETUM MAGDALENENSE Wurdack, sp. nov.

Sect. Grischowia. M. meridensi (Karst.) Naud. in floribus affinis, trichomatibus barbellatis foliis 7-9-plinervatis hypanthiis glabris differt. M. laxifolio Gleason in trichomatibus affinis, foliis maioribus hypanthiis glabris staminibus minoribus sterilibus differt.

Frutex 1.5-3 m; rami robusti acute tetragoni sicut petioli foliaque sparse vel modice strigulosi (ramis demum glabratis) pilis plerumque 0.5-1 mm longis basim versus modice barbellatis (basi ipse substellata) apicem versus laevibus; ramorum inflorescentiarumque nodi dense setosi pilis gracilibus 2-4 mm longis. Petioli 1.5-3.5 cm longi; lamina 6-12 X 3-5.5 cm elliptico-ovata apice acuto basi obtusa vel rotundata, integra et firme chartacea, breviter 7-9-plinervata pari interiore 0.5-1 cm supra basin divergenti. Panicula 10-28 cm longa multiflora, ramis principalibus tetragonis nodis exceptis subglabris, ramulis glabris, bracteis 1-2.5 cm longis ellipticis mox caducis, bracteolis 0.4-0.8 X 0.2-0.35 cm mox caducis ciliolatis alioqui glabris, pedicellis 0.3-0.4 cm longis glabris. Hypanthium 8-9 X 3 mm glabrum; calycis lobi 7-7.4 X 3-4 mm lanceati vel ovato-lanceati breviter modiceque ciliolati alioqui glabri; torus extus plerumque in quoque sinu calycino pilis 1-2 gracilibus 0.5-1 mm longis armatus. Petala 12-15 X 12 mm obovata, apice late obtuso et setula unica 0.5-0.7 mm longa mox caduca armato. Stamina dimorphica glabra. Stamina maiora: filamenta 5.2-9 mm longa; thecae 11.5-12 X 1 mm, connectivo ca. 1 mm prolongato, appendice dorsali 3-3.5 X 0.6 X 0.8 mm. Stamina minora: filamenta 9-10 mm longa; thecae 5-5.3 X 0.25 mm steriles, appendice dorsali 1.4-2.2 X 0.2-0.4 X 0.7-1 mm complanata. Stigma punctiforme; stylus glaber 19.5-20 X 0.6-0.7 mm; ovarium apicem versus densiuscule strigosum pilis gracilibus barbellatis usque ad 1.8 mm longis.

Type Collection: S. Díaz Piedrahita 165 (holotype US 2582690A; isotype COL), from cloud forest, "Sierra Nevada de Santa Marta, Parque Nacional de Santa Marta, Cuchilla de San Lorenzo, alrededores del Centro Forestal," Depto. Magdalena, Colombia, elev. 2300 m, 19 June 1969. "Pétalos lila; filamentos blancos; estambres amarillos; pistilo roja; cáliz púrpura. Hojas verde limón."

Paratypes (all topotypical): Gonzalo Aguirre-S. 601 (US, COL); Gustavo Lozano-C. 997 (US, COL); W. Seifriz 102 (US).

Monochaetum meridense shows stamen dimorphism similar to that in M. magdalenense, but has smooth trichomes, 5-plinerved leaves, and sparsely strigulose hypanthia. Monochaetum laxifolium has barbellate pubescence, but much smaller leaf blades, sparsely strigulose hypanthia, eciliate sepals, and subisomorphic stamens which are all fertile. Monochaetum uberrimum Sandwith, the holotype of which (K) has been examined, differs from M. magdalenense in the smooth hairs, smaller 5-plinerved leaves (but perhaps immature on the holotype), sparsely strigulose hypanthia, relatively longer appendages on the large stamen connectives, and at least semifertile small stamens.

Directly involved with M. uberrimum are two recent Magdalena collections (Romero Castañeda 854, from San Sebastian de Rábago; Cuatrecasas & Romero Castañeda 24706, from Cancurúa), with smooth pubescence, large leaves, glabrous hypanthia, and semi-sterile anthers in the smaller stamens; further study seems stymied until topotypical collections of M. uberrimum appear. For the present, the strongly roughened pubescence of M. magdalenense distinguishes it from all other taxa with deciduous sepals treated by Gleason (and also M. gleasonianum Wurdack) except M. laxifolium (Am. Jour. Bot. 16: 519-522. 1929).

GRAFFENRIEDA URIBEI Wurdack, sp. nov.

G. tamanae Wurdack affinis, foliorum laminis ad basim in petiolos decurrentibus subtus pilis simplicibus sparse armatis floribus sessilibus differt.

Rami robusti sicut folia inflorescentia hypanthiaque modice appresso-squamulosi glabrati. Petioli 2.5-3 cm longi robusti ob laminas decurrentes apicem versus anguste alati; lamina 14-45 X 8-34 cm elliptica vel elliptico-ovata apice acuto vel obtuso basi late acuta vel obtusa, subcoriacea et integra, supra demum glabrata, subtus in superficie densiuscule resinoso-glandulosa et sparse pilis laevibus 0.7-1.3(-2) mm longis induta, breviter (1-2 cm) 5-plinervata (pari exteriore debili inframarginali neglecto) nervis secundariis 0.5-1 cm inter se distantibus venulis subtus laxe obscureque reticulatis (areolis 2-5 mm latis). Panicula usque ad 51 cm longa multiflora e basi furcata vel longe pedunculata; flores 4-meri sessiles, bracteolis ca. 1.5 mm longis ovato-oblongis mox caducis. Hypanthium (ad torum) 3 mm longum indistincte 8-costatum; calyx in alabastris clausus conicus tenuis demum in lobis (3-)4 ovatis 1-1.5 mm longis persistentibus dehiscens. Petala glabra 3-3.6 X 2-2.2 mm oblongo-obovata, apice obtuso vel rotundato et inconspicue mucronato. Stamina isomorphica glabra; filamenta 2-2.2 mm longa; thecae 3.3-3.4 X 0.8 mm, poro 0.3 mm diam. ventraliter inclinato; connectivum non prolongatum, dente dorsali subulato acuto 0.7-0.8 mm longo. Stigma punctiforme; stylus 7.6-8 X 0.4-0.15 mm glaber; ovarium 4-loculare, apice rotundato et paulo (0.2 mm) emarginato.

Type Collection: Lorenzo Uribe Uribe 5638 (holotype US 2574327A, 2574328A), collected in dark damp forest ca. 4 km northeast of Arcabuco, Depto. Boyacá, Colombia, elev. 2700 m, 8 June 1966. "Arbusto hasta de 4.5 m de altura. Cada rama es vertical y sencilla; o hay ramificación hacia la mitad con ramas de nueva verticales. Flores con pétalos blancos y estambres de color amarillo claro."

Graffenrieda tamana has leaf blades which are basally nerved and not decurrent on the petioles, as well as pedicellate flowers; the other close relative, G. emarginata (R. & P.) Triana has basally cordulate leaf blades and defined granulose-pinoid pubescence. From both species, G. uribei differs in the sparse simple pubescence on the lower leaf surfaces. Arcabuco evidently is a pocket of species endemicity (see also Monochaetum

uribei subsp. arcabucense Wurdack) which Padre Uribe is sampling admirably.

MICONIA AMACURENSIS Wurdack

Wachenheim 100 (P), from Crique Jacques, French Guiana, agrees with Venezuelan and Brazilian collections of M. amacurensis in all essential features, differing only in the shallowly and distantly undulate-denticulate leaf margins. This collection gives M. amacurensis a more continuous known distribution along the northeastern coast of South America (Phytologia 18: 150. 1969).

MICONIA INAEQUALIFOLIA Triana

The holotype (K) is comparable with several recent Colombian (Schultes & Cabrera 16685 and 19825, both from Jinogojé, Río Apaporis, Amazonas-Vaupés, fruiting) and Brazilian (Krukoff 8936, from São Paulo de Olivença, Amazonas, in bud) collections. The Brazilian material was mentioned by Gleason in the original description of M. filamentosa Gleason and indeed that species may well be only a minor variant of M. inaequalifolia with leaf blades 3-nerved and tapering to a narrowly rotund base. No floral differences are evident between the species, the ovaries of both being predominantly 3-celled despite Gleason's description (Bull. Torrey Club 65: 579. 1938). The Colombian collections of M. inaequalifolia had earlier been cited by me under M. filamentosa (Rhodora 65: 19. 1963). Another variant in this complex (with slightly larger flowers, more prominent external calyx teeth, and slightly different connective appendages on the large stamens, but foliage as in M. filamentosa) has twice been collected in subandean Colombia (Río Ortequaza, Caquetá, Cuatrecasas & Soderstrom 27146; Solano, Putumayo, Little & Little 9742) and should perhaps also be compared (ex char.) with M. sprucei Triana.

MICONIA IBAGUENSIS (Bonpl.) Triana

Clidemia virgata Pittier, Bol. Soc. Ven. Cienc. Nat. 11: 24. 1947.

Strangely enough, both sheets (US, VEN) examined of Pittier 13020 had been correctly determined by Pittier in Miconia, the description in Clidemia thus an apparent lapsus; the Caracas specimen shows young lateral growth overtopping the morphologically truly terminal inflorescence. As is to be noted in detail elsewhere, the Bonpland holotype of M. ibaguensis was actually collected in Edo. Sucre, Venezuela, rather than Colombia.

MICONIA MACDANIELII Wurdack, sp. nov.

Ut videtur M. decipienti Cogn. in pubescentiae forma affinis, foliis non plinervatis manifestius petiolatis differt.

Ramuli primum sulcato-quadrangulati demum teretes sicut petioli foliorum subtus venae primariae inflorescentia hypanthiaque dense stellato-puberuli pilis sessilibus ca. 0.25 mm

diam. Petioli 4-5.5 cm longi robusti; lamina 25-30 X 10-14 cm, rigide membranacea et integra, stellato-ciliata, oblongo-elliptica apice breviter (1-1.5 cm) gradatim angusteque acuminato basi late acuta, supra glabra (in nervis primariis caduce stellato-puberula), subtus densiuscule persistenterque stellato-puberula pilis ca. 0.8 mm diam., 5-nervata nervis secundariis ca. 5-7 mm inter se distantibus nervis tertiariis subtus paulo elevatis nervulis planis areolis ca. 0.6-0.8 mm latis. Panicula multiflora 17-25 X 20 cm, ramis primariis oppositis ramulis sparse glanduloso-setulosis (setulis glanduliferis 0.5-0.8 mm longis, demum caducis?), bracteis ovato-ellipticis 8-12 mm longis valde caducis, bracteolis ca. 4-5 X 1 mm valde caducis; flores 5-meri ad ramulorum apices plerumque terni, pedicellis crassis 0.5-1 mm longis. Hypanthium (ad torum) ca. 3.7 mm longum; calycis tubus 0.3-0.4 mm altus, lobis interioribus 0.4-0.5 mm longis triangularibus, dentibus exterioribus adnatis non eminentibus. Petala 2-2.2 X 1.4-1.8 mm obovata (apice rotundato) glabra vel apicem versus ad margines obscure stellulato-ciliolata. Stamina in forma isomorphica in dimensionibus paulo dimorphica glabra; filamenta 5-5.5 vel 3.2-3.5 mm longa; antherarum thecae 4 vel 3.3-3.6 X 0.4 mm paulo subulatae et curvatae, poro unico minuto; connectivum non prolongatum ventraliter per 0.5-0.6 mm thecae basibus coalitum. Stigma paulo expansum 0.6 mm diam.; stylus glaber 10 X 0.4 mm in ovarii apicem 0.3-0.4 mm immersus; ovarium 3-loculare, $\frac{1}{2}$ inferum, apice setulis sparsis glanduliferis 0.1-0.3 mm longis armato.

Type Collection: Sidney McDaniel 10833 (holotype US 2562681), collected in non-inundated river bank forest at Intuto, Río Tigre, Depto. Loreto, Peru, elev. 160 m, 9 Aug. 1968. "Shrub to 5 m; corolla white."

Paratype (topotypical): McDaniel 10780 (fruiting), 4 Aug. 1968.

Miconia decipiens, endemic to Colombia (Antioquia), has 5-plinerved leaf blades with short (ca. 1 cm long) petioles, as well as glabrous ovary apices. The general vegetative aspect and stamens of M. macdanielii are rather like those in M. stelligera Cogn. sens. lat., which has rather smaller leaf blades with sparser lower surface pubescence, a somewhat different inflorescence pattern, petals moderately stellulate-puberulous outside, and moderately stellulate-puberulous ovary apices; also there is a different size distribution of vegetative pubescence, even considering the variants earlier discussed by me (Phytologia 9: 417. 1964). Vegetatively, especially in leaf venulation (but not in reproductive features), M. dispar Benth. (with however denser foliar pubescence) resembles M. macdanielii. In the Flora of Peru, M. macdanielii would perhaps key to near M. zubenetana Macbride, which really is not closely related, having leaf blades essentially glabrous except for the very fine stellulate hairs on the primary veins beneath, smaller flowers, and basally prolonged anther connectives. The taxonomic importance of the glandular inflorescence hairs is perhaps minimal, such hairs being almost completely absent in

the fruiting paratype.

MICONIA SHATTUCKII Standley

Long considered endemic to Barro Colorado Island, Panama (a recent topotype being Ebinger 198), M. shattuckii is now recorded for Colombia (Haught 4927, from Turbo, Antioquia, elev. 200 m). The recent collections have provided floral details: hypanthium 2-2.3 mm long, sparsely puberulous with pinoid hairs 0.1-0.2 mm long; calyx tube 0.5 mm long, the broadly ovate interior lobes 0.2 mm high, the minute external teeth infra-marginal; torus within sparsely glandular-puberulous; petals 4.2-4.3 X 2.3 mm, obovate-oblong with rounded apex, glabrous; stamens isomorphic, glabrous; filaments 3 mm long; thecae 1.9-2 X 0.6 X 0.5 mm, oblong, with a minute dorsally tipped pore; connective neither prolonged nor appendaged; stigma truncate, not expanded; style 5.3 X 0.4 mm, sparsely glandular-puberulous (the hairs ca. 0.2 mm long) at the base; ovary 5-celled, 3/4 inferior, with a sparsely glandular-puberulous apex. The flexuous cauline hairs are sparsely barbellate and very minutely and caducously gland-tipped. Obviously M. shattuckii should be placed in Sect. Amblyarrhena and in Cogniaux' Monograph would key to ca. species 361-363, differing from all these in vegetative and floral details.

MICONIA OBSCURA (Bonpl.) DC.

Miconia trichrona Macbride, Field Mus. Publ. Bot. 4: 183. 1929.

The type (Bonpland ex herb. Adrien Jussieu, P) and isotype (P) of M. obscura, not annotated by Naudin, Triana, or Cogniaux, have been compared with an isotype (US) of M. trichrona. Weberbauer 6309 (Cajamarca, Peru) and Maguire & Maguire 44362 (Zamora, Ecuador) match the isotype of M. obscura. The species is very closely related to M. capitellata Cogn., which has sparsely barbellate (rather than essentially smooth) cauline pubescence, obtusely based plinerved (rather than rounded and basally nerved) leaf blades with somewhat finer pubescence on the upper surfaces, and larger flowers (anthers 2.1-2.3 mm long, dry, rather than 1.2-1.5[-1.7] mm; petals 2-2.1 mm wide rather than 1.5-1.8 mm; stigma 1 mm diam., rather than 0.5-0.7 mm). A good match for the type of M. capitellata (P) is Jameson s. n. (US). In both species, the style is loose-strigulose, the filaments glabrous or very sparsely glandular-puberulous on the adaxial side, and the ovary apex moderately setulose. The hierarchal resolutions of other parts of this complex, including M. aggregata Gleason and M. hamata Cogn., are still pending. The species problem had been discussed in Mem. N. Y. Bot. Gard. 16(1): 20-21. 1967.

CLIDEMIA CAPITELLATA (Bonpl.) D. Don

Clidemia neglecta D. Don, Mem. Wern. Soc. 4: 307. 1823.

Clidemia capitellata (Bonpl.) D. Don var. neglecta (Don) L. Wms., Fieldiana Bot. 29: 556. 1963.

After considerable meandering through the large specimen welter in this complex, supplemented by examination of Bonpland's (P) and Don's (MA, OXF) type collections, I cannot see any real differences in the two taxa. As mentioned by Williams, C. neglecta is intermediate between C. capitellata and C. dependens Don, but his key characters of inflorescence branching and underleaf pubescence do not obtain for the type collections. For C. capitellata in the Flora de Venezuela, only the typical variety, var. dependens (Don) Macbride, and var. levelii Wurdack will be recognized. Among modern collections, the best matches (all US) for the types are: C. capitellata var. capitellata, Uribe 3727, from Guaduas (old trail to Honda, the type locality) Cundinamarca, Colombia; C. neglecta, Buchtien 1149, Mapiri region, Bolivia; C. dependens, Tonduz 4561, Boruca, Costa Rica and Prance, Rodrigues, Ramos, & Farias 8857, Mutumparaná, Rondonia, Brazil. Some collections from over a wide geographic range have smaller flowers in very well branched inflorescences and perhaps will require further infraspecific recognition. For the present, Naudin's comments (Ann. Sci. Nat. ser. 3 Bot. 17: 317. 1852) are echoable: "quod tamen posteris solvendum relinquimus."

The location of the Pavón holotypes of the melastomes described by David Don remains problematic. At both the British Museum (Natural History) and Oxford (Fielding Herbarium) are specimens annotated with Don's binomials and "D. Don in Wern. Trans."; the minute handwriting is not that of David Don and has not been immediately identifiable (personal correspondence) by Mrs. Hortense Miller from her research on the Lambert Herbarium (Taxon 19: 489-553. 1970). Thus the current references to Don's type collections are to presumed isotypes. Don's personal herbarium went to the Linnean Society in London but subsequently was purchased by von Martius (Lot 254, Catal. Nat. Hist. Colls. sold by the Linnean Society through J. C. Stevens) on Nov. 10, 1863. However, none of the critical melastome specimens were found at either Brussels or Munich during my European trip in 1969-70, so perhaps Don did not incorporate such materials into his personal collection from his tenure as curator of the Lambert Herbarium. On one of the two Fielding Herbarium isotypes of Clidemia neglecta was penciled (by Mrs. Clokie?) "Herb. Prescott"; Mrs. Miller is inclined to believe (because of the date of Prescott's death) that this sheet probably did not come originally from Don or Lambert. Investigation into the melastome facet of the Lambert-Don history is being continued by Mrs. Miller.

CLIDEMIA STRIGILLOSA (Sw.) DC.

Clidemia umbonata DC., Prodr. 3: 158. 1828.

From the pubescence, well-developed interior calyx lobes and external teeth, non-prolonged anther connectives, and glandular-setulose ovary apices, the Martius type (M) of C. umbonata seems to represent a form of C. strigillosa with lax fruiting inflorescences. The type collection is from Nogueira,

the Macbride photograph (6439) being of another gathering. Some of the central Brazilian material cited by Cogniaux as C. umbonata really represents a dodecandrous relative of C. bullosa DC. (sensu Wurdack); a phytogeographic aberrancy of this undescribed taxon has also been collected in Venezuela (El Paito, Carabobo, B. Trujillo 4835-Herb. Maracay). Because of complications with C. biserrata DC. (the current Brazilian specimens, including collections cited by Cogniaux, showing stamen numbers of 10-15 and ovary apices sparsely glandular-setulose as well as stellulate-puberulous) and C. bullosa (pleiostemonous, with ovary apices lacking glandular setulae), this taxon (including Braga 1048 from Paraná, Pohl 1172 from Minas Gerais, and Macedo 1449 from Goiás in Brazil; Rojas 3649 and Krapovickas, Cristobal, & Ahumada 14257 from Paraguay; Trujillo 4835, vide supra) has not been further evaluated.

CLIDEMIA URCEOLATA DC.

As already indicated, C. neglecta D. Don is part of the C. capitellata complex. However, the species treated by Cogniaux as C. "neglecta" is distinct and well typified by the Martius collection (M) of C. urceolata from Rio de Janeiro, Brazil. The Raddi collections (FI) cited (Mem. Mod. 20: 161. 1829) as Leandra strigillosa (Sw.) Raddi are actually C. urceolata, rather than (as cited by Cogniaux in synonymy) C. umbonata DC. In typical form, the species is known from Honduras (Molina 328, 10096, 14133; Williams & Molina 23255; Meyer 9920), British Honduras (Bartlett 11300; Lundell 6870; Hunt 210), Panama (Ebinger 424), Cuba, Venezuela (Carabobo, Nueva Esparta, Bolívar), Trinidad, Colombia, and most of southeastern Brazil. Upland Guayana Highland (Venezuela) and Santander (Colombia) collections are aberrant (and probably infraspecifically distinct), having upper leaf surfaces moderately stellulate-puberulous and very sparsely glandular-setulose, lower leaf surfaces and hypanthia very densely stellate-puberulous, and ovary apices very inconspicuously glandular-setulose. The species is distinguishable from the forms of C. capitellata with much-branched inflorescences by the inconspicuous subulate to narrowly oblong inflorescence bracteoles and denser glandular pubescence.

CLIDEMIA PUSTULATA DC.

For the Flora de Venezuela, Cogniaux' interpretation of C. pustulata is being followed, although I have seen no recent Brazilian (or other) collections exactly comparable to the holotype (M); Martius' specimen shows hypanthia very densely glandular-setulose (ca. 1 mm), external calyx teeth projecting ca. 1 mm, corolla sparsely glandular-setulose (0.2-0.3 mm) externally, stamens (perhaps malformed in the one flower examined) with connective barely (0.2-0.3 mm) prolonged, and 5-celled ovary 2/3 inferior and moderately glandular-setulose (0.5-0.6 mm) apically. The Cogniaux concept encompasses material from Costa Rica (Skutch 4094; Pittier 10561, 12001),

Panama (Burch, Oliver, & Robertson 1330; Allen 2509), Colombia (Uribe 4961), Venezuela (Bolívar), Trinidad, Tobago, Guyana, and Brazil (Roraima). Probably C. pustulata sensu Cogniaux is only varietally distinct from C. urceolata, differing in the short even cauline and foliar pubescence and slightly smaller flowers with short external calyx teeth; decisive naming of specimens between the two taxa is often difficult. Both C. urceolata and C. pustulata have a yellow pigment (from the glandular hair tips?) often staining newsprint and herbarium sheets, a feature not seen in related species.

CLIDEMIA NOVEMNERVIA (DC.) Triana var. AFFINIS (Naud.) Wurdack, comb. nov.

Staphidium affine Naud., Ann. Sci. Nat. ser. 3 Bot. 17: 313. 1852.

Clidemia affinis (DC.) Cogn., Mart. Fl. Bras. 14(4): 493, pl. 104, fig. 1. 1888.

Gleason (Brittonia 1: 167. 1932) treated both C. novemnervia and C. affinis as synonyms of C. umbonata (vide supra sub C. strigillosa); however both taxa are characterized by the stamen connectives prolonged 0.7-1.2 mm (but not appendaged) and the ovary apices stellulate-puberulous but without prominent glandular setulae, thus differing from both C. strigillosa (Sw.) DC. and C. urceolata DC.-C. pustulata DC. The holotype of C. novemnervia (P) was collected by Ferreira in Brazil and is well matched by Schultes & Cabrera 12714 (Soratama, Río Apaporis, Amazonas-Vaupés, Colombia). The typical variety is characterized by the essentially sessile flowers with the hypanthium ca. 3 mm long, the interior calyx lobes 1.2-2 mm long and the external teeth projecting 1.3-2 mm, the ovary apex with an abrupt densely stellulate-puberulous collar 0.4-0.5 mm long; var. affinis has the flowers usually on evident slender pedicels, the hypanthium ca. 2.5 mm long, the interior calyx lobes 0.4-0.7 mm long and the external teeth projecting 0.3-0.8 mm, the conic ovary apex with a scarcely differentiated sparsely stellulate-puberulous collar 0.3 mm high. Some intermediates exist between the varieties, which however are generally well-marked. Cogniaux' C. affinis var. angustifolia does not merit recognition. The typical variety of C. novemnervia has a disjunct range: British Honduras, Colombia (Santander, Vaupés, Amazonas), Venezuela (Amazonas, Bolívar), Brazil (Roraima, Amazonas, Rondônia). The Central American population (C. reticulata Gleason, Brittonia 3: 110. 1939) (also including Nicaragua fide Williams, the Standley collection not seen by me) was treated in the Flora of Guatemala (see also Fieldiana Bot. 29: 560. 1963) as a synonym of C. strigillosa; the latter is known to me from much of Central America (Guatemala, British Honduras, Honduras, Nicaragua, Panama).

CLIDEMIA EPIBATERIUM DC.

The original description cited obtuse petals and auricled

anther bases; examination of the holotype (M) and the Geneva fragments (G-DC, with separate open flower) shows, however: petals oblong-lanceate, rounded at the apex, 2.5 X 0.6 mm, externally sparsely setulose on the carina, with an external infra-apical setulose mucro 0.7-1 mm long; anther connectives not appendaged, not or barely (0.1 mm) prolonged. Recent Venezuelan (Steyermark 75362, Bernardi 2662, Steyermark 90258, all Edo. Bolívar), Colombian (McDaniel 11420, Depto. Amazonas) and Peruvian (Killip & Smith 29885, Loreto) collections agree with the Martius collection from "Porto dos Miranhas, Rio Negro in regione Japurensi." Cogniaux thought that C. epibaterium DC. var. parvifolia Cogn. might prove to be a distinct species rather than a foliar variant; however an isotype (Spruce 2239, NY) shows flowers exactly like those of Steyermark 75362. Placement of this species in Clidemia is perhaps problematic and Ossaea duckeana Hoehne is probably synonymous; similar petals also are found in Ossaea boliviensis (Cogn.) Gleason, as well as Leandra aristigera (Naud.) Cogn. Certainly Maguire 23228, distributed as O. duckeana, is conspecific with C. epibaterium, the US sheet of this Kaieteur Plateau collection however having larger leaves and inflorescences than usual.

CLIDEMIA GLOBULIFLORA (Cogn.) L. Wms.

C. reflexa Gleason, Brittonia 3: 119. 1939.

CLIDEMIA SPECTABILIS Gleason

Maieta setosissima Suessenguth, Bot. Jahrb. 72(2): 277. 1942.

As previously alluded (Phytologia 19: 194. 1969), the correct synonymy for the two Costa Rican species of Clidemia requires adjustment. I have since seen the holotypes of both Cogniaux' and Suessenguth's species (Pittier 207-BR and Kupper 772-M, respectively) and have confirmed that the reshuffling above cited is correct and not that suggested earlier (Fieldiana Bot. 29: 556. 1963). Also examined for C. globuliflora were two specimens of Pittier 3 (G-BOISS), which have the same locality and collection date as Pittier 207 and are probably the same gathering (see DC. Mon. Phan. 7: 1192. 1891; Macbride photograph 36847).

CLIDEMIA JAPURENSIS DC. var. HETEROBASIS (DC.) Wurdack, comb. nov.

Clidemia heterobasis DC., Prodr. 3: 164. 1828.

Oxymeris heterobasis (DC.) Triana, Trans. Linn. Soc. Bot. 28: 95. 1871.

Leandra heterobasis (DC.) Cogn., Mart. Fl. Bras. 14(4): 193. 1886.

Clidemia naevula (Naud.) Triana p. p.

The original material seen by de Candolle was a mixture (as was his description), Cogniaux later recognizing Leandra solenifera Cogn. for the element with 6-merous secund flowers; the leaf in the Prodromus herbarium is of L. solenifera. The

residual element (Martius s. n., M- Macbride photograph 6416; a separate leaf apparently from this collection is on the holotype sheet of Clidemia inaequalifolia DC, a distinct species now placed in Leandra) in Clidemia heterobasis is actually the same as C. naevula (Naud.) Triana sensu Cogniaux and Gleason (Brittonia 1: 165. 1932), having a dense cauline pubescence of only gland-tipped hairs less than 1 mm long. One syntype (Ferreira s. n., P, Macbride photograph 36347, cited by Naudin as collected by Bonpland) conforms to the Cogniaux-Gleason criteria for C. naevula; however, another syntype, Schomburgk 41/72 (P), showing a Naudin dissection sketch, has the longer eglandular hairs characteristic of typical C. japurensis. I doubt that typical C. japurensis was collected on the Rio Japurá, the Martius specimen (despite the holotype label) probably being from the lowermost Amazon. The typical variety is known by many collections only from eastern Venezuela and Brazil (Pará), var. heterobasis from Amazonian Colombia and Peru to British Guiana (also in Nicaragua and Costa Rica). A note on these complexities was published earlier in Mem. N. Y. Bot. Gard. 10(5): 182. 1964.

CLIDEMIA HETERONERVIS (Naudin) Wurdack, comb. nov.

Sagraea heteronervis Naudin, Ann. Sci. Nat. ser. 3 Bot. 18: 98. 1852.

Ossaea heteronervis (Naudin) Triana, Trans. Linn. Soc. Bot. 28: 146. 1871.

Examination of the holotype (Gay s. n., P; Macbride photograph 36318) has shown lance-oblong petals with a rounded apex and a single infra-apical setula 0.5 mm long. In both vegetative and reproductive features, the relations are with C. bernardii Wurdack and its allies (Phytologia 19: 196-197. 1969). Of these relatives, the closest seems to be C. piperifolia Gleason, the Peruvian species differing in the bulla setulae of the upper leaf surfaces 0.8-1 mm long (rather than 0.2 mm), the cauline and petiolar hairs ca. 1.8 mm long (rather than 0.6-1 mm), and the ovary apex glabrous (rather than moderately fine-setulose). As in Leandra aristigera (Naud.) Cogn., Gay's specimen surely did not come from "environs de Lima", but probably Depto. Cuzco.

HENRIETTELLA SEEMANNII Naudin

H. hispidula Cogn., Bot. Jahrb. 8: 30. 1887.

Examination of the holotype (P) and isosyntypes (US) of both species revealed no differences, the slight leaf shape gap easily bridged in recent Central American collections. The typical element of the species ranges from Costa Rica and Panama to Colombia (Antioquia, El Valle, Cauca), collections from elsewhere in Colombia and Ecuador being at least subspecifically distinct. Henriettella goudotiana Naud. is closely related to H. seemannii but differs in the more obvious stellate bases of the foliar hairs, shorter (averaging 0.4-0.6 mm rather than ca. 1.3 mm) simple tips of the stellate-based hypanthial

hairs, and shorter (ca. 2 mm long dry, rather than ca. 2.5 mm) anthers with broader (equalling the anther width) pores; the petals of both species are puberulent externally. Recent collections of H. goudotiana comparable with the holotype (P) and isotype (FI) are Garcia-Barriga 11704 (Cundinamarca) and Little 7313 (Huila).

HENRIETTELLA OVATA Cogn.

H. longistyla Ule, Notizbl. Bot. Gart. Berlin 6: 366. 1915.

H. micrantha Gleason, Bull. Torrey Club 58: 414. 1931.

None of Ule's criteria for distinction are applicable, as may be seen in the ample series from both north and south of the Amazon (the latter chiefly collected by Irwin and his colleagues). Gleason had already published the synonymization of H. micrantha (Mem. N. Y. Bot. Gard. 8: 143. 1953). The species ranges from eastern Colombia (Meta, Vichada) and Venezuela (Bolívar, Amazonas) to Brazil (Roraima, Pará, Maranhão, Goias, and Mato Grosso). It is closely related to H. patrisiana (DC.) Naud. (which has calyx lobes strigulose within, shorter hypanthial pubescence, and rostrate anthers) and H. seemannii Naud. (with 3-nerved rather than 5-nerved leaf blades, generally less appressed cauline pubescence, and rather persistent foliar hairs).

OSSAEA MAVACANA Wurdack, sp. nov.

In systemate Cogniauxii O. angustifoliae (DC.) Triana affinis, foliis 5-plinervatis ramorum inflorescentiarum pilis caduce glanduliferis ovario 6-loculari differt.

Ramuli teretes sicut petioli foliorum venae primariae supra et subtus densiuscule setulosi (pilis gracilibus laevibus ca. 1-1.5 mm longis caduce glanduliferis) et modice glanduloso-puberuli pilis 0.1-0.4 mm longis. Petioli 1-1.6 cm longi; lamina 6-10(-16) X 3-5(-7.5) cm elliptica apice subgradatim (per 1-1.5 cm) acuminato basi acuta, membranacea et integra vel obscure undulato-serrulata, ciliata, supra sparsiuscule setulosa pilis ca. 1 mm longis, subtus modice setulosa pilis ca. 1 mm longis pro parte caduce glanduliferis, breviter (0.5-1.2 cm) 5-plinervata nervis secundariis ca. 4-5 mm inter se distantibus nervulis subtus planis areolis 0.3-0.4 mm latis. Flores in foliorum superiorum axillis plerumque bini sessiles 6-meri bracteis 4 persistentibus anguste ovatis glanduloso-setulosis (pari exteriore 6 X 3 mm, pari interiore 5 X 2.5 mm) involucrati. Hypanthium (ad torum) 4 mm longum dense subsericeo-strigosum pilis 2-2.5 mm longis gracilibus caduce glanduliferis; calycis limbus 0.8 mm altus non vel vix undulatus graciliter ciliolatus, dentibus exterioribus subulatis 2.7-3 mm eminentibus dense setulosis. Petala 3 X 1.2 mm glabra oblongo-lanceata anguste acuta extus dente subapicali 0.3 mm eminenti armata. Stamina isomorphica glabra; filamenta 2 mm longa; antherarum thecae 2 X 0.6 X 0.3 mm ventraliter 0.4 mm infra filamenti insertionem prolongatae, connectivo simplici. Stigma truncatum non

expansum; stylus glaber 6.3 X 0.3-0.4 mm; ovarium 6-loculare omnino inferum apice glabro styli rostro ca. 0.4 mm alto.

Type Collection: J. Lizot 166 (US 2576226A; isotype VEN), collected at the Río Mavaca, Terr. Amazonas, Venezuela, December 1969.

Ossaea angustifolia, endemic to southeastern Brazil, has eglandular pubescence, narrower 3-plinerved leaf blades, interior calyx lobes 0.3 mm long, and 4-celled ovaries. Certainly O. mavacana is an anomalous species, disparate within a heterogenous "genus" and with no obvious close relative. The glandular tips on the trichomes are tiny and inconspicuous, much smaller than those in Clidemia involucrata DC. (which somewhat resembles O. mavacana in vegetative aspect, but not in floral structure).

OSSAEA QUINQUENERVIA (Mill.) Cogn.

Melastoma quinquenervia Mill., Gard. Dict. ed. 8, sp. 15. 1768.

Melastoma diversifolia Bonpl., Melast. 138, pl. 59. 1816.

Clidemia? diversifolia (Bonpl.) DC., Prodr. 3: 159. 1828.

Staphidium diversifolium (Bonpl.) Naud., Ann. Sci. Nat. ser. 3 Bot. 17: 322. 1852.

Clidemia? decurrens Beurl., Act. Holm 127. 1854.

Octopleura quinquenervia (Bonpl.) Triana, Trans. Linn. Soc. Bot. 28: 145. 1871.

Octopleura diversifolia (Bonpl.) Triana, Trans. Linn. Soc. Bot. 28: 145. 1871.

The holotype of Melastoma quinquenervia (BM; Bailey Hortorium photograph 5192) is quite compatible with more recent collections of O. diversifolia, a good match (except for the somewhat larger leaves) being H. H. Smith 4 (Santa Marta, Colombia). The Miller type shows upper leaf surface hairs rather sparse and ca. 1.5 mm long, hypanthia furfuraceous but not setulose, and calyx lobes with a few setulae. The commonly applied binomial for this species, O. diversifolia, is thus a synonym. From some herbarium notes of E. P. Killip, it seems perhaps doubtful that Clidemia cyanocarpa Benth. should be included in the synonymy of O. quinquenervia and that comparison is needed with C. purpurea D. Don (and probably C. haughtii Wurdack); however, the Barclay type has not been examined by me.

BLAKEA QUADRANGULARIS Triana

B. sphaerica Gleason, Phytologia 3: 358. 1950.

The holotype (Triana 4110, BM) from Antioquia represents a young sharply quadrate branchlet with intact peduncle; the separate young fruit in the packet show the large bracts (outer 22 X 22 mm; inner 23 X 10 mm) and nearly truncate (the sepalar apiculums to 2 mm long) calyx limb. Most recent material does not show elongated internodes, the very young branchlets being quadrate but becoming indistinctly quadrangular with age. Evidently Lehmann 7223 (Macbride photograph 17297), distributed under an unpublished Cogniaux name, is also B. quadrangularis;

also there are several additional recent collections from Antioquia.

Blakea quadrangularis was one of Triana's "lost" species, known to Cogniaux and Gleason only from the original description. Triana's personal herbarium of 8,000 specimens was sold by his widow to the British Museum (Natural History), the purchase for 240 pounds being authorized on Feb. 26, 1891; thus Cogniaux apparently never saw this collection. Through the courtesy of Mr. Marshall and Mr. Cannon, a xerox copy of the melastomes entered in Triana's herbarium book was obtained. Triana evidently did not give field numbers to his specimens, but later arranged them in Endlicher-genus order and then assigned collection numbers; thus the Melastomataceae are in Endlicher genera 6169-6261, the specimens numbered 3847-4114 (with 4099-4114 a postscript miscellany). Triana's notes also include the species name, locality and elevation of collection, and number of duplicates. Unfortunately the Endlicher numbers alone are often cited as Triana's collection numbers. Triana also numbered his collections within each genus, starting with 1; thus the collection number of Topobea subscaberula could be cited as 4084 or 6261.5; Cuatrecasas has done such citation from the Bogotá set of Triana specimens. For the Melastomataceae, the London specimens of Triana's collections have been regarded by me as the holotypes for those species described by Triana from his own gatherings (but not necessarily for Triana species based on material of other collectors); many specimens not found in other herbaria (COL, K, P, W) are in this set.

TOPOBEA MORTONIANA Wurdack, sp. nov.

De affinitate intima mihi incognita, sed ob folia crassa cordata subsessilia flores multifasciculatos bene distincta.

Ramuli teretes primum setis robustis incurvis 1-2.5 mm longis armati mox glabrati; nodi dense setosi, pilis robustis 3-5 mm longis et basim versus 0.2-0.5 mm diam. Folia isomorphica subsessilia, petiolis 0.5-1 cm longis robustis; lamina 11-20 X 7-13 cm ovata vel oblongo-ovata apice late acuto vel obtuso interdum breviter (0.3-0.4 cm) mucronulato-acuminato basi 1-2 cm cordata, rigida et integra, glabra, 5-nervata (pari exteriore inframarginali neglecto) nervis secundariis laxis ca. 5 mm inter se distantibus. Flores 6-meri plerumque in nodis infra folia multifasciculati (16-)24-30(-60) in quoque nodo, pedicellis ad anthesim 1.5-2.5 cm longis gracilibus sparse caduceque pinoideo-furfuraceis; bracteae usque ad basim liberae suborbiculares calyci breviores, exteriores 3.2 X 5 mm basim versus extus sparse caduceque appresso-setulosae, interiores 4.3-4.5 X 4.6-4.8 mm apicem versus sparsissime caduceque pinoideo-furfuraceae. Hypanthium (ad torum) 4 mm longum, extus sparse caduceque stellulato-furfuraceum; calyx in alabastris truncatus extus inconspicue 6-dentatus, ad anthesim in lobis 3.2 X 2.7 mm ovato-oblongis usque ad ca. 1 mm supra torum dehiscens. Petala glabra 9 X 5.6-6.3 mm oblongo-obovata apice rotundato. Stamina isomorphica glabra; filamenta 6 mm longa;

antherae inter se cohaerentes 3.8-4.1 mm longae apicem versus graciliter subulatae ad basim ca. 1.3 mm latae, poris duobus dorsaliter inclinatis, connectivo ad basim dente 0.3 mm longo armato. Stigma non expansum; stylus 7 X 0.2 mm glaber; ovarium 4-loculare 1/3 inferum, apice conico 2.8 mm alto glabro truncato sine collo.

Type Collection: Bassett Maguire & Celia K. Maguire 61846 (holotype NY, 2 sheets; isotype US), collected in wet cloud forest 7 km north of Altaquer along road to Barbacoas, Depto. Nariño, Colombia, elev. 1250 m, 17 Oct. 1969. "Scandent shrub to 10 m, cauliflorous; petals 6, white."

Of the described species of Topobea, T. brenesii Standl., T. cordata Gleason, and T. elliptica Gleason (all from Central America) have sessile leaves, but differ otherwise widely. Certainly T. mortoniana is not closely related to T. sessilifolia Triana, the holotype (BM) of which has sharply quadrangular branches, lance-oblong leaves 4-6 cm wide with secondary nerves only 1 mm apart, and solitary (fide Triana) flowers on peduncles 4-6 cm long with capitellate stigmas. Topobea setosa Triana has leaf blades of about the same shape as those of T. mortoniana, with secondary veins wide-spaced, but shows well-developed petioles, leaf blades discolorous-puberulous beneath, and much larger solitary or few-fasciculate flowers with stout-setose bracts and calyx lobes. C. V. Morton for a decade has amiably monitored and adjusted my descriptions, nomenclature, and bibliographic problems in neotropical research; two generations of tropical students have benefited from his own extensive publications and anonymous courtesy. Thus it is appropriate that a current botanist follow Standley's 1938 example (Clidemia mortoniana) in the Melastomataceae.