NINE SOUTH AMERICAN MELASTOMES

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Unless otherwise stated, the type specimens are in the herbarium of the New York Botanical Garden.

GRAFFENRIEDA COLOMBIANA sp. nov. Arbor 8 m. alta, ramulis supremis profunde bisulcatis glabris; folia paulo inaequalia; petioli 35-70 mm. longi graciles subteretes minutissime furfuracei; laminae late rotundato-ovatae membranaceae 15-20 cm. longae 13-17.5 cm. latae superne late obtusae ad basin late cuneatam rotundatae supra virides glabrae subtus fuscescentes prope basin ad venas furfuraceae ceterum glabrae, 5-pli-nerviae, venis 2 marginalibus neglectis, nervi primarii usque ad apicem arcuatim producti, venae secundariae inter costam et venas primarias 2 et 3 sub angulo circa 60° orientes et infra medium folii distaliter recurvae, 6-8 mm. inter se distantes, inter venas 2 et 3 et venas exteriores subdirecti; venulae tertiariae obsoletae; panicula terminalis 15 cm. longa, pedunculo 6 cm. longo fere glabro sustenta, ramis paucis distantibus 2-5 cm. longis; flores 4-meri in capitulis plurifloris lateralibus terminalibusque subsessilibus dispositi; pedicelli 1-1.5 mm. longi; hypanthium campanulatum 2.3 mm. longum obscure nervatum tenuissime et sparsissime furfuraceum; calyx in alabastro acutus 1.4 mm. longus, ad anthesin fere ad torum in lobos 3 vel 4 irregulares ruptus; petala oblonga 4.7 mm. longa 1.6 mm. lata breviter acuminata; stamina isomorpha; filamenta subulata 2.2 mm. longa glabra; antherae arcuatae aurantiacae subulatae 3.6 mm. longae; connectivum infra thecas 0.2 mm. longum, in calcar erectum subulatum 0.8 mm. longum productum; ovarium liberum ellipsoideum 5-costatum glabrum 3-loculare; stylus gracilis 7 mm. longus, stigmate punctiformi.

Type, Klug 1866, in forest at Umbria, Comisaria del Putomayo, Colombia, alt. 325 m. Twenty-six species of Graffenrieda have been described, of which seventeen are included in Cogniaux' monograph. It is quite probable that detailed study of the genus as a whole will indicate that his classification of the species is artificial. Our species would be associated with numbers 11 to 15 of the monograph, with which it has apparently no real relation. It is rather to be compared with G. emarginata (R. & P.) Triana, which has much thicker leaves, cordate at base and conspicuously veiny, much stouter petals and rounded calyx-lobes, and which is much more pubescent in all its parts.

MICONIA PACHYDONTA sp. nov. § Jucunda: arbuscula; foliis obovato-oblongis mediocris breviter petiolatis apiculatis

basi angustatis alternatim 5-pli-nerviis supra glabris subtus arctissime cinereo-tomentosis; panicula tomentosa, floribus 5-meris sessilibus in glomerulis bracteatis aggregatis; hypanthio tomentoso tubuloso; sepalis mox deciduis truncato-triangularibus, dentibus exterioribus magnis pyramidatis patulis; petalis spathulatis; staminibus fere isomorphis, antheris subulatis basi bilobis; ovario 4-loculare, stylo elongato basi glanduloso-puberulo.

Small tree 5 m. high, the younger stems nearly terete, very finely fulvous-tomentose, soon glabrescent, the internodes 2-5 cm. long; petioles 5-10 mm. long, channeled above, thinly tomentulose or furfuraceous; leaf-blades thin, obovate-oblong, 12-20 cm. long, 5-8 cm. wide, abruptly apiculate, entire, narrowed or subcuneate at base, alternately 5-pli-nerved, with an additional pair of marginal veins, dull green and glabrous above, very finely cinereous-tomentulose beneath; uppermost primaries arising 3-4 cm. above the base, nearly plane above; secondaries 3-8 mm. apart, in the basal part of the leaf spreading horizontally, above at an angle of about 70°, obscure above, elevated beneath; tertiaries obsolete above, reticulate beneath; panicle erect, 1 dm. long, its axes strongly angled and compressed, thinly cinereous; flowers 5-merous, sessile, the lower solitary at the nodes or in 2-3-flowered glomerules, the upper crowded in 3-5-flowered glomerules; bracts closely appressed, suborbicular, about 7 mm. long, thinly stellate; hypanthium nearly tubular, thick-walled, 7 mm. long to the torus, densely and closely cinereous-tomentose; calyx-tube not prolonged; sepals connivent or connate in bud, at anthesis splitting to the torus and soon deciduous, truncate-triangular, 2.4 mm. long with a minute terminal apiculum 0.4 mm. long, thinly pubescent within, tomentose on the back like the hypanthium; exterior teeth subapical, stoutly pyramidal, spreading at nearly right angles, the acute upper (inner) edge 1.1 mm. long; petals oblong-spatulate, 6 mm. long, 3.2 mm. wide, subunguiculate, the basal portion and a triangular part of the blade thick and fleshy, nearly symmetrical, not retuse; stamens nearly isomorphic; filaments flattened, 7 or 5.7 mm. long, glabrous; anthers subulate, 8.5 or 7 mm. long, 2-celled, with strongly convolute thecae, the thecae and connective bilobed at base and prolonged 0.8 mm. below the summit of the filament; connective of the smaller anthers simple, of the larger anthers slightly elevated just above the filament and bearing a minute rounded protuberance; ovary about one-third inferior, 4-celled, with a short beak; style slightly curved, 17 mm. long, minutely glandular-puberulent in the lower fourth; stigma truncate or subcapitate.

Type, Klug 2143, in dense forest at Florída, at the mouth of Río Zubineta into Río Putomayo, Peru, alt. about 180 m.;

vernacular name (Huitoto Indian) name Jucaguino-ey. A second collection at the same place (Klug 2223) bears the native name Chaita-nargu-ey.

Miconia pachydonta obviously belongs with a group of § Jucunda recently discussed by me (Bull. Torrey Club 59: 361-364. 1932.) and characterized by unusually large exterior calyx-teeth, as well as by other features. The primary division of the group in the key depends on the leaf-base; our species falls in the first group and is at once contrasted with M. gratissima Benth., which has similar pyramidal exterior teeth, but differs in its much narrower leaves with primaries arising nearly from the base, smaller and more virgate panicle, more thinly tomentose hypanthium, erect and somewhat incurved exterior teeth, and spinulose-tipped ovary. Notwithstanding its leaves, M. pachydonta is more closely related to M. fissa Gl. and M. megaphylla Gl. In both of these the leaves are nearly or quite sessile and rounded to amplexicaul at base. In M. megaphylla the leaves are also 9-13-pli-nerved and the flowers 6-merous; in M. fissa the smaller anthers are glandular and the exterior teeth are carinate on the outer side.

In most of these species, including M. pachydonta, the anthers are bent back so far at anthesis that they lie horizontally across the flower with the connective down; that is, they turn during the opening of the flower through an angle of 270 degrees.

MICONIA COOKII sp. nov. § Amblyarrhena: arborescens; caulibus juvenilibus 4-angulatis et sulcatis; petiolis gracilibus elongatis; laminis ovato-lanceolatis membranaceis integris abrupte acuminatis basi cuneatis 3-pli-nerviis utrinque glabris; paniculis multifloris; floribus 5-meris; hypanthio subgloboso; sepalis triangularibus acutis dentibus exterioribus nullis; petalis rotundato-obovatis; staminibus isomorphis connectivo basi truncato ad lateres minute producto; ovario 5-loculare stylo elongato stigmate truncato.

A tree with glabrous stem and foliage; younger stems roundly 4-angled and shallowly sulcate; petioles slender, 2-3 cm. long; leaf-blades thin, bright green, narrowly ovate-lanceolate, or occasionally obovate-lanceolate, as much as 16 cm. long by 5.5 cm. wide, abruptly acuminate to a short cusp, entire, somewhat cuneate at base, 3-pli-nerved, the primaries lightly impressed above, elevated beneath, the secondaries 5-7 mm. apart, ascending at an angle of about 80°, obscure above, barely elevated beneath, the tertiaries obsolete above, plane and reticulate beneath; inflorescence a sessile, freely branched panicle 11 cm. long; flowers 5-merous, in terminal glomerules of 3, on pedicels 0.7 mm. long, the terminal and sometimes also the lateral short-pedunculate; hypanthium subglobose, 2.2 mm. long to the torus,

very sparsely and minutely arachnoid-puberulous and brown-punctate; calyx-tube erect, prolonged 0.2 mm. to acute sinuses; sepals triangular, acute, 0.9 mm. long, somewhat spreading and slightly pubescent at the tip, exterior teeth not differentiated; petals round-obovate, 2.2 mm. long, obscurely inequilateral and retuse; stamens isomorphic; filaments stout, glabrous, 2 mm. long; anthers stout, blunt, 2 mm. long, opening by a minute dorso-terminal pore, the connective forming a conspicuous dorsal ridge, truncate at base on the back but prolonged at the sides into lateral lobes 0.2 mm. long; ovary half-inferior, 5-celled, its summit depressed-conic, sharply 10-angled and minutely 10-toothed; style straight, glabrous, 5.6 mm. long; stigma capitellate, barely expanded.

Type, Cook & Gilbert 1742, collected at San Miguel, Urubamba Valley, Peru, alt. about 1800 m., and deposited in the United States National Herbarium, no. 604912. The species is related to M. elongata Cogn. of Bolivia and M. monzoniensis Cogn. of Peru. The latter differs from ours in its crowded panicles, much shorter petioles, broader leaves abruptly narrowed to a slender cusp, and 4-celled ovary; the former has much smaller flowers in all dimensions, peltate stigma, and long-acuminate leaves.

MICONIA MESMEANA sp. nov. § Amblyarrhena: M. difficili Triana habitu et structura arcte affinis differt pubescentia stellata furfuracea multo tenuiore, hypanthio subglabrato, calycis lobis erosis, dentibus exterioribus latissime triangulari-subulatis, antheris alternatim subinaequalibus connectivo basi 1- vel 2-calcarato, ovario 2-loculari, stigmate paulo dilatato.

A shrub 2-4 m. high, the younger branches minutely and sparsely stellate-furfuraceous and rather densely hirsute with spreading hairs 1 mm. long; petioles slender, 3-5 mm. long, hirsute above, glabrous beneath; leaf-blades firm, elliptic to oblanceolate, 5-7 cm. long, 1.5-2.5 cm. wide, abruptly acuminate to an obtuse tip, slightly revolute after drying, minutely ciliate with incurved subulate teeth, acute or broadly cuneate at base, 3-pli-nerved; primary veins lightly impressed above, prominent beneath and hirsute near the base with horizontally spreading hairs; secondaries spreading at nearly right angles, obscure above; tertiaries obscure and reticulate; both surfaces glabrous, the upper minutely rugulose; inflorescence rather densely paniculate, 6-8 cm. long, its branches pubescent like the stem; flowers 5-merous, subsessile; hypanthium subglobose, 2.3 mm. long to the torus, yellowish, apparently glabrous but very minutely stellate-furfuraceous toward the base; calyx-tube prolonged 0.3 mm.; sepals broadly triangular, 0.4 mm. long, obtuse or subacute, often slightly erose; exterior teeth broadly tri-

angular-subulate, appressed, about half as long as the sepals; petals (immature) suborbicular, shallowly retuse; filaments (immature) flat, much broadened below the middle; anthers ellipsoid, 4-celled; connective slightly elevated toward the base into a dorsal ridge and prolonged in alternate stamens into one or two short basal spurs; ovary half-inferior, 2-celled; stigma truncate, slightly expanded.

Type, Killip & Smith 20012, collected between Pamplona and Toledo, Norte de Santander, Colombia. The general similarity of the plant to the type specimen of M. difficilis is striking, but a closer comparison discloses the various differences enumerated in the diagnosis, which are considered to justify the recognition of the plant as a distinct species.

CLIDEMIA OSTRINA sp. nov. § Sagraea: fruticosa; folia ampla ovata 7-9-nervia supra glabra subtus purpurea ad venas venulasque minutissime furfuracea; cymae minimae pauciflorae; flores 4-meri subsessiles; hypanthium suburceolatum parvum; sepala minuta obtusa, dentibus exterioribus crassis patulis late triangularibus; petala ex basi lata oblonga; stamina isomorpha, filamentis sub apicem geniculatis, antheris anguste obovatis 4-locularibus, connectivo paulo elevato rubro-lineato vel glanduloso; ovarium toto inferum 2-loculare, stylo glabro, stigmate punctiformi.

Shrub 2.5 m. high, younger stems roundly 4-angled, prominently sulcate, thinly furfuraceous, later becoming terete and glabrous; leaves approximately equal in each pair; petioles slender, 3-6 cm. long, minutely furfuraceous; blades membranous, ovate, 10-18 cm. long, 7-12 cm. wide, abruptly short-acuminate, entire, rounded to the cordate or subcordate base, 7-9-nerved, green and glabrous above, beneath purple, glabrous on the surface, minutely furfuraceous on the veins and veinlets; veins plane and obscure above, prominulous and reticulate beneath, the secondaries diverging at an angle of about 80°, 3-5 mm. apart; cymes few-flowered, about 1 cm. long, minutely furfuraceous; flowers 4-merous, on pedicels 0.5-1 mm. long; hypanthium urceolate to subglobose, 1.4 mm. long to the torus, very minutely furfuraceous; calyx-tube prolonged 0.6 mm., its lobes erect, very broadly triangular, scarcely more than 0.1 mm. long; exterior teeth thick, spreading, broadly triangular, 0.5 mm. long; petals oblong, 1.5 mm. long, 1 mm. wide at base, obscurely inequilateral and shallowly retuse; stamens isomorphic; filaments flattened, 1.4 mm. long, geniculate just below the apex; anthers narrowly obovoid, 1.1 mm. long, 4-celled, opening by a minute terminal pore; connective barely elevated into a low dorsal ridge, not prolonged at base, red-lineate or possibly glandular; ovary inferior, 2-celled; style straight, 3.6 mm. long; stigma punctiform.

Type, Pittier 11818, collected in humid forest at El Portachuelo, Aragua, Venezuela. According to the treatment of the older species by Cogniaux, C. ostrina falls among the species numbered 73 to 76, all of which have much larger panicles and flowers and denser pubescence. Its real affinity is apparently with C. ampla Cogn., numbered 88 in Cogniaux' monograph, which also has much larger flowers and distinctly stellate pubescence.

HENRIETTELLA LORETENSIS sp. nov. Arbuscula; ramis junioribus minutissime furfuraceis mox glabris; petiolis fere glabris; laminis oblongo-ellipticis acuminatis integris basi cuneatis 3-pli-nerviis utrinque glabris praeter costam subtus sparissime stellato-puberulam; floribus 4-meris fasciculatis breviter pedicellatis; hypanthio late campanulato; calycis tubo truncato dentibus exterioribus minimis subulatis; petalis triangularibus acutis supra medium valde incrassatis; staminibus isomorphis, antheris crassis obtusis connectivo simplici; ovario infero 4-loculare; stylo elongato, stigmate truncato.

Small tree 5 m. high; twigs grayish-brown, very minutely furfuraceous and somewhat flattened when young, soon glabrescent and terete; petioles slender, channeled above, about 15 mm. long; leaf-blades thin, oblong-elliptic, 10-13 cm. long, 4-4.5 cm. wide, abruptly short-acuminate, entire, cuneate at base, 3-pli-nerved with an additional pair of marginal veins, glabrous above, very sparsely stellate-puberulent on the midvein beneath; secondaries 4-5 mm. apart, arising at an angle of about 80° ; flowers 4-merous, numerous in sessile fascicles below the leaves, on pedicels 4 mm. long; hypanthium broadly campanulate, 1.6 mm. long to the torus, glabrous; calyx-tube prolonged 0.3-0.4 mm., truncate; exterior teeth subulate, projecting less than 0.1 mm.; petals triangular, 3 mm. long, nearly 2 mm. wide, glabrous, thin at the base, above the middle strongly thickened on the inner side; stamens isomorphic; filaments flat, 1-nerved, 2.5 mm. long; anthers stoutly oblong, obtuse, 2 mm. long, the connective neither appendaged nor prolonged; ovary inferior, 4-celled; style glabrous, slender, 7 mm. long; stigma truncate.

Type, Klug 2215, from the Río Putomayo, at the mouth of Río Zubineta, Dept. Loreto, Peru. The species is apparently related to H. fascicularis (Sw.) Triana, which has larger flowers and hirsute stems and foliage.

BLAKEA TRUNCATA sp. nov. Frutex scandens glaberrimus; rami juveniles crassi irregulariter angulati internodiis brevibus; folia chartacea obovato-oblonga ad apicem rotundatam in acuminem brevem linearem abrupte contracta, integra, ad basin in petiolum crassum brevem subcuneata 3-pli-nervia; pedunculi elongati solitarii uniflori; bracteae externae foliaceae venosae basi connatae ovatae acuminatae, internae

late ovatae multo breviores obtusae paulo recurvatae; hypanthium campanulatum; calycis limbus erectus truncatus; petala magna alba anguste ovata acuminata; antherae semi-ovoideae in annulo cohaerentes basi longe calcaratae; ovarium toto adhaerens in rostrum conicum productum; stylus gracilis stigmate punctiformi.

§ Pyxidanthus: a climbing vine, glabrous throughout; upper branches stout, irregularly angled with short internodes; leaves apparently equal in each pair, the blades obovate-oblong, chartaceous, opaque, about 13 cm. long by half as wide, rounded above into a linear acumen 1 cm. long, entire, cuneate or subcuneate at base into a petiole 2-5 mm. long, 3-pli-nerved, 3-pli-nerved, the obscure secondaries about 1 mm. apart, the lower surface minutely punctate; peduncles solitary, 1-flowered, about 3 cm. long; outer bracts connate for 9 mm. at base, the free portion broadly ovate, 36 mm. long, 24 mm. wide, foliaceous, acuminate, about 5-nerved, the midvein elevated on the back; inner bracts free, c losely appressed to the hypanthium, broadly ovate, 20 mm. long, 16 mm. wide, obtuse, recurved at the summit; hypanthium campanulate, 12.5 mm. long to the torus; calyx-limb erect, truncate, 2.5 mm. wide; petals 6, white, narrowly ovate, 30 mm. long, 12 mm. wide, long-acuminate; filaments 10 mm. long; anthers violet, cohering in a ring, stoutly semi-ovoid, opening by 2 terminal pores, the thick connective prolonged basally below the attachment of the filament into a triangular ascending spur 5 mm. long; ovary wholly inferior, its concave summit produced at the center into a slenderly conic beak 5 mm. high; style slender, 18 mm. long, slightly decurved; stigma punctiform.

Type, Klug 1862, collected in forest at Umbria, Comisaria del Putomayo, Colombia, alt. 325 m. Its connate outer bracts place it at once into the section Pyxidanthus, within which only a few species are known. None of these even approaches our species in the size of flowers or bracts.

MICONIA MUTISELLA sp. nov. § Amblyarrhena; frutex ramosus internodiis brevibus; folia coriacea parva ovata denticulata utrinque rotundata 3-nervia, supra glabra, subtus tomentella; paniculae parvae folia vix excedentes; flores 5-meri; hypanthium tomentellum; sepala triangularia acuta, dentibus exterioribus crasse conicis patulis.

Apparently a dwarf shrub of high altitudes, the stems stout, densely and somewhat fastigiately branched, terete, densely brown-tomentulose when young, glabrescent in age, the internodes above only 3-6 mm. long, or 15 mm. long on the oldest parts; petioles stout, 1-2 mm. long, tomentulose; leaf-blades thick, ovate, 7-9 mm. long, 4-6 mm. wide, rounded at both ends, denticulate with blunt teeth 0.5-0.8 mm. apart, 3-nerved with an additional pair of marginal veins,

glabrous above with obscure venation, sparsely stellate-pubescent beneath, especially on the prominently elevated primaries, the secondaries and tertiaries not differentiated; panicles terminal, crowded, few-flowered, brown-stellate-tomentose, scarcely exceeding the leaves; flowers 5-merous, subsessile; hypanthium campanulate, 2 mm. long to the torus, densely stellate-tomentose; calyx-tube prolonged 0.3 mm. to rounded sinuses, pubescent like the hypanthium, the sepals triangular, acute, 0.5 mm. long, exterior teeth stoutly and obliquely conic, spreading 0.3 mm. at right angles to the sepals; petals oblong-ovate, 2 mm. long; stamens isomorphic; filaments flat, 0.8 mm. broad, abruptly narrowed shortly below the anther; anthers stoutly oblong, 1.3-1.4 mm. long, opening by a minute terminal pore, the connective elevated into a low dorsal ridge, neither lobed nor prolonged at the base; ovary half-inferior; style stout, glabrous, 2.3 mm. long; stigma punctiform.

Type, Mutis 2457, collected presumably in Colombia and deposited in the United States National Herbarium, no. 1561606. The structure of the anthers confirms its position in § Amblyarrhena, within which it differs from all known species in its minute leaves.

MICONIA EUGENIOIDES Triana was originally described from the upper Rio Negro. In the same paper Triana also described Oxymeris cuspidata from two types, one from Rio de Janeiro and the other from San Gabriel on the Rio Negro. Careful examination of type material of both species, Spruce 2263 and 3531, reveals only one small point of difference between them, except differences in dimensions which may well be expected from material in quite different stages of development. In the type of M. eugenioides the appendage of the larger stamens is triangular, while in Leandra (Oxymeris) cuspidata it is truncate at tip. The two species are accordingly united. Nomenclatorially their union offers no difficulty, but some question may be raised on the propriety of uniting two plants which were placed in different genera by such distinguished students as Triana and Cogniaux. The genus Leandra differs from Miconia essentially only in its acute petals. Most species of the genus have a different habit, and may often be distinguished at a glance, but in several cases they approach each other rather closely. The anthers of Leandra are regularly unappendaged; in Miconia both simple and appendaged anthers exist. The anthers of our species are distinctly miconioid in structure and are practically duplicated in numerous other species of § Eumiconia. The habit of our species also resembles Miconia much more than Leandra. The name M. eugenioides Triana therefore stands for the species. The nearest relative of the plant is M. tetrasperma Gl., also with acute petals.