

CONTRIBUTIONS TOWARD A FLORA OF PANAMA¹

VII. MISCELLANEOUS COLLECTIONS, CHIEFLY BY H. VON WEDEL,
IN BOCAS DEL TORO

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BROMELIACEAE

(L. B. Smith)

CATOPSIS BERTERONIANA (Schultes) Mez. (*C. nutans* sensu L. B. Smith in
Ann. Mo. Bot. Gard. 24:180. 1937; non Griseb. 1864). Material at Stockholm

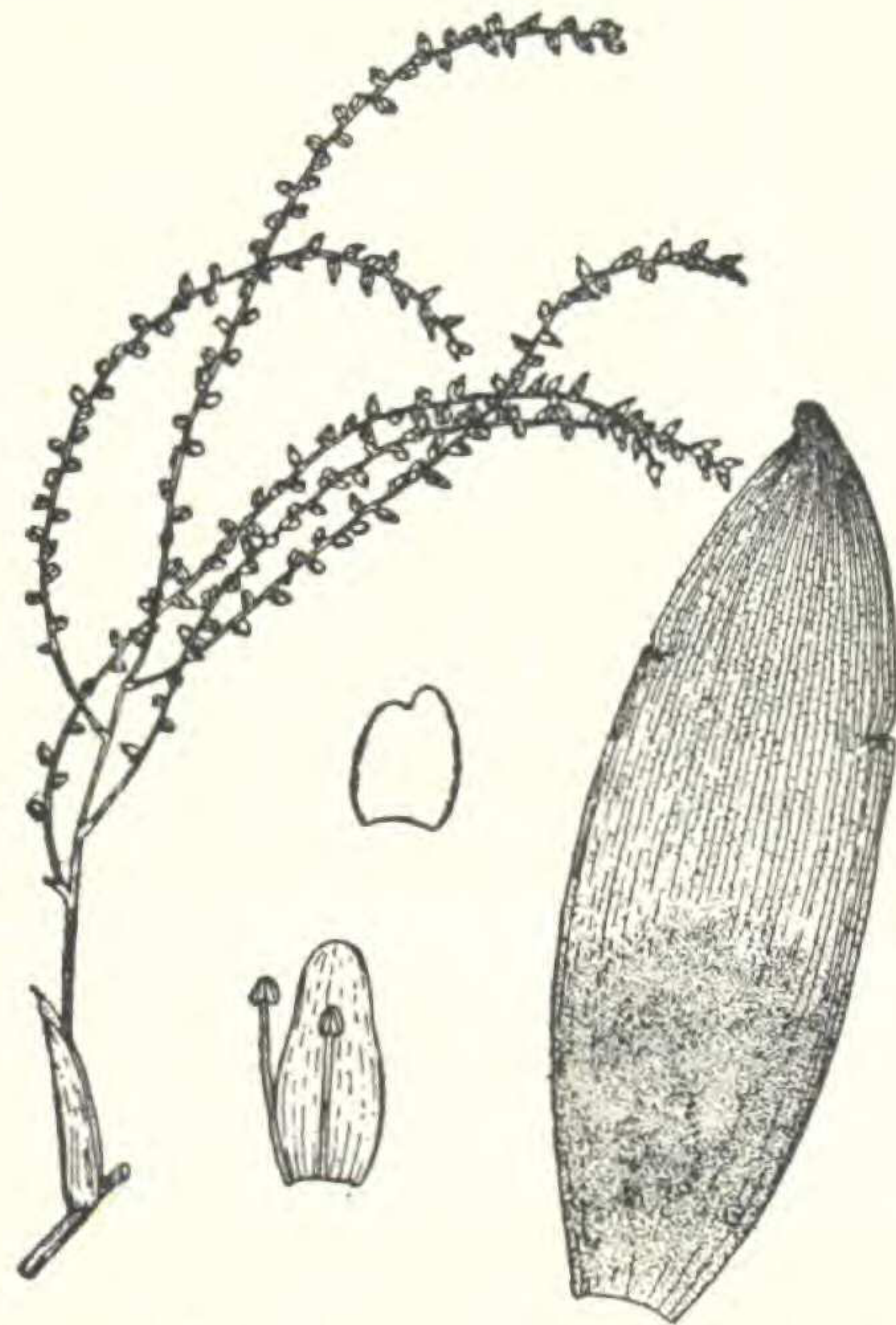


Fig. 1. *Catopsis micrantha* L. B. Smith

labelled *Tillandsia nutans* by Swartz is actually *Catopsis Berteroniana*. Later, I learned that the type of his *Tillandsia nutans* is in the British Museum and is equivalent to *Catopsis fulgens*.

CATOPSIS micrantha L. B. Smith, sp. nov. (fig. 1).—Planta masculina solum cognita, florigera fere 1 m. alta; foliis multis, erectis, ad 23 cm. longis, margine haud albis, ad basin versus plus minusve cretaceis; vaginis quam laminis longioribus sed haud distinctis; laminis late ligulatis, 4 cm. latis, late acutis, apiculatis, supra sparse subtus dense punctulato-lepidotis; scapo erecto, gracili; scapi bracteis sub-

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foliaceis, dense imbricatis; inflorescentia laxa ampleque tripinnatim paniculata; bracteis primariis suboblongis, late acutis, quam ramis multo brevioribus; ramis divergentibus, 2 dm. longis; spicis elongatis, laxe multifloris; bracteis florigeris late ovatis, quam sepalis brevioribus; floribus masculinis sessilibus, patentibus; sepalis asymmetricis, latissime obovatis, 2 mm. longis; petalis 3.5 mm. longis, albis; staminibus inaequalibus.—BOCAS DEL TORO: epiphyte, hills behind Fish Creek, vicinity of Chiriquí Lagoon, April 16, *von Wedel 2236* (Gray Herb., TYPE).

In its imbricate scape-bracts, broad leaf-blades and small flowers, *Catopsis micrantha* appears most closely related to *C. Morreniana*. However, its staminate flowers are much smaller, its inflorescence more branched, and its leaves broader and without the conspicuous white margin of *C. Morreniana*.

CATOPSIS NITIDA (Hook.) Griseb.—CHIRIQUÍ: forest, Bajo Mono, Boquete District, alt. 1350 m., April 9, 1938, *Davidson 535* (Herb. Field Mus.); Boquete, Boquete District, alt. 1140 m., July 1, 1938, *Davidson 863*. Previously known from the Greater Antilles, Guiana, Guatemala, Honduras and Costa Rica.

GUZMANIA CORIOSTACHYA (Griseb.) Mez.—COCLÉ: hills north of El Valle, Jan. 13, 1942, *Allen 2945*. Previously known from Costa Rica, Colombia, and Venezuela.

GUZMANIA DONNELLSMITHII Mez ex Donn. Smith in Bot. Gaz. 35:9. 1903. (*Thecophyllum angustum* Mez & Wercklé in Bull. Herb. Boiss. II, 4:1121. 1904).

GUZMANIA NICARAGUENSIS Mez & C. F. Baker.—COCLÉ: north of El Valle de Antón, near La Mesa, alt. ca. 1000 m., Nov. 12, 1941, *Allen 2803* (Gray Herb.). Previously known from Guatemala, Nicaragua and Costa Rica.

PITCAIRNIA APHELANDRAEFLORA Lem.—BOCAS DEL TORO: on rock, hills behind Fish Creek, vicinity of Chiriquí Lagoon, April 22, 1941, *von Wedel 2282* (Gray Herb.). Previously known from Amazonian Brazil and Peru.

The Panamanian material has two narrow auricles at the base of the petal but is otherwise typical.

THECOPHYLLUM PEDICELLATUM Mez & Wercklé.—CHIRIQUÍ: rain forest, Bajo Chorro, Boquete District, alt. 1800 m., Feb. 17, 1938, *Davidson 307* (Herb. Field Mus.). Previously known from Costa Rica.

The Panamanian specimen has much larger leaves, branches and floral bracts than is usual, but it is too old to show whether these are supported by other characters which would distinguish it specifically.

TILLANDSIA ADPRESSA André var. TONDUZIANA (Mez) L. B. Smith.—CHIRIQUÍ: rain forest, Bajo Chorro, Boquete District, alt. 1800 m., Feb. 13, 1938, *Davidson 280*. Previously known from Costa Rica.

TILLANDSIA FASCICULATA Sw. var. CONVEXISPICA Mez.—CANAL ZONE: Barro

Colorado Island, Aug. 1928, *Chickering 63* (Herb. Univ. Michigan). Previously known from Jamaica, Mexico, British Honduras and Guatemala.

TILLANDSIA FASCICULATA Sw. var. *UNCISPICA* Mez.—BOCAS DEL TORO: Isla Colón, May 16, 1940, *von Wedel 118*; Water Valley, vicinity of Chiriquí Lagoon, Oct. 26, 1940, *von Wedel 1377*; same, Oct. 28, 1940, *von Wedel 1396*; Little Bocas, vicinity of Chiriquí Lagoon, July 13, 1941, *von Wedel 2528*. Previously known from Cuba, Santo Domingo, Saint Lucia and Guatemala.

TILLANDSIA GUANACASTENSIS Standley. — COCLÉ: vicinity of El Valle de Antón, alt. ca. 600 m., Dec. 10, 1939, *Allen 2060*. Previously known from Costa Rica.

TILLANDSIA SINGULARIS Mez & Wercklé.—COCLÉ: region north of El Valle de Antón, alt. ca. 1000 m., Jan. 13, 1942, *Allen 2898* (Gray Herb). Previously known from Costa Rica.

MORACEAE

(P. C. Standley)

CLARISIA mollis Standl., sp. nov.—Arbor 10-metralis, ramulis sat gracilibus sordido-ochraceis sparse pilosulis, internodiis elongatis; folia majuscula 1.5 cm. longe petiolata crasse membranacea; lamina obovato-oblonga ca. 25 cm. longa et 9–10.5 cm. lata, apice rotundata et abrupte caudato-acuminata, acumine obtuso fere 2 cm. longo, basi cuneato-acuta, remote inconspicue serrato-dentata, supra glabra, venis obscuris, subtus fere concolor ubique sed praesertim ad nervos venasque breviter molliterque sordido-pilosula, costa tenui prominente, nervis lateralibus utroque latere ca. 13 tenuibus angulo acuto adscendentibus prope marginem arcuato-conjunctis, venis prominulis laxe reticulatis; spicae masculae in axillis binae sessiles interdum bifidae usque 4.5 cm. longae dense multiflorae, bracteis parvis peltatis minute pilosulis.—BOCAS DEL TORO: vicinity of Chiriquí Lagoon, Oct. 8, 1940, *H. von Wedel 1090* (Herb. Field Mus., TYPE; duplicate in Herb. Missouri Bot. Gard.)

Eight species of this genus are known, all except *C. mexicana* (Liebm.) Lanjouw in South America. *C. mollis* is related, apparently, to *C. mattogrossensis* Lanjouw, but is clearly distinct in its pubescence and leaf details. The available material, unfortunately, is incomplete and does not permit a satisfactory diagnosis of the species.

NYCTAGINACEAE

(P. C. Standley)

NEEA pycnantha Standl., sp. nov.—Frutex 4.5 m. altus, ramulis crassiusculis glabris; folia modica membranacea opposita ca. 2 cm. longe petiolata; lamina elliptico-oblonga vel ovato-oblonga paullo infra medium latissima 11.5–18.5 cm. longa 5–8 cm. lata longiuscule acuminata, basi acuta, glabra, supra lucida, nervis venisque non elevatis, subtus concolor, costa gracili elevata, nervis lateralibus

utroque latere ca. 12 angulo latiusculo adscendentibus gracillimis prominentibus; inflorescentia ut videtur deflexa cymoso-corymbosa 9.5 cm. longe pedunculata, pedunculo gracillimo glabro, ca. 6.5 cm. longa et aequilata laxe multiflora, ramis minutissime ferrugineo-puberulis; bractee conspicuae patentes lineari-subulatae 2.5-3.5 mm. longae attenuatae minute puberulae, floribus sessilibus aggregatis; perianthium albescens tubulosum 7-9 mm. longum 2.5 mm. latum glabrum fauce paullo angustatum basi obtusum, dentibus late deltoideo-ovatis vix ultra 8 mm. longis.—BOCAS DEL TORO: Water Valley, region of Chiriquí Lagoon, Nov. 9, 1940, *H. von Wedel 1574* (Herb. Field Mus., TYPE; duplicate in Herb. Missouri Bot. Gard.).

The species has better characters than most members of this genus, and is noteworthy for the very numerous, small but conspicuous, slender, spreading bracts of the inflorescence.

NEEA xanthina Standl., sp. nov.—Arbor 9-metralis praeter inflorescentiam fere omnino glabra, ramis crassiusculis ochraceis, novellis minute adpresse ferrugineo-tomentulosis; folia parva opposita firme membranacea glabra, petiolo 5-7 mm. longo; lamina oblongo-elliptica prope medium latissima 5.5-8 cm. longa 2-3.2 cm. lata abrupte breviter acuminata, acumine obtuso, basi late acuta, supra sublucida, costa nervisque non elevatis, subtus concolor, costa tenui prominente, nervis lateralibus utroque latere ca. 8 tenerrimis angulo latiusculo adscendentibus arcuatis, venis inconspicuis laxe reticulatis; inflorescentia parva laxe multiflora ut videtur erecta 3 cm. longe pedunculata, 2.5 cm. longa 3-5 cm. lata, bracteis minutis linearis-subulatis, ramis minute sparseque ferrugineo-puberulis; flores flavescens graciliter pedicellati, pedicellis rubris 2-4 mm. longis; perianthium ellipsoideum 5 mm. longum 2-2.5 mm. latum sparse minutissime puberulum vel fere glabrum, apice contractum, dentibus late deltoideis minutis, basi acutiusculum.—BOCAS DEL TORO: Old Bank Island, vicinity of Chiriquí Lagoon, Feb. 4, 1941, *H. von Wedel 1970* (Herb. Field Mus., TYPE; duplicate in Herb. Missouri Bot. Gard.).

An inconspicuous plant, without any outstanding specific characters, but unusual among Panama species of *Neea* because of the very small leaves and small flowers.

ANNONACEAE

XYLOPIA bocatorena Schery, n. sp. — Arbor, ramis juventute dense brevissimeque pubescentibus pilis brunneo-flavis demum glabris brunneis lenticellis prominentibus; foliis distichis alternatis elliptico-lanceolatis apice attenuatissimis basi acutis 8-11 cm. longis 2.3-3.5 cm. latis, petiolis 2-3 mm. longis supra sulcatis glabrisque subtus rotundatis pubescentibusque; laminis supra glabris costa aliquid immersa subtus aliquid pubescentibus pilis adpressis, nervis lateralibus reticulatis confluentibus; floribus ovoideis axillaribus solitariis, pedicellis 5-6 mm. longis bracteis 2 emarginatis vel bilobatis; calyce cupuliformi 6-8 mm. diametro extus pubescente intus glabro, lobis 3 deltoideo-ovatis; petalis exterioribus valvatis ovato-lanceolatis extus pubescentibus intus brevi-pubescentibus ca. 12 mm. longis

ca. 6 mm. latis, petalis interioribus valvatis cum exterioribus alternantibus ca. 11 mm. longis 4-5 mm. latis; staminibus numerosis linearibus 3 mm. longis, antheris 1 mm. latis, carpellis linearibus ca. 8 centro calycis affixis 2-3 mm. longis apice brevi-subhirsutis basi pubescentibus; fructibus 1-4 ex pedicello rubris obovoideo-clavatis dehiscentibus ca. 2 cm. longis, seminibus 2 nigris.—BOCAS DEL TORO: Isla Colón, Nov. 16, 1941, *H. von Wedel 2965* (Herb. Missouri Bot. Gard., TYPE).

This species resembles the descriptions of *X. brasiliensis* Spreng. and *X. amazonica* Fries. It differs from the former, to which it keys in Fries' revision of *Xylopia* (Acta Hort. Berg. 10:86-214. 1931), in having wider leaves more rounded at the base, and a distinctly cupuliform calyx. From *X. amazonica* it differs in having less pubescent leaves, larger flowers, etc. The flowers are solitary on short pedicels, the pedicels bearing a larger emarginate or cleft upper bract and a similar smaller lower bract oriented at about 120° angle from the upper one. The separate carpels each bear terminally a lightly white-hirsute style. At full maturity of the flower the carpels are golden-brown at the base. The fruit is red, obovoid or subclavate, slightly constricted between the 2 seeds, and with a barrowed basal stipe 2-5 mm. long. The pericarp splits down one side, exposing the black seeds.

CYMBOPETALUM magnifructum Schery, n. sp.—Arbor 12 m. alta, ramis juventute dense pubescentibus demum glabris in sicco rugosis griseis; foliis alternatis, petiolis 2-3 mm. longis pubescentibus supra planis; laminis parvis (juventute (?) 3-4 cm. longis) ovatis apice basique acutis in petiolo decurrentibus leviter pubescentibus vel glabris; floribus solitariis, pedicellis pubescentibus angulatis ebracteatis 2.5-3.0 cm. longis, sepalis 3 ovato-triangularibus, majoribus 4-5 mm. longis leviter pubescentibus, petalis interioribus 3 obovatis majoribus levitissime pubescentibus ca. 17 mm. longis 12 mm. latis apice truncato-inflexis basi incrassatis; staminibus multis linearibus apice truncatis 2.5 mm. longis longitudinaliter bilocularibus, carpellis ca. 14 linearibus apice dense pubescentibus truncatis ca. 2.5 mm. longis, toro rotundato-convexo; fructu magno obovoideo glabro lepidoto nigro 6 cm. longo 4 cm. lato, pericarpio crasso dure-coriaceo; seminibus 6 semi-lunatis 2.5 cm. longis.—PANAMÁ: vicinity of Bejuco, alt. ca. 50 m., May 6, 1941, *P. H. Allen 2455* (Herb. Missouri Bot. Gard., TYPE).

The Allen specimen is so distinct from previously known species of *Cymbopetalum* that placing it to the genus was rather difficult. However, Dr. P. C. Standley agrees that this plant could scarcely be placed elsewhere than in *Cymbopetalum*. The plant is characterized by the moderately short pedicels, distinctive flowers, and extremely large, obovoid fruit. It appears doubtful that the small leaves of the type specimen have reached mature size, since they are found only on the young lateral branches. The fruit has a very thick (1.5-3.0 mm.) leathery pericarp, black and minutely lepidote on the outside. The 6-7 large seeds are closely packed and are covered with a fleshy matrix which when dry has the color and odor of prunes.

SAXIFRAGACEAE

PHYLLONOMA RUSCIFOLIA Willd.—CHIRIQUÍ: Cerro Horqueta, cloud forest, April 26, 1940, C. von Hagen & W. von Hagen 2043. Described by the collectors as "Tree 20'; fruit white, odorless, attached to rib of leaf."

The peculiar genus *Phyllonoma*, characterized superficially by the adnation of a cluster of minute flowers high on the leaf blade, has been reported from Mexico, Guatemala, Costa Rica, Colombia, and Peru. A general discussion of the speciation, but unfortunately not a very clear one, is given by Pittier (Contr. U. S. Nat. Herb. 12:172-174. 1909). From this account, incidental to the description of two new species from Costa Rica, and from the relatively few herbarium specimens available for the entire genus, we suspect that the variability of the genus is not yet satisfactorily understood, and are identifying our specimen, provisionally, with the earliest binomial (as illustrated by Kunth under *Dulongia acuminata* in HBK. Nov. Gen. & Sp. 7: pl. 623. 1825). Our material is rather copious, and upon its branches one may find some leaves which are essentially entire and others with 1, 2, or 3 acuminate teeth. The flowers, also, vary in their arrangement, some with pedicels springing directly from the leaf and others borne upon short racemose peduncles.

LEGUMINOSAE

MACROLOBIUM modicopetalum Schery, n. sp.—Arbor, ramis novellis subglabris vetustioribus glabris; foliis 1-jugatis glabris, petiolis brevibus (3-10 mm. longis) teretibus profunde canaliculatis; laminis coriaceis sessilibus vel petiolulis ad 3 mm. longis ellipticis basi inaequaliter subacutis apice breviter attenuatis et obtuse mucronatis 12-23 cm. longis 4-9 cm. latis, nervis supra subplanis subtus prominentibus, nervis lateralibus perspicue confluentibus; inflorescentiis spicatis glabris vel brevissime pubescentibus plerumque ex ramis vetustioribus, alabastris obovoideis ca. 5 mm. longis; floribus ca. 16 anguste pedicellatis basi bracteo subpersistente obovato vaginato bilobato 7-9 mm. longo lobis ca. 4 mm. latis, sepalis 4 oblongis apice obtusis glabris imbricatis 6-7 mm. longis 2.5-4.0 mm. latis, petalo 1 albo ovato-lanceolato concavo margine perspicue undulato-inhorescente 12-13 mm. longo 6-8 mm. lato brevissime unguiculato; staminibus 3, sepalis ventralibus oppositis, filamentis glabris linearibus 11-19 mm. longis, antheris ovatis bilocularibus versatilibus ca. 3 mm. longis 2 mm. latis; ovario compresso ovato-lunato ca. 3 mm. longo ad margines pubescente ad confluentem sepalorum substipitato, ovulis 4 ovatis ca. 0.7 mm. longis; stylo glabro cum ovario 16-20 mm. longo, stigmati terminali certe capitato pubescente.—BOCAS DEL TORO: Fish Creek, Apr. 15, 1941, H. von Wedel 2226 (Herb. Missouri Bot. Gard., TYPE); same locality, Apr. 9, 1941, H. von Wedel 2209; Apr. 22, 1941, H. von Wedel 2291; May 7, 1941, H. von Wedel 2399 (Herb. Missouri Bot. Gard., COTYPES).

Macrobium modicopetalum falls into the section VOUAPA of the genus. It resembles several of the unijugate species such as *M. floridum* Karst., *M. ischno-*

calyx Harms, *Vouapa Pittieri* Rose (ex char.), etc. In Martius (Fl. Bras. 15²:219. 1870) it keys near *M. punctatum* Spruce, and judging from available descriptions alone it apparently differs from newer Brazilian species. This is to be expected, as Britton and Killip (N. Y. Acad. Sci. 35:166. 1936) include only one species from Colombia (*M. floridum*) in their genus *Macrolobium*, within which *M. modicopetalum* obviously belongs. *M. modicopetalum* differs from *M. floridum* in having 4 rather than 5 ovules, glabrous rather than pilose bracts and styles, attenuate rather than acute leaf blades, inflorescences generally on older wood rather than terminal, etc. *M. modicopetalum* differs from *Vouapa Pittieri* (the only species listed from North America by Britton and Rose, N. Am. Fl. 23:226. 1930) in having smaller leaves and the petal 1.3 cm. rather than 4.0 cm. long.

Were not *M. modicopetalum* from a region where this preponderantly Brazilian genus is very rare, one would hesitate to describe it without first seeing authentic material of related species, for it is often difficult, as well as tedious, to distinguish these species by description alone. However, *M. modicopetalum* is clearly different from all Colombian, Venezuelan and other North American species known to me.

The following characters are helpful in distinguishing this species: (1) moderately large, unijugate, glabrous leaves, (2) inflorescences usually not terminal, (3) conspicuous, glabrous pedicellar bract, cleft about half its length, (4) moderate-sized, scarcely-clawed petal, (5) glabrous style, filaments, petal and sepals, (6), 4-ovulate ovary.

LONCHOCARPUS monofoliaris Schery, n. sp.—Arbor ramis teretibus glabris; foliis alternatis unifoliatis, stipulis non visis, petiolis (rhachide incluso) 8–9 mm. longis subglabris basi plus minusve teretibus apice supra profunde canaliculatis, petiolulis subglabris 2–3 mm. longis supra canaliculatis; laminis glabris elliptico-lanceolatis basi acutis vel obtusis apice obtuse brevi-mucronatis, supra planinervatis subtus costa prominente nervis lateralibus ca. 12 arcuatis; inflorescentiis axillaribus spicato-paniculatis 5–12 cm. longis, pedunculis primariis leviter subpubescentibus, pedunculis secundariis subpubescentibus 1–2 mm. longis apice plerumque pedicellos binos pubescentes 1–2 mm. longos minute 2-bracteolatos gerentibus, bracteis parvis 0.5–1.0 mm. longis, lanceolatis; calyce turbinato cupuliformi breviter 5-dentato pubescente ca. 1.5 mm. alto 3–4 mm. lato; vexillo orbiculari-subauriculato extus pubescente apice retuso basi subauriculato, ungue ca. 1.5 mm. longo, alis ungue ca. 3 mm. longo, limbo elliptico ca. 7 mm. longo ca. 3 mm. lato, carinis ungue ca. 3 mm. longo, limbo obovato-elliptico 6–7 mm. longo ca. 2.5 mm. lato; filamentis omnibus coalitis, columna glabra cylindrica basi 2-fenestrata, fenestrae marginibus lateralibus callosis; antheris bilocularibus lanceolatis versatilibus; ovario lineari compresso 3-ovulato pubescenti marginibus inferioribus superioribusque aequicrassis; stylo brevi-pubescente; stigmati terminali parvo glabro.—BOCAS DEL TORO: Water Valley, Sept. 11, 1940, *H. von Wedel*

699 (Herb. Missouri Bot. Gard., TYPE); same locality, Sept. 23, 1940, *H. von Wedel* 910 (Herb. Missouri Bot. Gard., COTYPE).

This species is especially distinguished by its unifoliolate leaves, a character shared to the best of my knowledge by only two other species in the genus and by only four or five genera in the Dalbergieae. Although no fruit is here available for definite generic location of this material, it could scarcely fall elsewhere than in *Lonchocarpus*. It possesses all the characters listed for that genus by Pittier (Contr. U. S. Nat. Herb. 20:38. 1917), and also compares well with various floral illustrations of *Lonchocarpus*. In Pittier's subdivision of the genus, *L. monofoliolaris* keys to subgenus EULONCHOCARPUS, series PLANINERVI, section EPUNCTATI. The species it comes near is the Mexican *L. unifoliolatus* Benth., from the description of which it differs by having shorter petiolules, an orbicular-subauriculate rather than ovate standard, a cylindrical rather than a broadly dilated staminal tube, blue or purple rather than pink flowers, etc.

The flowers are borne in gracefully curved spike-like panicles, the panicles occurring singly in the axils of the leaves. The short pedicels are attached to the expanded apex of the peduncles, a pair to each peduncle. At the base of the calyx two small ovate bracts are borne laterally. The calyx is shallow and very briefly 5-dentate, the 2 upper dentations being approximate. The standard is retuse apically, pubescent on the back, and bears a thick crescent-shaped ridge at the base running from "auricle" to "auricle" just above the juncture with the claw. The keel petals are joined on their lower margin and are closely invested by the wings to which they seem to adhere but are not organically attached. The androecium consists of ten more or less alternating long and short stamens, the filaments of which are united into a monadelphous tube. At the base of the tube are two fenestrae, one on either side of the vexillar filament, each of which has a thick callous at its lateral margin. The vexillar filament appears to be very insecurely attached to the receptacle. The laterally compressed ovary is only 3-ovulate, the ovules being attached to the thick upper margin. The structure of the ovary suggests that the fruit has wide margins at the juncture of the valves, but is not especially thickened at the point of attachment of the seeds.

ORMOSIA stipitata Schery, n. sp. (fig. 2).—Arbor ca. 15 m. alta, ramis glabris vel juventute leviter aureo-pubescentibus brunneis subangulatis in sicco longitudinaliter rugosis, lenticellis albis ovalibus prominentibus; foliis suboppositis 5-9-foliolatis, petiolis crassis in sicco irregulariter rugosis supra planis pubescentibus subtus teretibus subglabris cum rhachidibus 11-17 cm. longis, petiolulis teretibus nigris crassis pubescentibus 6-8 mm. longis, foliolis suboppositis; laminis ellipticis vel elliptico-lanceolatis basi acutis vel obtusis apice acutis breviter obtuseque attenuatis supra plus minusve glabris, nervis planis subtus aureo-pubescentibus pallidis, costa prominente nervis lateralibus subprominentibus plerumque 12-16; inflorescentiis spicatis angulatis arcuatis aureo-pubescentibus 10-18 cm. longis terminalibus et ex folium apicalium axillis, bracteis minutis lanceolatis ca. 1

mm. longis, pedicellis erectis 5–6 mm. longis apice subrevolutis et aliquid clavatis, alabastris levitissime imbricatis 4–5 mm. latis; calyce dense pubescente ca. 1 cm. in diametro basi tubo substipitato apice, lobis triangularibus subaequalibus ca. 4 mm. latis; vexillo obcordato profunde retuso (vagina ca. 3.5 mm. longa) glabro ca. 15 mm. longo et lato ungue crasso ca. 5 mm. longo, alis glabris oblongo-lunatis lamina ca. 11 mm. longa ungue ca. 3 mm. longo, carinis oblongis glabris (margine inferiore breviter brunneo-pubescente) lamina ca. 13 mm. longa ungue ca. 3 mm. longo; staminibus 10 liberis cum brevibus et longis alternantibus, filamentis glabris lanceolato-linearibus 9–15 mm. longis basi 1.0–1.5 mm. latis calycis tubo affixis, antheris versatilibus breviter oblongis bilocularibus 1.0–1.5 mm. longis; ovario ovato lateraliter aliquid compresso dense pubescente ca. 6 mm. longo 4-ovulato

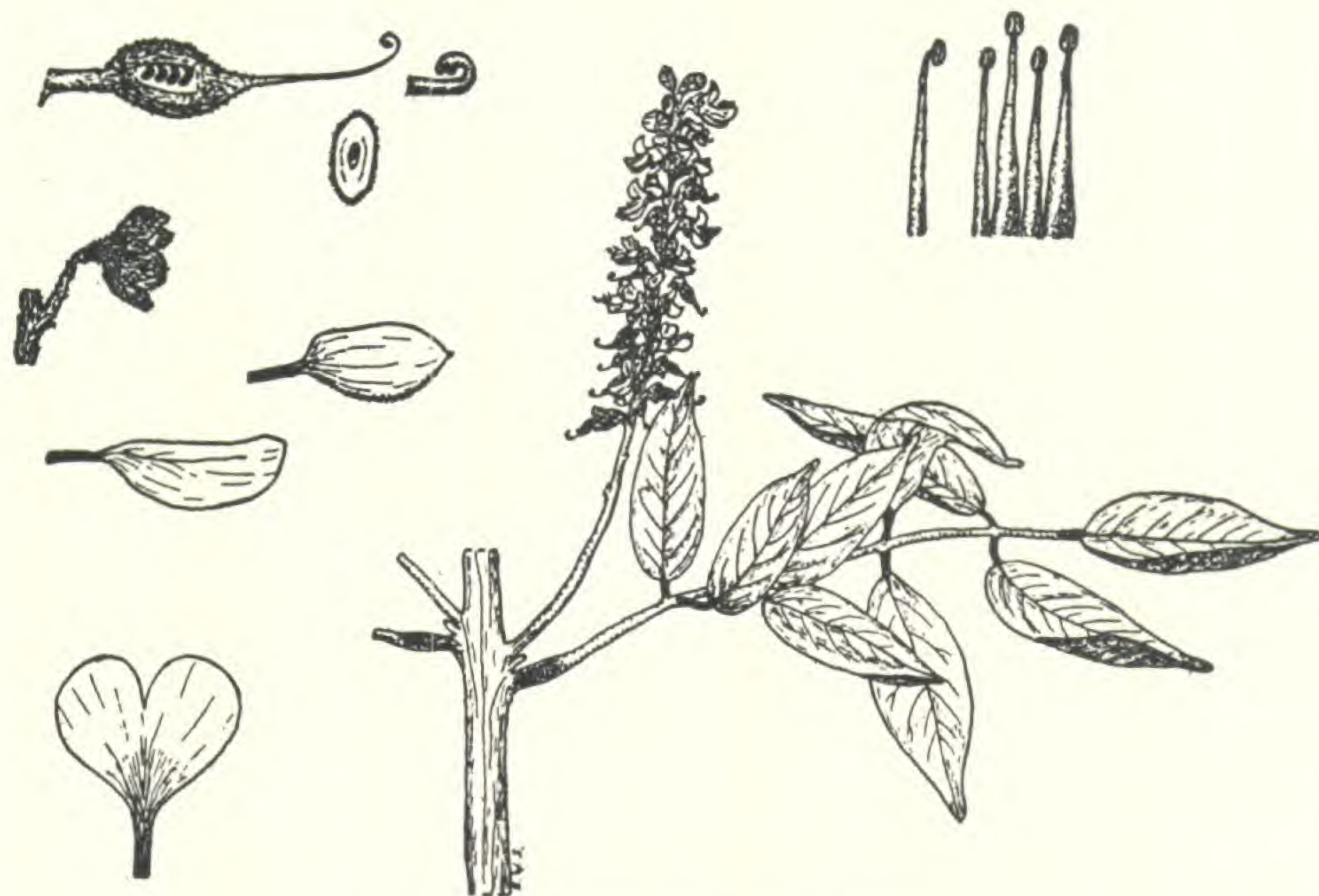


Fig. 2. *Ormosia stipitata* Schery

stipitato (stipite 4 mm. longo basi calycis tubo inaequaliter adnato) supra subtusque marginibus latis; stylo glabro apice inflexo, stigmate sublaterali bilobato.—CHIRIQUÍ: between Remédios and David, March 16, 1940, *Peggy White 306* (Herb. Missouri Bot. Gard., TYPE).

The type of *Ormosia stipitata* is reported as growing in open sunlight beside a river and as having a trunk 3–5 dm. in diameter. The young branches are quite stout and conspicuously longitudinally ridged in the dried state; they broaden laterally to the origin of petiole and peduncle. The terminal leaves are 5-foliolate, the subterminal ones up to 9-foliolate, which suggests that leaves of the older or lower branches are at least 9-foliolate. The dry leaflets are dull olive above and pallid below, with appressed golden pubescence on the lower surface. The whole branch tip forms a leafy "inflorescence", a few peduncles arising terminally and others singly from the axils of the upper leaves. Each is gracefully arcuate upward. The bracts subtending the pedicels are minute and scale-like.

The standard is lavender while the other petals are white. In the type specimen the topmost flowers of the peduncles are in bud, while immediately below this are found flowers with expanded petals, and on the basal half of the peduncle flowers from which the petals have fallen. In these lower flowers the stipitate ovary with the persistent style greatly protrudes from the calyx.

The filaments are entirely free and are attached in a circle to the upper part of the narrowed stipe-like calyx base, with the vexillar filament similar to the others. Wider and longer stamens alternate with shorter and narrower ones, although not all of either cycle are equally long. The basal part of the ovary stipe is briefly adnate above to the base of the calyx tube. The style is inflexed apically and in age is almost coiled. The young stigma is borne laterally at the very tip of the style and consists of 2 semi-circular knob-like parts.

Placement of this species to the proper genus is not an easy matter. Certainly in Bentham's time it could scarcely have fallen elsewhere than in *Ormosia* as the tribe SOPHOREAE was known by him. But in more recent treatments of the tribe (e. g. Taubert, Nat. Pflanzenfam. 3³:186-199. 1891) this species would not key to *Ormosia* because of its long-stipitate ovary; rather it would seem to fall near *Alexa*, *Dussia*, *Bowdichia*, or one of several monotypic genera not native to the Americas. However, the White plant differs from the description of *Alexa* in lacking a sinuate-dentate calyx, linear anthers, many ovules, and unpaired leaflets; from *Dussia* in lacking 9 coalesced (at base) filaments, large inflorescence bracts, terete (?) fruit, and unpaired leaflets; from *Bowdichia* in lacking many ovules, many leaflets, and linear weakly winged fruit (?). Neither is it *Vexillifera* (synonym of *Dussia* fide Harms), nor *Cashalia* (type species of this genus a synonym). Thus the White plant appears to differ more radically from other genera than from *Ormosia* and should be considered as belonging to this genus, especially in that several species of *Ormosia* have ovaries stipitate in various degrees.

Among species of *Ormosia*, *O. stipitata* appears to fall somewhat near *O. fastigiata* Tul. in the section BICOLORES. It keys near that species or closely related species in the treatments of both Bentham (Mart. Fl. Bras. 15¹:319. 1862) and of Ducke (Archiv. Jard. Bot. Rio de Janeiro 4:61-71. 1925). It seems to fit no adequately described species of *Ormosia* and certainly fits no described species of *Dussia*. Perhaps *Ormosia panamensis* Benth. from the Panama region may prove to be the same, but it differs in description from *O. stipitata* in having the leaflets pubescent above. The description of *O. panamensis* is taken by Seemann (Voyage of the Herald, p. 111. 1853) from Bentham's manuscript and is entirely inadequate for complete comparison, nor is there a specimen of this species in the herbarium of the Missouri Botanical Garden. Since *O. stipitata* is poorly represented by duplicate specimens it is here illustrated (fig. 2).

SWARTZIA nuda Schery, n. sp.—Arbor vel arbuscula fere omnino glabra, ramis teretibus; foliis alternatis, 5 (raro 3)-foliolatis (petiolis rhachidibus inclusis) 10-13 cm. longis supra planis 2-3-striolatis basi nigro-callosis, nodulis aliquid tumidis,

petiolulis 4–8 mm. longis teretibus nigro-callosis supra canaliculatis; laminis ellipticis 14–32 cm. longis 6–13 cm. latis basi acutis vel obtusis apice acutis breviter attenuatis, nervis supra planis, subtus costa et nervis lateralibus prominentibus leviter scarioso-pubescentibus, nervis lateralibus ca. 12–20 arcuatis confluentibus; inflorescentiis axillaribus (1–3 ex ramis vetustioribus) spicatis multifloris 5–16 cm. longis leviter brevi-pubescentibus, pedicellis 1.0–1.5 cm. longis, alabastris globularibus ca. 6 mm. diametro 3–5-lobatis, floribus apetalis; staminibus numerosis plus minusve 2-seriatis plerisque 1–1.5 cm. longis aliquot 1.9–2.1 cm. longis, filamentis filiformibus glabris, antheris oblongis bilocularibus suberectis, brevioribus 1.5–1.8 mm. longis, longioribus 2.0–2.5 mm. longis; ovario lineari stipitato 2–3 cm. (stylo incluso) longo, ovulis ca. 13 obovato-lunatis subterminaliter funiculatis; stylo arcuato 6–7 mm. longo, stigmate terminali truncato-capitato; fructu elongato 12–20 cm. longo subterete tarde dehiscente basi stipitato apice attenuato, loculis 1–2 elliptico-lunatis 1.3–2.0 cm. latis constrictionibus interocularibus 0.2–1.0 cm. latis, seminibus 1–2-arillatis linearibus ca. 5 cm. longis 0.7 cm. latis.—BOCAS DEL TORO: Isla Colón, Oct. 18, 1940, *H. von Wedel 1224* (Herb. Missouri Bot. Gard., TYPE); same locality, Oct. 8, 1940, *H. von Wedel 1073*; Oct. 9, 1940, *H. von Wedel 1107*; Water Valley, Sept. 23, 1940, *H. von Wedel 909*; Sept. 24, 1940, *H. von Wedel 957*; Nov. 21, 1940, *H. von Wedel 1727* (Herb. Missouri Bot. Gard., COTYPES).

Swartzia nuda appears to fall in Bentham's section ORTHOSTYLEAE but does not closely resemble any known Panamanian species. In Britton and Rose's treatment of the genus (N. Am. Fl. 23⁵:347. 1930), it keys to *Swartzia (Tounatea) caribaea* Griseb., from which species it differs markedly in size and shape of the leaflets and fruit. In Britton and Killip's work on Colombian Caesalpinaceae (Ann. N. Y. Acad. Sci. 35. 1936), *S. nuda* does not fit any species in the key. Drs. Killip and Macbride, who have seen a fruiting specimen of *S. nuda*, feel certain that they have never encountered it in their South American work.

Swartzia nuda is especially distinctive in the following characters: (1) complete glabrescence of most parts, (2) very large leaflets with conspicuously confluent lateral veins, (3) spicate inflorescences from non-foliate nodes, (4) apetalous flowers, (5) long, slender, glabrous ovary and style, (6) very large, elongate, subterete fruit, which is often 2-locular with a marked constriction between the locules, (7) very long, slender, conspicuously arillate seeds.

MALPIGHIACEAE

BANISTERIOPSIS scalariformis Schery n. sp.—Planta arborescens (vel aliquid volubulis?), ramis glabris teretibus porphyreis in sicco longitudinaliter substriatis; foliis oppositis vel suboppositis, stipulis subinterpetiolaribus minutis deciduis, petiolis glabris ca. 5 mm. longis 1–1.5 mm. diametro supra canaliculatis; laminis glabris coriaceis ovatis vel ellipticis basi obtuse rotundatis biglandulosisque apice acuminatissimis in sicco supra porphyreis subtus brunneis, costa supra impressa subtus prominente, nervis lateralibus secundariis subparallelis scalariformibus ad

costam perpendicularibus; inflorescentiis terminalibus vel axillaribus leviter pubescentibus, bracteis primariis lanceolatis ca. 6 mm. longis bracteis secundariis minutis lanceolatis vel trilobatis; floribus ultimis plerumque 4-umbellatis, pedicellis gracilibus ca. 1 cm. longis; calyce glabro 8-glanduloso 5-lobato, lobis ovatis lobo maximo 3 mm. alto et lato, glandibus 1-2 mm. longis; petalis glabris, unguibus linearibus 2-3 mm. longis, limbis cupuliformibus margine fimbriatis petalis maximis ca. 5 mm. longis, petalis minimis ca. 3 mm. longis, floris minimi limbo basi biglanduloso; staminibus 10 glabris 2-4 mm. longis minoribus juxta petalo minimo, filamentis liberis linearibus basi confluentibus, antheris obovato-oblancoatis bilocularibus connectivo crassissimo; stylo glabro lineari brunneo ca. 3 mm. longo apice stigmatate subcapitato luteo; carpellis 3 subglabris triangularibus uniovulatis basi confluentibus.—BOCAS DEL TORO: Western River, Sept. 27, 1941, *H. von Wedel 2776* (Herb. Missouri Bot. Gard., TYPE); same locality and date, *H. von Wedel 2791* (Herb. Missouri Bot. Gard., COTYPE); Fish Creek lowlands, May 3, 1941, *H. von Wedel 2378* (Herb. Missouri Bot. Gard., COTYPE).

It is with temerity that this species is described as *Banisteriopsis*. First, the generic bounds in the Malpighiaceae are very confused, and various authors have persistently considered different genera as valid. Second, although this material was kept on hand for almost a year in the hope that material in fruit would turn up, no such specimens have yet become available. This is unfortunate, since in this family division into genera is based largely upon fruit characters. However, comparison of the Wedel specimens with all Malpighiaceae plants in the Missouri Botanical Garden herbarium showed no match; neither could the specimens be keyed-out in Small's monograph (N. Am. Fl. 25. 1910) nor in Niedenzu's monograph (Pflanzenreich IV. 141. 1928) of the Malpighiaceae. Nor could the plant be satisfactorily located in Standley's 'Flora of Costa Rica', Standley's 'Flora of the Canal Zone', nor in Martius' 'Flora Brasiliensis.' Apparently the species has never been described, but future monographic work or future collections may necessitate its transfer to another genus. In Small's monograph the Wedel specimens key to *Banisteriopsis lucida*, from which they differ especially in lacking such large flowers and the ferruginous pubescence of the lower leaf surface. In Niedenzu's monograph the specimens key to the Brazilian *Banisteria schizoptera*. Morton considers *Banisteria* of Niedenzu to be the same as *Banisteriopsis* of Robinson (Proc. Biol. Soc. Wash. 43:159. 1930). In the herbarium the Wedel specimens resemble *Banisteriopsis inebrians* Morton from Colombia.

This species is distinguished from most Malpighiaceae plants by the subparallel scalariform appearance of the secondary lateral veins. The leaf blade in the dry state usually appears red-brown above and brown below. On either side of the costa on the lower surface of the blade, at the juncture of the petiole, is found a small ovate gland. A pair of glands is similarly found at the base of the blade of the primary inflorescence bracts. These bracts are generally entire, although sometimes with 3 or 4 large dentations apically. The ultimate flower clusters are umbellate with usually 4 flowers on slender pedicels. The flowers are

essentially glabrous throughout, and slightly zygomorphic, usually with 2 large petals, 2 slightly smaller ones, and 1 small petal bearing 2 glands at the base of its limb. Apparently the stamens are somewhat shorter on the side next the small petal. The connective of the anthers is very bulky, usually dwarfing the pollen chambers. The styles are linear and slightly expanded apically into a truncate-subcapitate stigma. The carpels are easily separable and bear what appears to be a primordial wing or ridge externally. In two collections the plant has been described as a tree with yellow flowers and in the other as a vine with purple flowers.

ICACINACEAE

LERETIA CORDATA Vell.—BOCAS DEL TORO: Fish Creek Hills, May 12, 1941, *H. von Wedel 2443*. Previously known from Brazil and British Guiana (?). The von Wedel specimen in question was first considered different enough from the description of *L. cordata* to warrant publication as a new species. It differs in having glabrous rather than red-brown pubescent (glabrous in age) stems, shorter (5–6 mm.) rather than longer (8–15 mm.) petioles, elliptic rather than ovate-lanceolate leaves, essentially glabrous rather than pubescent lower leaf surface, 4–6 rather than 6–8 main lateral veins, brown rather than golden inflorescences, pedicels usually shorter than in the description, and ovary entirely pubescent rather than with a disc-like glabrous base. No rudimentary styles are found as seems to be the general condition with the species. Also L. B. Smith was unable to find a completely satisfactory match for the plant at the Gray Herbarium where some of R. A. Howard's annotated specimens are on deposit.

Yet examination of published illustrations, herbarium specimens, and reference to Howard's monograph of the genus (*Jour. Arn. Arb.* 23:58-60. 1942) show this monotypic genus (*fide* Howard) to be exceedingly variable. Variations do occur which apparently cover all the above-mentioned differences between the von Wedel specimen and Howard's description of the species. Thus the specimen evidently is *L. cordata* and should be considered as a new record for the genus north of South America.

BEGONIACEAE

(*L. B. Smith & B. G. Schubert*)

BEGONIA CONCHAEFOLIA Dietr. (*B. pumilio* Standl.)—COCLÉ: vicinity of El Valle de Anton, *Allen 2925*. Also known from Costa Rica.

BEGONIA PITTIERI C. DC.—COCLÉ: La Mesa, Aug. 31, 1941, *Allen 2722*. Previously known from Costa Rica.

MYRTACEAE

CALYPTRANTHES tumidonodia Schery, n. sp. — Arbuscula, ramis novellis teretibus nodis tumidis duplo latior ramorum internodiis; foliis oppositis magnis glabris breve-petiolatis, petiolis 5 mm. longis furfuraceis supra subcanaliculatis; laminis ellipticis 12–28 cm. longis 5–9 cm. latis apice longe acuminatis vel caudatis,

costa supra indentata subtus prominente, nervis lateralibus parallelis vel subarcuatis ad margines confluentibus; inflorescentiis plerumque 2 ex nodo terminali vel penultimo brunneo-pubescentibus cymosis 3-4 plo divisis; floribus subsessilibus apetalis albis, tubo turbinato-cupuliformi extus lepidoto 3 mm. lato 2 mm. alto, limbo calyptriformi circumscissili 1 mm. alto; staminibus multis ad marginem tubi affixis, filamentis linearibus 5 mm. longis, antheris versatilibus bilocularibus 0.2 mm. latis; stylo lineari 4-5 mm. longo; ovario inferiori plerumque triloculari, loculo basi uniovulato.—BOCAS DEL TORO: Fish Creek Hills, Apr. 9, 1941, *H. von Wedel 2195* (Herb. Missouri Bot. Gard., TYPE); same locality, Apr. 14, 1941, *H. von Wedel 2223* (Herb. Missouri Bot. Gard., COTYPE).

This species is distinctive in a poorly-known genus by virtue of its large leaves, swollen nodes, and inflorescence and floral characters. The inflorescence is cymose and regularly 3-4 times divided so that the peduncle divides into 3 secondary peduncles, each of which divides into 3 tertiary peduncles, and these in turn bear either 3 quarternary peduncles or 3 short-petiolate flowers. The inflorescence much resembles that found in certain species of *Psychotria*. Apparently 2 inflorescences are usually borne together from the terminal node, although sometimes a single inflorescence arises from the terminal or penultimate node. The flower is apetalous and consists of a turbinate-cupuliform base or tube and a circumscissile calyptriform limb or cap which is shed before the stamens unfold. The stamens are attached to the margin of the tube and are infolded in bud in such a manner that the upper half of the filament is pressed against and parallel to the style, the anther resting near the style base. The many filaments may be partially adnate towards the base. The style is linear and somewhat coiled in bud. The ovary is usually indistinctly 3-locular, although occasionally 4-locular. Each locule contains a single ovule borne basally.

RUBIACEAE

(P. C. Standley)

HOFFMANNIA AERUGINOSA Standl.—BOCAS DEL TORO: Fish Creek Hills, April 22, 1941, *H. von Wedel 2289*. Described from Costa Rica.

MORINDA CITRIFOLIA L.—BOCAS DEL TORO: Isla Colón, Nov. 14, 1941, *H. von Wedel 2942*. Apparently the first record from continental North America. Previously known from Asia, Australia and the Pacific islands.

PSYCHOTRIA SOLITUDINUM Standl.—BOCAS DEL TORO: Fish Creek Hills, April 24, 1941, *H. von Wedel 2323*. Described from Costa Rica.