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FIELDIANA: BOTANY

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TROPICAL AMERICAN PLANTS, VIII

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Tropical American Plants, VIII

The notes which make up this paper are the results of studies of the families involved in the next number of the *Flora of Guatemala*, in the determination of material from Mexico, Central and South America sent in by others and in the study of our own collections made in Central America.

Large collections of plants made by D. E. Breedlove in the state of Chiapas, Mexico, and in adjacent Guatemala are of the finest that it has been my pleasure to study; Roy W. Went's collections from Costa Rica have been rewarding as have those of Dr. K. Lems from a very interesting part of the same country.

Field work of our own group in Central America—every country was worked in by at least one of our group and often by as many as five of us in 1965 and again in 1966—and travel to study in other herbaria has been supported by grants from the National Science Foundation.

I saw all the material of the Sapotaceae and Symplocaceae contained in U. S. National Herbarium and the herbaria of Arnold Arboretum and Gray Herbarium during the course of revision of these families for *Flora of Guatemala*. I appreciate the privilege of having studied those collections.

APOCYNACEAE

Aspidosperma capitatum L. Wms., sp. nov.

Arbores usque ad 28 m. altae laticem sanguineum exudens. Ramulis crassiusculis, ferrugineo-pilosis; folia alterna, coriacea, anguste oblongo-elliptica vel oblongo-ovata, obtusa, subtus fusco- vel ferrugineo-pilosa; inflorescentiae subumbellatae multiflorae in capitulae congestis aggregatae; calyx ca. 3 mm. longus, lobi anguste triangulares vel lanceo-triangulares; corolla viridio-flavescens, lobi lineari-lanceolati, acuminati, tubus angulatus, chartaceus; fructus ignotus.

Large rain forest trees to 28 m. tall and 0.45 m. in diameter, exuding reddish latex. Branches terete, densely black pubescent and becoming glabrous, densely ferruginous pubescent on the new growths; leaves alternate, coriaceous, narrowly

oblong-elliptic to oblong-ovate, obtuse, acutish at the base, 12–22 cm. long and 6–11 cm. broad (leaves if present in inflorescence smaller), the lateral veins at nearly right angles to the mid-vein, about 30 pairs and with a faint nerve between each prominent pair, blade glabrous or glabrescent above except densely ferruginous-pilose on the mid-nerve, short pilose pubescent below, densely so on the nerves, the margin obscurely revolute and prominently pubescent; petiole terete or angled, densely ferruginous-pilose, about 2 cm. long; inflorescences axillary at the upper nodes, densely dark ferruginous-pilose, the primary peduncle about 5 cm. long, the secondary peduncles subumbellately disposed and about as long as the primaries, bracts or much reduced leaves often present, flower-clusters capitate (probably exceedingly compact cymes) each with some 25–50 flowers and the inflorescence with several hundred flowers; calyx about 3 mm. long, the lobes about 2 mm. long, imbricate, narrowly triangular or lance-triangular, acute, densely pilose-puberulent outside, glabrous within; corolla greenish-yellow, about 8–10 mm. long, the tube and lobes equal, glabrous, lobes linear-lanceolate, acuminate, 4–5 mm. long, tightly spiralled after anthesis, corolla tube somewhat angled and chartaceous, with the anthers inserted at or above the middle, 4–5 mm. long; fruits not seen.

PERU: "Chontaquiro colorado", bosque húmedo, Estación Experimental Agropecuario, Rupa-rupa, Dept. Huánuco, alt. 680 m., dic. 11 1962, *Abelardo Gutiérrez R. 95* [tree number TM-68] (F, type; WIS; NY; G; others).

In Dr. Woodson's revision of *Aspidosperma* (Ann. Mo. Bot. Gard. 38: 119–204. 1951) this species fits into the Series Nobiles and seems to be most closely allied to *A. nobile* Muell. Arg. from south-central Brazil, and less so to the Venezuelan *A. steyermarkii* Woodson. The congested capitate cymes of the terminal division of the inflorescences (from whence the specific name), the ferruginous pilose mid-nerve on the upper surface of the leaves, details of the flowers as well as the areas of distribution separate this species.

Mr. Gutiérrez says that the tree is used for lumber, to obtain coloring matter and for tannin, and that the wood is hard and of commercial quality.

I assume that the corolla lobes are spiralled to the left before anthesis, as they are after anthesis. Flowers on the specimens are past anthesis.

BIGNONIACEAE

Tynnanthus macranthus L. Wms., sp. nov.

Arbuscula vel arbores usque ad 3 m. vel ultra. Folia opposita, bifoliolata; foliola elliptico-ovata, acuta vel breviter acuminata, subtus lepidota; inflorescentiae breves, pauciflorae; calyx anguste campanulatum, subtruncatum, lobis parvis; corolla bilabiata et prope basim divisa, leviter arcuata; stamina 4, didyma.

Shrubs or small trees to 3 m. or more tall, twigs somewhat flattened at the nodes, scurfy-pubescent. Leaves opposite, bifoliolate, petiole about 1 cm. long; leaflets elliptic-ovate, acute or shortly acuminate, densely scurfy-pubescent below, nearly glabrous above, 6-8 cm. long and 3-4.5 cm. broad; petiolules about 1 cm. long, somewhat canaliculate above; inflorescences short, few-flowered axillary dichasia hardly exceeding the subtending leaves, scurfy-pubescent; calyx narrowly campanulate, subtruncate with minute lobes, 7-9 mm. long and 4-5 mm. in diameter, scurfy-pubescent as is the 4-6 mm. long pedicel; corolla bilabiate, about 3 cm. long, narrow and divided to near (6-8 mm.) the base, slightly arcuate, scurfy-pubescent outside, less so within, the upper lip bilobed, the lobes short, about 4 mm. long, obtuse or somewhat acute, the lower lip trilobed, the lobes 6-8 mm. long, the lateral lobes similar, obliquely ovate, obtuse, the middle lobe broadly rhombic, obtuse, 6-7 mm. long and as broad; corolla tube 6-8 mm. long, cylindrical; stamens 4, didymous, connivent under the upper lobe of the corolla, the longer pair adnate just below the sinus on the lower lip of the corolla, the shorter pair adnate on the upper lip; anthers 2-celled, widely explanate; style about 20 mm. long, slightly flattened at the stigmatic apex, about as long as the shorter pair of stamens; disc inconspicuous but surrounding the base of the ovary; ovary puberulent.

COSTA RICA: Flowers white, tree to 3 m., roadside 8 km. south of San Miguel, province of Heredia, alt. 800 m., 9 July 1964, *Roy W. Went 42* (F, type; OKL).

This species is easily distinguished from the other species of *Tynnanthus* by the relatively long narrow corolla. The species seems to have most of the characters of this genus and I find no other into which it fits as well. The corolla is relatively long and narrow and divided more nearly to the base than any other tropical American member of the family known to me.

BURSERACEAE

Dacryodes kukachkana L. Wms., sp. nov.

Arbores polygamodioeciae vel polygamae. Folia 4-5-jugata; foliola elliptico-oblonges, acuminata, subcoriacea; inflorescentiae axillariae, paniculatae; calyx cupulatus, trilobatus, lobi truncati; corolla trilobata, lobi valvati, ovati, acuti; fructus ovoideus, vernicosus.

Large polygamodioecious or polygamous trees of the dry tropical forest. Branchlets densely puberulent, becoming glabrous and grayish with age; leaves alternate, 15-20 cm. long, 4-5-jugate, imparipinnate or *apparently* even pinnate; petioles 10-15 cm. long, canaliculate and slightly winged at the base, angled above; leaflets opposite, mostly elliptic-oblong, acuminate, unequal at the base, subcoriaceous when mature, with 10-12 pairs of lateral veins and conspicuously reticulate-veined on both sides when mature, petiolules 4-5 mm. long; inflorescences axillary, paniculate, mostly about 10 cm. long and much exceeded by the leaves; flowers fragrant; calyx cupulate, trilobate, truncate, the lobes about 0.5 mm. long and fused into the hypanthium-like, thickened base; corolla trilobate, the lobes valvate, ovate, acute, free or slightly connate at the base; stamens obdiplostemenous, 6, affixed to

the disk and nearly sessile; disk fleshy, surrounding the ovary and fused with the calyx; fruits ovoid, bright green, vernicose, about 20 mm. long and 15 mm. in diameter.

PERU: "Copal, lacre." Flores con olor; bosque seco tropical, Leoncio Prado, distrito Honoría, prov. Pachitea, depto. Huánuco, 4 Sept. 1963, *Rafael Lão Magín* 79 (type, F; WIS; others); same locality, frutos color verde claro, 24 Oct. 1963, *Rafael Lão Magín* 92.

BRAZIL: Tree 80 feet tall, trunk 10 inches diameter, municipality São Paulo de Olivença, state of Amazonas, 11 Sept.-26 Oct. 1936, *Krukoff* 8194.

Related to *Dacryodes peruviana* (Loesner) Lam and to *D. olivifera* Cuatr. from both of which it is distinguished by the smaller leaflets and smaller fruits.

The two specimens collected by Mr. Lão Magín are from the same tree (tree number 105-P). Wood specimens were collected from the tree. The wood specimens contain 2.96 per cent of silica, perhaps the second highest known silica content for any known American wood according to Dr. B. Francis Kukachka, for whom this tree is named.

The leaves of this tree are unusual in that certain of them available from the type tree appear even pinnate. In each case, however, it appears that there may have been an initial which did not develop. The specimens in University of Wisconsin herbarium and in U. S. Forest Products Laboratory collections show odd pinnate leaves. The Krukoff collection has one leaf that is odd pinnate, the other imparipinnate. Dr. Krukoff's collections show some slight differences from the type collection—fewer lateral veins in the leaflets and the reticulate venation between them less conspicuous. The specimen is in fruit only and it is, of course, possible that it does not belong to the species described here. The description is drawn from the Peruvian material.

CELASTRACEAE

Crossopetalum parvifolium L. Wms., sp. nov.

Frutices vel herbae suffruticosae. Inflorescentiae axillares, cymosae, pauciflorae; flores perparva; sepala cupulata, 4-lobata, lobi suborbiculares, plusminusve 0.5 mm. longes; petala obovata vel oblongo-obovata, obtusa; discus cruciformis; fructus biloculare.

Suffruticose herbs or shrubs. Branchlets 4-5-angled and sulcate, with increasing age merely striate or nearly smooth, lenticellate on older wood; leaves opposite, alternate, or rarely ternate, linear to linear-lanceolate, acute or shortly acuminate, obscurely denticulate or entire, blade 5-15 mm. long and 1-4 mm. broad, petiole

to 1 mm. long; inflorescences axillary, cymose, few-flowered, mostly about 2 cm. long, the rachis subfiliform; flowers minute, red; sepals cupulate, lobes 4, suborbicular, glabrous or sparsely hirsute, about 0.5–0.7 mm. long; petals 4, obovate or obovate-oblong, obtuse, about 1–1.5 mm. long, imbricate in bud; stamens inserted on the margin of the cruciform (4-lobed) disc, the filaments subglandular, short (± 0.5 mm.), the anthers in anthesis about 0.3 mm. long and a little broader; style very short or none, stigmas 2; fruit apparently 2-celled, narrowly obovate, about 8 mm. long, slightly asymmetrical.

MEXICO: Flowers red, wooded slopes near crest of ridge, 2 miles south of Tuxtla Gutiérrez along the road to Villa Flores, Municipio de Tuxtla Gutiérrez, alt. 2,800 feet, 16 October 1965, *Breedlove & Raven 13327* (F, type; DS; others).

Closely related to *Crossopetalum gonocladum* (Urban) Rothm. (basonym, *Rhacoma gonoclada* Urban) which is known to me from a few specimens from Hispaniola. The present species is distinguished from that of Hispaniola by several not very impressive characters—larger leaves, longer inflorescences, larger flowers, a cruciform disc, branching less fastigiated. The geographical range is very different and, to the best of my knowledge, some 800 miles exists between the Mexican locality and those in Hispaniola with no collections of either species known between. Dr. Urban described the ovary of *C. gonocladum* as 4-locular, ours seems to be bilocular.

Crossopetalum parvifolium and *C. gonocladum* seem quite different from the other species of the genus known to me. The generic limits in this family in the neotropics are anything but sharp and I have no intention of becoming involved.

Wimmeria acuminata L. Wms., sp. nov.

Arbores usque ad 12 m., glabri. Folia lanceolata vel elliptico-lanceolata, acuminata, serrulata, longe petiolata; fructus trialatus, suborbicularis, plusminusve 1.5 cm. altus et 2 cm. latus.

Trees to about 12 m. tall. Twigs glabrous, terete or the newer ones somewhat angled. Leaves lanceolate or elliptic-lanceolate, acuminate, attenuate to the petiole, serrulate or sometimes nearly entire near the base, the teeth obscurely gland-tipped or not, subcoriaceous, long petiolate, the lateral veins leave the mid-nerves at an acute angle and trend toward the apex of the blade, blade 3.5–8 cm. long and 1.3–2.4 cm. broad, the petioles mostly about 1 cm. long; inflorescence a few-flowered cyme, 1–2 cm. long and much shorter than the subtending leaves; flowers unknown; fruit trialate, broadest at the middle, suborbicular in outline, notched at both base and apex, about 1.5 cm. high and 2 cm. broad, individual wings about 1.5 cm. long and 0.7–0.8 cm. broad.

MEXICO: Tree 40 feet tall, Chorreadero de Tuxtla, 5.6 miles east of Chiapa de Corzo along Mexican Highway 190, Municipio de Chi-

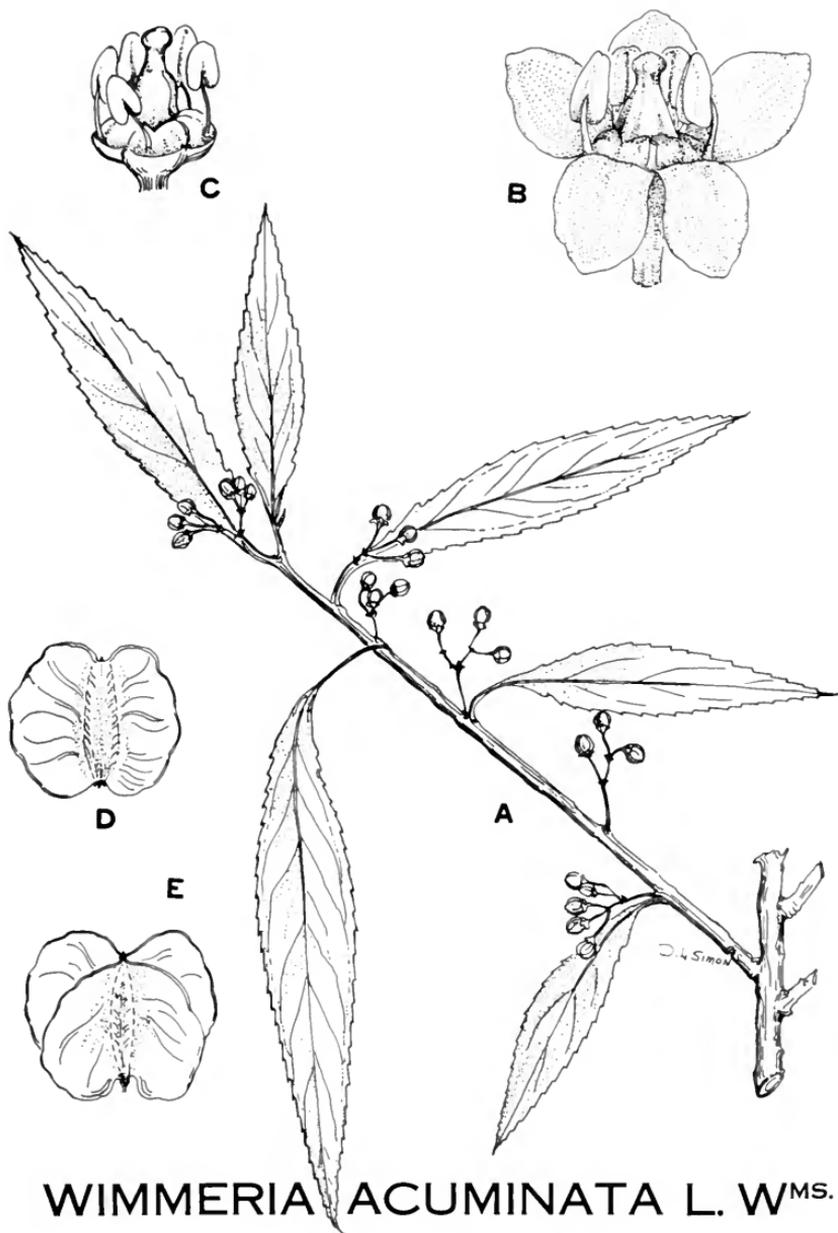


FIG. 1. *Wimmeria acuminata*. A, Flowering branch, natural size. B, Flower, $\times 5$. C, Flower dissected to show disc, $\times 5$. D and E, Fruits, natural size.

apa de Corzo, state of Chiapas, alt. 2,500 feet, 20 February 1965, *Breedlove 9090* (type, F; DS).

Wimmeria acuminata is related to *W. concolor* Schlecht. & Cham. It may be distinguished by several details—the consistently longer petioles, the veins of the leaf which leave the mid-nerve at a more acute angle and trend toward the apex rather than the margin, the shorter fruits which tend to be suborbicular rather than elliptic-oblong or broadly elliptic. The recently described *W. sternii* Lundell from Panama, and which we have gotten in Nicaragua (*Williams, Molina & Williams 23859*) is a related species which may be distinguished by its fruits and much smaller leaves.

ELAEOCARPACEAE

***Elaeocarpus serratus* L. Sp. Pl. 515. 1753.**

COSTA RICA: Trees in pasture and along roads near sea level, Golfito in the Golfo Dulce region from the surroundings of the airfield, 14 Sept. 1964, *Lems 5349*.

To the best of my knowledge this is the first report of this tree in Central America as a naturalized plant. It is especially curious in that it comes from a region where Paul Allen lived and botanized for several years yet he does not report it in his *The Rain Forests of Golfo Dulce*.

Dr. Lems (in lit.) reports that but a single tree about 7–9 m. tall was seen. This grows along a path on the south side of the airport and was being used as a fence post.

ERIOCAULONACEAE

***Eriocaulon molinae* L. Wms., sp. nov.**

Herbae parvae graciles caespitosae palustres usque ad 15 cm. altae. Folia linearia, acuta; inflorescentiae capitatae, usque ad 20–30-flores; flores trimeres, fem. sepala oblanceolata, petala elliptico-lineares, masc. sepala connata trilobata, petala in tubo connata; stamina 6.

Small slender dioecious or possibly monoecious palustrine herbs to 15 cm. tall with short stems or none, with tufted leaves and with few to several capitate inflorescences each borne on a long slender bractless peduncle. Leaves pale green, linear, acute or short acuminate, with conspicuous septiform lines contrary to the mid-nerve, glabrous, 2–3.5 cm. long and 1–2 mm. broad; inflorescence capitate, borne on long slender peduncles to 15 cm. long, heads at anthesis about 4–5 mm. broad and with 20–30 flowers; pistillate flowers trimerous, each subtended by a cucullate, acute, elliptic, nigrescent bract about 1–1.5 mm. long, sepals 3, oblanceolate, acute or acuminate, somewhat cucullate, short unguiculate, nigrescent, about 1.5 mm. long, petals elliptic-linear, acute, free, hyaline, styles 3, slender,

ovary trilobate and trilocular, about 0.3 mm. long at anthesis; staminate flowers trimerous, subtended by nigrescent, elliptic bracts about 1 mm. long, calyx united to form a tridentate bract open along one side, the tips ciliate, about 1.2 mm. long, the petals united into a tube about 1.2 mm. long, the 6 stamens borne on short filaments from the mouth of the tube, non-functional style globose.

HONDURAS: Abundante en sabanas palustres cerca de la quebrada El Chorrillo, Cerro de Hule, 20 km. al sur de Tegucigalpa, Depto. Morazán, alt. 1,500 m., 27 Oct. 1966, *Molina 18500* (type, F; EAP; others); en pántano, colinas empantanadas, área de pino y roble entre Las Flores y San Juan del Rancho, Depto. Morazán, alt. 1,500 m., 25 Nov. 1948, *Molina 1740*; scarce, shallow open bogs, San Juan del Rancho, eastern base of Cerro de Uyuca, Depto. Morazán, alt. 1,500 m., 10 Dec. 1949 and 30 Oct. 1951, *Standley 25028* and *29141*; heads blackish, common in swampy swale and meadows near Ojojona, Dept. Marazán, alt. 1,350 m., 6 Dec. 1966, *Williams & Correll 29289*.

The species seems to be most closely allied to *E. mexicanum* Moldenke of the species known from Central America and Mexico. The species being described is more delicate with differences also in detail of floral structure. We have known this species for many years but have misdetermined it as *E. seemanii* Moldenke, a dimerous species known from lowland Panama.

FLACOURTIACEAE

Abatia borealis L. Wms., sp. nov.

Arbores debiles usque ad 5-7 m. Folia opposita, lanceolata vel ovato-lanceolata, acuta, serrulata, subtus stellato-floccosa; inflorescentia racemosa, multiflora; corolla 0; calyx 4-lobatus, lobi lanceolati vel lanceolato-oblongi; stamina numerosa.

Small weak forest trees to 5-7 m. tall. Twigs glabrous or glabrescent, the younger ones somewhat flattened; leaves opposite, lanceolate to ovate-lanceolate, acute, serrulate, thinly to densely stellate-floccose below, sparsely pubescent with short, simple or bipartite hairs below, the blade 6-15 cm. long and 1.5-5 cm. broad; petioles stellate pubescent, 1-2.5 cm. long; inflorescence a terminal many-flowered spike-like raceme up to about 20 cm. long and 2-3 cm. in diameter; flowers greenish-yellow to orange, fragrant, on pubescent pedicels about 5-7 mm. long; corolla none; calyx 4-lobed, the tube short, the lobes lanceolate or lanceolate-oblong, acute, stellate pubescent outside, ornamented at the base inside with elongated filament-like but sterile processes 5-6 mm. long and 1.5-2 mm. broad; fertile stamens many, inserted at the base of the calyx below the filament-like processes, exceeding the calyx in length at maturity; ovary densely pubescent; style exceeding the calyx.

COSTA RICA: Flowers yellow, fragrant. Weak tree to 5 m. tall in cut-over montane cloud forest area, Cordillera de Talamanca about 20 km. north of San Isidro de General along Pan American Highway,

province of San José, alt. 2,800 m., 29 Jan. 1965, *Williams, Molina, Williams & Gibson 28507* (F, type; EAP; others); fl. jaunes, arbre de 5-7 m. de haut, Cerro de las Vueltas, I 1897, *Pittier 10511*; flowers greenish yellow, scarce small tree in open forest, Cerro de las Vueltas, province of San José, alt. 2,700-3,000 m., 29 Dec. 1925-1 Jan. 1926, *Standley & Valerio 43506*; orange panicles, shrub 5 m., along Pan American Highway in oak forest from Cerro de la Muerte to near San Isidro del General, alt. about 2,500 m., 23 Jan. 1965, *Lems 5182* (F, NY); Terraba, *León 1119*; flowers yellow, honey-scented tree 25 feet [tall], alt. 8,500 feet, 6 Sept. 1923, *Lankester 674*.

This plant was collected first by Pittier in 1897. Capt. Donnell-Smith named the plant *Abatia parviflora* R. & P. and Pittier concurred in the determination at a later date. Standley, who had collected the plant (1925-1926), used the same name in *The Flora of Costa Rica*.

Dr. Sleumer annotated our Andean material of the genus years ago and certainly confused two quite distinct species under the name *A. parviflora*. One of those is much like the present species and it may be for this reason that Standley accepted the Andean name in *The Flora of Costa Rica*.

LECYTHIDACEAE

Gustavia cincta (Cuatr.) Williams & Kukachka, comb. nov. *Eschweilera cincta* Cuatr., *Fieldiana, Bot.* **27**, 2: 83, fig. 1951.

While Dr. Cuatrecasas has placed this Colombian species in *Eschweilera* it appears to us to be rather a *Gustavia*,—which is borne out by the anatomy of the wood. Anatomically, *Gustavia* differs rather markedly from *Eschweilera*. The most prominent difference, observable with a hand lens, is the reticulate parenchyma which characterizes *Gustavia* as opposed to the concentric arrangement of parenchyma in *Eschweilera*.

The illustration cited above is inaccurate in that the leaves are shown to be scattered rather than crowded at the apex of the annual growths, a character to which Dr. Cuatrecasas called attention in his description.

LEGUMINOSAE

Pithecellobium leucocalyx (Britt. & Rose) Standl. *Field Mus. Bot.* **4**: 308. 1929. *Samanea leucocalyx* Britt. & Rose, *No. Am. Fl.* **23**: 34. 1928.

GUATEMALA: "Cenícero." Tropical moist forest, El Rosario, Depto. Petén, alt. 125 m., 18 April 1966, *McClay & Clara 41*.

This specimen was collected in the "*Proyecto Evaluación Forestal*" being carried on in the Petén lowlands in Guatemala. It is interesting to note that the common name given this tree is the same as that for the much better known *P. saman*.

In a recent letter Dr. B. Francis Kukachka writes that anatomically the genus is "a real nightmare and displays as much variability as the entire Mimoseae. I believe that it would be impossible to write a generic description of its anatomy that would not hold equally well for the subfamily." Dr. Kukachka points out, however, that it would be possible to write generic anatomical descriptions of some of the genera that have been segregated from *Pithecellobium*.

ORCHIDACEAE

Cranichis trilobata L. Wms., sp. nov.

Herbae terrestres, erectae, graciles, ca. 10 cm. altae. Folia elliptica vel late elliptica, acuta, glabra, sessiles vel subsessiles; inflorescencia racemosa, pauciflora; sepalum dorsale anguste elliptico-oblancoelata, obtusa; sepala lateralia ovato-lanccoelata, acuta, 3-5-nervia; petala longa unguiculata, lobi basium laminorum prominentes; labellum unguiculatum, unguis callosum, lamina apice trilobata basi leviter concavum; columna generis.

Small terrestrial herbs about 10 cm. tall and with a rosette of sessile or subsessile leaves. Stem slender, strict, with two or three sheathing scales, glandular puberulent above becoming glabrescent below; leaves elliptic to broadly elliptic, acute, glabrous, thin, sessile or essentially so, 2.5-5 cm. long and 1-2.2 cm. broad; flowers white, disposed in a few-flowered raceme; dorsal sepal narrowly elliptic-oblancoelate, obtuse, 3-nerved, obscurely ciliate-glandular, about 5 mm. long and 1.5 mm. broad; lateral sepals completely free, symmetrical, about 5 mm. long and 3 mm. broad; petals on long unguiculate claws attached near the middle of the column, strongly asymmetrical with a large basal lobe on the outer side of the blade, the petals connate at their tips and connate also with the tip of the dorsal sepal, claw about 1.5 mm. long, the blade about 3 mm. long and 2 mm. broad across the basal lobe; lip attached near middle of column, unguiculate with a fleshy claw bearing a cucullate callus closed at its base, the blade strongly trilobate at the apex and broadest across the apex, obcordate in general outline and obscurely saccate at the base of the blade, the fleshy claw about 1 mm. long, the blade about 2 mm. long and as broad at the apex; column about 3 mm. long, the lobes of the clinandrium rounded; pedicellate ovary glandular pilose, to about 10 mm. long.

MEXICO: Flowers white, steep rocky slopes with *Quercus* along Mexican highway 190 in the Zinacantán paraje of Mectajoc, Municipio of Ixtapa, state of Chiapas, alt. 3,500 feet, 17 Aug. 1965, *Breedlove 11856* (type, F; DS); terrestrial, flowers white, steep, sandy, moist ravine banks in open *Pinus-Quercus* woods with grass groundcover

on highway 195, 3 km. N of junction on highways 190 and 195 (16°50'N; 92°50'W), state of Chiapas, alt. ca. 1,100 m., 9 Aug. 1965, *Roe, Roe & Mori 1088* (F, WIS); flowers white, steep, rocky, open roadside bank adjacent to maize fields, with shrubby *Crataegus*, Compositae, Leguminosae and some ferns and mosses, Cumbre de Acultzingo near top of ridge overlooking valley, 4 km. south of Acultzingo on highway 150 at km. 283 (18°40'N; 97°20'W), state of Vera Cruz, alt. 1,700 m., 17 Aug. 1965, *Roe, Roe & Mori 1279* (F, WIS).

The relationship of this species is with *Cranichis schaffneri* Reichb. f. and less so to *C. gracilis* L. Wms. *Cranichis trilobata* is distinguished easily from *C. schaffneri* by the prominently trilobate apex of the lip and its fleshy claw with cucullate callus. The long basal lobes of the petals are also distinctive as are the sessile or nearly sessile leaves.

It is curious that these collectors found this species at three localities between 9 and 17 Aug. 1965 and that it has not turned up previously. The species must be fairly common at least for a short time during the year and it is curious that it has been missed.

***Pleurothallis microchila* L. Wms., sp. nov.**

Herbae parvae epiphyticae usque ad 15 cm. altae. Caules secundarii elongati, superne alati. Folia ovato-lanceolata, acuta, coriacea. Inflorescentia uniflora vel fascicula pauciflora, pedunculi filiformes, uniflores. Sepalum dorsale anguste oblongo-lanceolatum, actum; sepala lateralia adnata, anguste oblongo-ovata; petala linearia, obtusa; labellum perparvum, rhombico-ovatum, tricallosum, obscure pubescens.

Small epiphytic herbs up to 15 cm. tall. Secondary stems elongate, 5–12 cm. long, covered with 2–4 scarious sheaths which appear alate on the two angles above, brownish; leaves ovate-lanceolate, acute, coriaceous, somewhat conduplicate at the base, 6–10 cm. long and 2–3 cm. broad; inflorescence a single long pedunculate flower or a fascicle of 2–3 long pedunculate flowers, borne from the axil of the leaf in an inconspicuous sheath 6–8 mm. long; the peduncle subfilamentose and with a tubular bract below the middle, exceeded in length by the subtending leaf; flowers red or white with red markings; dorsal sepal narrowly oblong-lanceolate, somewhat acute, about 10 mm. long and 3 mm. broad; lateral sepals completely adnate one to another, narrowly oblong-ovate, obtuse, about 10 mm. long and 4 mm. broad; petals linear, obtuse, subterete and canaliculate above, narrowest toward the base; lip very small, rhombic-ovate, obtuse, with two lateral angles above the base, disc tricallose, one median one starting above the base, two lateral submammilate ones at the basal angles, the lip with obscure crispate pubescence, about 1.3 mm. long and 0.9 mm. broad.

GUATEMALA: Epiphyte, wet mountain forest near Aldea Fraternidad, between San Rafael Pie de la Cuesta and Palo Gordo, west facing slope of the Sierra Madre mountains, department of San Marcos,

alt. 1,800–2,400 m., 10–18 Dec. 1963, *Williams, Molina & Williams 25671* (type F).

Closely related to *Pleurothallis nelsonii* Ames which is known from nearby Chiapas in Mexico and to the very similar *P. arietina* Ames of Costa Rica. Superficially, the present species is very similar to these two but it is easily distinguished by the very different form of the lip which is much smaller than in the related species.

A sterile specimen (*Steyermark 36266*) may well be this species. It had been questionably determined by Dr. Donovan S. Correll, during his studies for the Orchidaceae of Guatemala, as *Pleurothallis arietina* Ames.

Sobralia pleiantha Schltr. Fedde Repert. **3**: 79. 1906; Ames, Bot. Mus. Leaflet. Harv. Univ. **4**: 47–51, t. 1936.

An interesting *Sobralia* and, even though it is relatively little known, it must be exceedingly common for we have seen it everywhere in the rain-forest of the El General Valley in Costa Rica. It is difficult to collect except when the big forest trees are being felled, for it occupies the high branches of these. One of our collections will be widely distributed.

COSTA RICA: Flowers cream, large epiphytic clumps on forest trees, rain-forest area long Río Cacao above Pan American Highway, El General Valley, province of Puntarenas, alt. 900 m., 30 Jan. 1965, *Williams, Molina, Williams & Gibson 28671*.

We saw the plant in one place, quite abundant, on rocks in a large clearing, which forms part of the "yard" of Dr. Alexander Skutch's home, "El Quizarrá", in Costa Rica.

Sobralia xantholeuca Hort. ex Williams Orch. Grow. Man. ed. **6**: 576. 1885.

MEXICO: Flowers yellow; epiphyte; steep, heavily-wooded slopes at Lagos de Colores, 25 miles east of La Trinitaria, Municipio La Trinitaria, Chiapas, alt. 5,200 feet, 27 May 1965, *Breedlove 10044*.

Charles Lankester told me he had seen this species in Chiapas and on his sight identification I added Mexico to the range of the species in "An Enumeration of Orchidaceae of Central America, British Honduras and Panama." This excellent specimen is the first I have seen from Mexico.

PHYTOLACCACEAE

Gallesia integrifolia (Spreng.) Harms, Pflanzenf. ed. 2. 16c:144. 1934.

PERU: "Ajos", El Caucho, Depto. & Peia. de Tumbes, March (flowers) to May (fruits) 1963, *José Vargas A. 13 & 20* (F; WIS; G; NY; Serv. For.; Lima).

As far as I know these collections from the Pacific department of Tumbes are the first record of the tree out of the Amazon basin. The garlic-like odor remains overpowering after three years, justifying the common name.

The wood is said to be used in carpentry and for railroad ties and beams.

SABIACEAE

Meliosma dives Standl. & Steyerl. Field Mus. Bot. 23: 61. 1944.

MEXICO: Bank of Río Hondo 4 miles north of Jitotol, municipio de Jitotol, state of Chiapas, alt. 5,500 feet, 12 Feb. 1965, *Breedlove 8961*.

The specimen cited is a good match for the type. The species is new to the Mexican flora.

The genus *Meliosma* is a difficult one in Mexico and Central America possibly due to the fact that there are relatively few good specimens available for study in herbaria.

Meliosma ira (Liebm.) L. Wms., comb. nov. *Lorenzanea ira* Liebm. Vid. Medd. Kjoebenhavn 71. 1850.

This Costa Rica *Meliosma* has been confused by Standley and others with *Meliosma glabrata* (Liebm.) Urban, yet the two seem to be fairly distinct and easily separated on leaf venation, fewer veins in *M. ira*; the inflorescence in *M. glabrata* (isotope and photograph of specimen which was in Berlin) is borne on old wood while those of *M. ira* are in the axils of leaves on the current year's growth; *M. glabrata* comes from relatively low country (Turrialba, some 600 m.), while *M. ira* is a mountain species (Naranjo to Tilarán and Poás, perhaps elsewhere in Costa Rica, similar mountain area in Nicaragua).

COSTA RICA: *Brenes 21430; Skutch 3683; Austin Smith H135, 144, A385, H445, A460, A514, A529, A678, H535, NY700, NY1355, 4195, 10009; Standley 33680; Williams & Williams 24587.*

A very mature specimen from the Cordillera Central de Nicaragua seems to be this species,—*Williams, Molina & Williams 23664*.

SAPOTACEAE

Bumelia pleistochasia Donn.-Sm. Bot. Gaz. 18: 4. 1893; *B. leiogyna* Donn.-Sm., l.c., *syn. nov.*; *B. persimilis* Hemsl. *sensu* Cronquist, Journ. Arn. Arb. 26: 449. 1965.

Dr. Cronquist in his review of the genera *Dipholis* and *Bumelia* has placed *Bumelia persimilis* Hemsl. in *Bumelia* and referred there as synonyms several names, including three used on Guatemalan material. These are *B. pleistochasia* Donn.-Sm., *B. leiogyna* Donn.-Sm. and *B. guatemalensis* Standl.

I have had occasion to study the isotype specimens of *Bumelia persimilis* Hemsl. (*Botteri 989*) from Mexico. I believe that these specimens should be referred, in synonymy, to *Dipholis salicifolia* (L.) A. DC. Most, if not all, of the remaining specimens which Cronquist has annotated with the name *Bumelia persimilis* Hemsl. are *Bumelia* and I believe should bear the name *B. pleistochasia* Donn.-Sm.

Cronquist places *Bumelia subsessiliflora* Hemsl. as a subspecies of *B. persimilis*. It would seem, therefore, that this name might be taken up as the basic name for this species in its broad sense. I have at hand a photograph and a fragment of an isotype (G) of the species and, in addition, two fine specimens collected by Howard Scott Gentry (7294 & 7308) in Sinaloa which seem to belong with *B. subsessiliflora*. If so, then the fruits which are truncate, and even a bit concave at the apex, indicate that the species is quite different from *Bumelia pleistochasia* which extends from south Mexico through Central America to Venezuela.

The type specimen (US) of *Bumelia guatemalensis* Standl. Trop. Woods 4: 9. 1925, which Cronquist placed as a synonym of *B. persimilis* Hemsl. (*sensu* Cronquist), is undeterminable. The species will be excluded in *Flora of Guatemala*.

MASTICHODENDRON. This name was published by Cronquist (*Lloydia 9: 245. 1946*) to contain some American plants formerly referred to *Sideroxylon* L., a genus based on *S. inerme* L., an African plant, which Cronquist thinks, apparently with reason, not congeneric with the American *S. foetidissima* Jacq.

Dr. H. J. Lam proposed provisionally that the oldest valid synonym, "Mastichodendron Jacq. in Hedw. Gen. (1806)" should be

taken up for certain American species. This name was not properly published.

In *Index Nominum Genericorum* the name is given as "Mastichodendron (Engler) Lam, Rec. Trav. Bot. Néerl. 36: 521. 1939." Dr. Lam made no such proposal nor was there a basionym given which would justify this assumption.

Mastichodendron foetidissimum (Jacq.) Cron. var. **gaumeri** (Pittier) L. Wms. comb. nov. *Sideroxylon gaumeri* Pittier, Contr. U. S. Nat. Herb. 13: 460. 1912. *Mastichodendron foetidissimum* subsp. *gaumeri* Cronquist, Lloydia 9: 248. 1946.

This change is merely to reflect the subspecific category used in *Flora of Guatemala*.

NISPERO Aubréville. Prof. Aubréville (in *Adansonia* 5: 19, t. 1. 1965) has published this name for one of the sapotaceous plants of Central America. The name itself would indicate that it was intended for the plant commonly known in many parts of Central America as *nispero*. This plant will appear in a forthcoming part of the *Flora of Guatemala* as *Manilkara achras* (Miller) Fosberg. The illustration given by Prof. Aubréville to illustrate the name "*Nispero achras* (Miller) Aubr." is the common zapote of the region, *Pouteria mammosa* (L.) Cronquist.

The generic name *Nispero* is a *nomen subnudum*; the specific name is improperly published (but I assume that the basionym is *Sapota achras* Miller); the combination is used to identify the illustration of a plant that no Central American ever called *nispero*.

Pouteria durlandii (Standl.) Baehni, *Candollea* 9: 422. 1942. *Lucuma durlandii* Standl. *Trop. Woods* 4: 5. 1925. *Paralabatia durlandii* Aubréville, *Adansonia* ser. 2. 5: 21. 1963.

The type of this species from department of Petén, *Durland s.n.* (US), is essentially sterile and Baehni has annotated it as *Pouteria ? durlandii* (Standl.) Baehni. Cronquist did not see the type, or did not annotate it. Although we are following his treatment of the species for *Flora of Guatemala* it is my feeling that because the type of this species is essentially sterile and that of *Pouteria izabalensis* is sterile there can be no assurance as to what they represent and perhaps would be best be treated as *nomina dubia*.

Dr. B. F. Kukachka advises, *in lit.*, that the wood anatomy of this species is suggestive of the genus *Ecclinusa*.

Pouteria izabalensis (Standl.) Baehni, *Candollea* **9**: 347. 1942.
Lucuma izabalensis Standl. *Trop. Woods* **4**: 6. 1925.

The type of this species, *Whitford & Stadtmiller 35* (US), from the department of Izabal, Guatemala is sterile and the species should never have been described from it. In *Flora of Guatemala* we shall follow Cronquist's interpretation of the taxon (although he did not see the type) with considerable reluctance. See note on *P. durlandii* above.

Pouteria lundellii (Standl.) L. Wms., comb. nov. *Sideroxylon lundellii* Standl. *Publ. Carnegie Inst. Wash.* **461**: 79. 1935.

This species has been treated as a synonym of *P. belizensis* (Standl.) Cronquist by Cronquist. However, the type of Standley's *Lucuma belizensis* is sterile and not determinable with any degree of certainty. The type of *Sideroxylon lundellii* Standl. from Petén (*Lundell 2767*) is a fine specimen.

SYMPLOCACEAE

The Symplocaceae consists of a single genus, which is said to be composed of about 300 species, occurring in America, Asia, and Australia. The species are mostly tropical but extend into temperate regions on both sides of the equator in America.

The last and only monographic treatment of *Symplocos* is by Brand (*Pflanzenr.* IV. **242**: 1-100. 1901). This is entirely inadequate for Central America today. Brand cited fewer than 30 specimens for Mexico and Central America—these distributed among ten species, of which seven were endemic to Mexico, two to Guatemala, and one in Costa Rica.

There are 11 species of *Symplocos* in the manuscript for the *Flora of Guatemala*, which includes British Honduran plants, one of these without a formal name because of inadequate material, and two which are described as new below. In the other Central American countries there are the following species of *Symplocos*. El Salvador has one species; Honduras, two species; both described below, and material available indicates that there are at least two more; Nicaragua, none is recorded but there are two species there, one of which seems to be undescribed; Costa Rica, six species recorded of which four or perhaps five are distinct, one more, or perhaps two, may be undescribed. In the Republic of Panama there is recorded one species.

A revision of the American species should be well worthwhile.

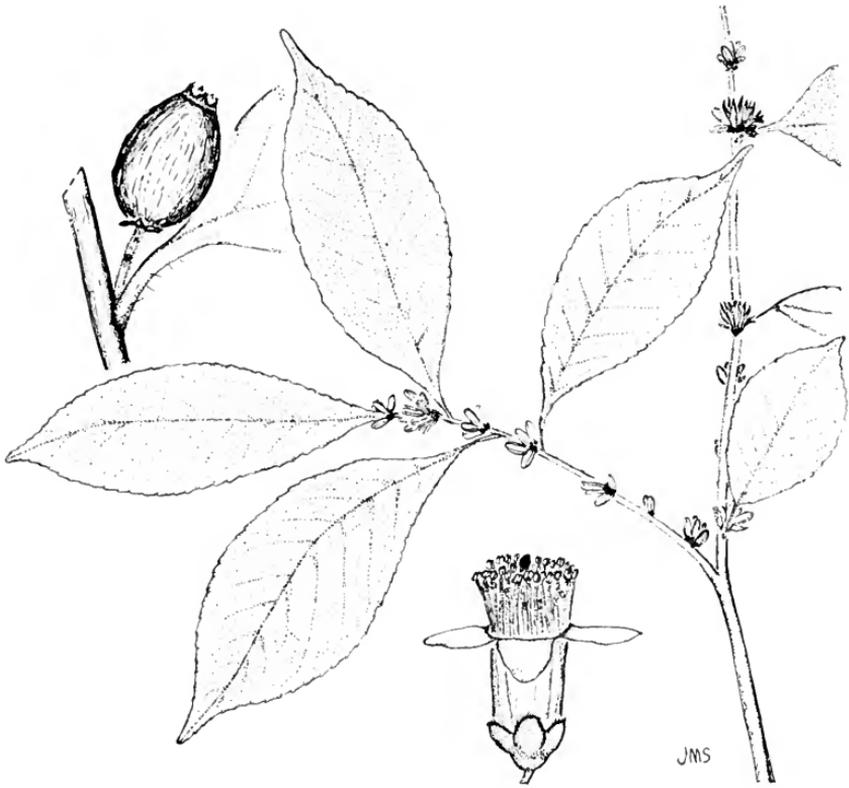


FIG. 2. *Symplocos bicolor*. A, Branch, $\frac{1}{2}$ natural size. B, Flower, $\times 3$. C, Fruit, $\times 5$.

I have seen the types of all of the species of *Symplocos* reported for Guatemala except *S. hartwegii* and *S. limoncillo*—the first seems to offer no problem and is quite clear, and although I have a fragment of the type of *S. limoncillo* it is not adequate to place the species with certainty.

Symplocos bicolor L. Wms., sp. nov.

Arbores parvae usque ad 10 m. Folia elliptica vel elliptico-obovata, acuminata, obscure repando-serrulata vel integra; inflorescentia pauciflora, cymosa; calyx parvus, lobi ovati, aliolati; corolla glabra, lobi oblongi, obtusi; stamina usque ad 30; fructus ovoideus.

Trees to 10 m. tall and 20 cm. in diameter, the twigs sparsely strigose pubescent at first but soon glabrous, angulate but soon terete, grayish. Leaves elliptic to elliptic-obovate, acuminate, obscurely repand-serrulate or entire, the two surfaces distinctly bicolored, the blades mostly 5–13 cm. long and 2–5 cm. broad, the petioles somewhat fleshy, 0.5–1 cm. long; inflorescences short, few-flowered axillary

cymes; the rachis puberulent, mostly less than 1 cm. long; flowers white, fragrant, small, mostly 7-9 mm. long; calyx lobes broadly ovate to suborbicular, obtuse, glabrous, or nearly so, but somewhat ciliolate, about 1 mm. long; corolla divided to below the middle, 5.5-7 mm. long, the lobes, oblong, obtuse, glabrous, reflexed at anthesis, 4-6 mm. long; stamens about 30 in 2-3 series, the filaments connate and forming a short corona, adnate with the corolla up to the throat of the tube, about as long as the corolla; style about 6 mm. long, glabrous, the stigma subcapitate, lobate; the fruits small, ovoid, glabrous, about 6-10 mm. long and 5-7 mm. broad.

GUATEMALA: La Libertad and vicinity, 10 Jan. 1935, *Mercedes Aguilar H. 217*; La Libertad, Petén, 2 June 1933, *Lundell 357*; wet thicket, shrub 2 m., fruit purple black, near Puerto Barrios, Izabal, 25 April-6 May 1939, *Standley 73114*.

BRITISH HONDURAS: Maskal, 14 April 1934, *Schipp 1253*; tree 6 inches in diameter, flowers white, fragrant, on high ridge, Big Eddy Ridge, Stann Creek Valley, 12 Jan. 1941, *Gentle 3486*; tree 2 inches in diameter, flowers white, on wooded island, pineland, Mullins River Road, Stann Creek District, 12 Jan. 1955, *Gentle 8538*; thicket near Manatee Lagoon, 3 Jan. 1906, *Peck 246*; upright growing tree in jungle, 30 feet tall, 4 inches in diameter, Mullins River Road, 29 March 1929, alt. 50 feet, *Schipp 116*; tree 30 feet tall, 7 inches in diameter in forest, flowers white, sweetly perfumed, Mullins River Road, alt. 100 feet, 15 Dec. 1931, *Schipp 862* (type, F); tree 30 feet tall and 4 inches in diameter, in forest, Camp 32, British Honduras-Guatemala survey, alt. 2,100 feet, 17 April 1934, *Schipp 1268*.

This small flowered species has been one of the "components" of a complex called *S. martinicensis* but seems to be adequately distinct. It is easily distinguished by the small glabrous flowers, the small fruits, and the distinct difference in intensity of the color of the two leaf surfaces.

***Symplocos molinae* L. Wms., sp. nov.**

Arbuscula vel arbores 2-8 m. altae vel ultrae. Folia elliptico-oblancoolata vel oblongo-obovata, breviter acuminata vel obtusa, coriacea, glabra; inflorescentia axillaris, pauciflora, racemosa; calyx glabris, lobi rotundati, ciliati, corolla anguste campanulata, glabris, lobi oblanceolati, obtusi, leviter crenulato-lanceolati; stamina 30-50; fructus ovoideus, glaber.

Shrub or small tree with smooth pale bark 2-8 m., rarely to 12 m. tall, the branches glabrous, brownish or reddish. Leaves elliptic-oblancoolate to oblong-obovate, short acuminate to obtuse, coriaceous, glabrous, lateral veins not prominent but at about 45° angle from mid-nerve, blade 4-12 cm. long and 2.5-6 cm. broad, the petiole fleshy, mostly 6-8 mm. long, inflorescences short, axillary, few-flowered racemes; flowers white; calyx glabrous, small, the lobes rounded, ciliate,

about 1 mm. long and as broad; corollas mostly 8–10 mm. long, narrowly campanulate, divided to near the base, glabrous, the lobes oblanceolate, obtuse, minutely crenulate-lacerate at the apex; stamens 30–50, bi-triseriate, the filaments connate to near their apices and forming a corona about as long as the corolla, lightly adnate to the corolla to the middle or above; style 7–9 mm. long, glabrous; ovary glabrous; fruits ovoid, glabrous, 6–10 mm. long and 3–5 mm. in diameter.

HONDURAS: Flowers white, small tree to 8 m. on slopes of Mt. Uyuca, Dept. Morazán, alt. 1,160 m., 7 Aug. 1946, *Williams & Molina 10249* (type F; EAP).

In addition to the type, there are the following specimens, all from the pine-oak highlands of central Honduras, the departments of Morazán, El Paraíso, or Choluteca: *Molina 1346, 1488, 10766, 14196; Standley 13737, 14356, 21687, 21698, 21816, 23830, 28501, 29023; Standley & Molina 4145; Williams 18252; Williams & Molina 11927, 12241, 12246, 13297, 14002, 19027; Valerio 2133, 3129.*

This plant is a common one in the pine-oak highlands of central Honduras and should be found in the similar regions of adjacent Nicaragua. It belongs in the complex of species in Central America that have been referred to both *S. martinicensis* and *S. limoncillo*, neither of which seems to be in Honduras. The type of inflorescence, details of flowers and color, shape (and coloration) of leaves, along with a limited but logical range, help to distinguish the plant.

I am pleased to name this plant for Prof. Molina, superb field companion for 20 years.

***Symplocos vernicosa* L. Wms., sp. nov.**

Arbores, usque ad 15 m., folia ovales, elliptico-ovata vel elliptico-obovata, breviter acuminata, supra vernicosa; inflorescentia abbreviata, axillaris, racema vel cyma pauciflora; calyx strigillosum, lobi late rotundati, ciliolati; corolla subcampanulata, lobi oblongi, apices rotundates, obscure lacerates; stamina 40–45, triseriata; fructus ingotus.

Trees mostly 5–15 m., the branchlets appressed pubescent, soon glabrous, reddish. Leaves oval to elliptic-ovate or elliptic-obovate, obscurely serrulate, abruptly short acuminate, the upper surface very dark green and vernicose, the lower surface paler, pubescent on the mid-nerve below, blade 4.5–10 cm. long and 2–3.5 cm. broad, the petiole to 1 cm. long, fleshy, puberulent dorsally; inflorescence much abbreviated, axillary few-flowered raceme or cyme; flower pink, waxy; calyx 2–2.5 mm. long, short strigillose pubescent dorsally but the margins glabrous, edges ciliolate, the lobes broader than long, rounded, about 1 mm. long and 1.5 mm. broad; corolla 8–10 mm. long, subcampanulate, glabrous, divided to near the base, the lobes oblong, the apex rounded and obscurely lacerate, reflexed in anthesis; stamens 40–45, triseriate, the filaments connate and forming a corona with the anthers borne at or near the apex, adnate with the corolla up to about the middle; style slightly shorter than the corolla, glabrous or sometimes pubescent at the base;

the stigma slightly enlarged and 3-4-lobate; fruits oblong-ovoid, 10-12 mm. long and 5-7.5 mm. in diameter.

MEXICO: In forest, tree 7-8 m., flowers rose, Pinabeto, Motozintla, Chiapas, alt. 2,586 m., 9 May 1945, *Matuda 15483*.

GUATEMALA: Chichen (or Cobán), Alta Verapaz, alt. 1,600 m., March 1908, *Tuerckheim II 2159*.

EL SALVADOR: Corolla rose-lavender at the base shading to white distally, tree 5-5.5 m. tall, cloud forest, east slope of Los Esesmites, lat. 14°21'N., long. 89°09'W., Dept. Chalatenango, alt. ca. 2,250 m., 11 March 1942, *Tucker 999* (MICH; US).

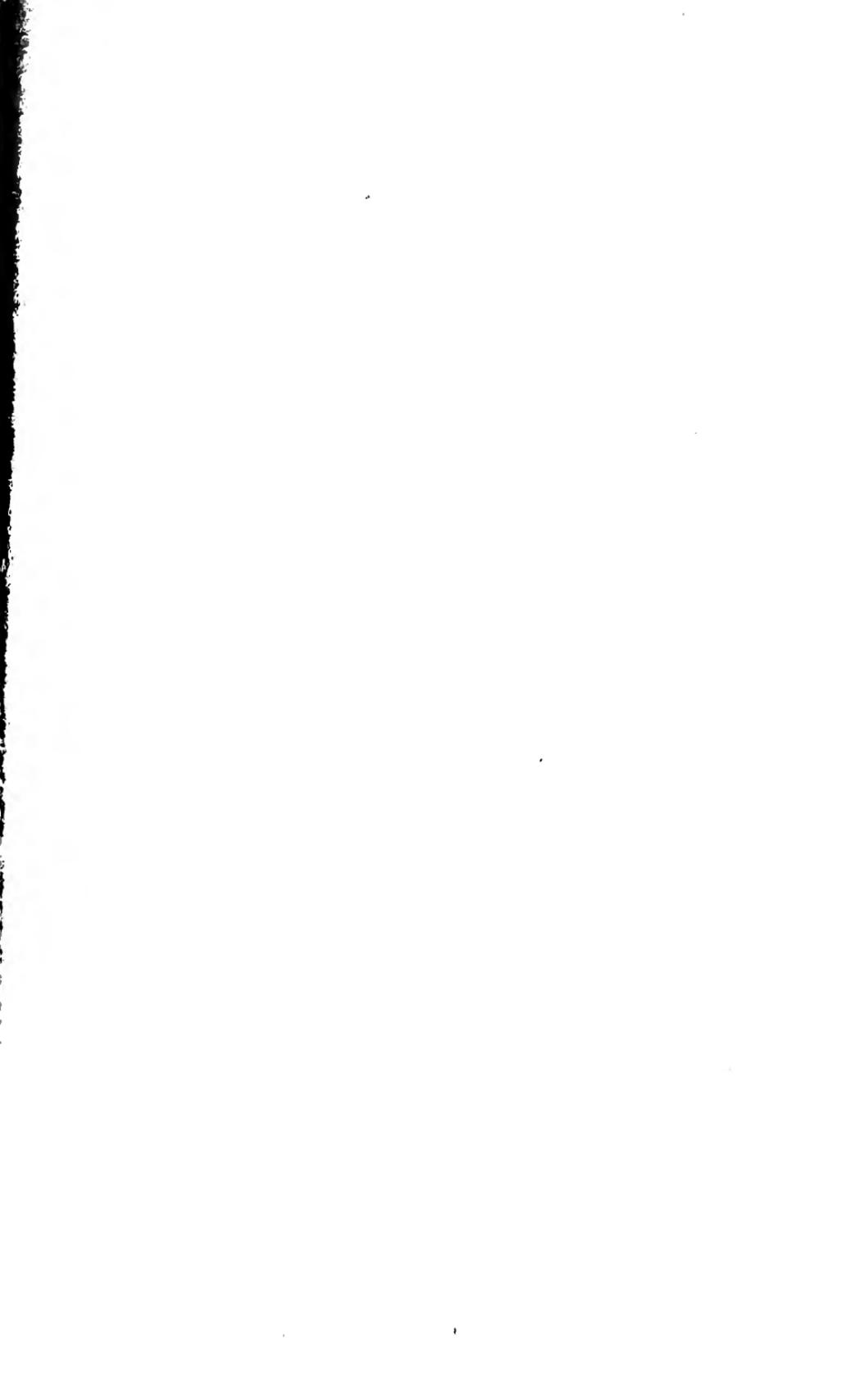
HONDURAS: Flowers lavender, tree 60 feet, upper rocky slopes and summit of Cerro Sta. Bárbara, dept. Sta. Bárbara, alt. 2,750 m., 5-6 April 1951, *Allen, Armour & Chable 6081*; berries blue, Rancho Quemado, road to El Rosario, San Juancito, Dept. Morazán, 3 March 1952, *Carlson 2636*; cloud forest, tree 50 feet high with spreading branches, La Laguna, San Juancito [Dept. Morazán], 4 April 1932, *Edwards P-46*; flowers pink, tree 8 m., common, mountains above San Juancito, Dept. Morazán, alt. 2,000 m., 22 Feb. 1949, *Merrill, Williams & Molina 15632*; arbol 5 m., bosque de nubes de Calaveras, Cordillera de Opalaca, Dept. Intibucá, alt. 1,700 m., 10 Abril 1956, *Molina 6427*; paderones húmedos del Huis, kilometro 110 sobre carretera Marcala, Dept. La Paz, alt. 1,600 m., 11 Abril 1956, *Molina 6488*; flores rosadas, arbol 2-8 m., frecuente en el bosque nebuloso La Vuelta del Caite, noreste de San Juancito, Montaña La Tigra, Dept. Morazán, alt. 2,300 m., 17 Marzo 1957, *Molina 7734*; arbol 8-12 m., frecuente, bosque mixto en Baños La Esperanza, Dept. Intibucá, alt. 1,800 m., 6 abril 1957, *Molina 7946*; flowers pale lavender, tree 4 m. in cloud forest, near summit San Juancito Mountains, Dept. Morazán, alt. 2,000 m., 22 March 1951, *Williams 17431* (type F); tree 5 m., cloud forest area, in mountains above San Juancito, Dept. Morazán, alt. 2,000 m., 6 Nov. 1947, *Williams & Molina 13369*; flowers rose, tree 8 m., in cloud forest area, mountains above San Juancito, Dept. Morazán, alt. 2,000 m., 20 Feb. 1948, *Williams & Molina 13677, 13740*; arbol 8 m., común en la floresta de nubes de la Montaña de la Tigra, suroeste de San Juancito, Dept. Morazán, alt. 2,000 m., 5 Feb. 1950, *Williams & Molina 17084*.

This is another component of the complex that has been called *Symplocos martinicensis*-*S. limoncillo* and, of those which I have seen in the field, one of the most attractive.

This widely distributed montane species, so far as I know, is found only in wet, cool forests rather than in the drier pine-oak forest regions. All of the specimens which I have seen are at elevations of 1,600 meters or more.

The single specimen from Mexico is not in the best condition but it seems to belong here.

The species seems to be most closely related to *S. molinae*, described above, which occupies a part of the same geographical area, but occurs down in the pine-oak region. The larger pink flowers, the more pubescent calyx and inflorescence, and difference in color of the two leaf surfaces help to distinguish this species.



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