

TROPICAL AMERICAN PLANTS, XVI

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The notes which follow are based on my studies in preparing manuscript for Flora of Guatemala as well as notes made on a recent field trip to Central America. Field work and floristic research have both been supported by generous grants from National Science Foundation.

COMPOSITAE

SENECIO ARMENTALIS L. Wms. nom. nov. — Nelsonianthus epiphyticus H. Robinson & Brittell, Phytologia 27: 54. 1973, not Senecio epiphyticus O. Kuntze, 1898.

The genus Nelsonianthus proposed recently by H. Robinson and Brittell seems dubiously distinct when considered in the context of the vast genus Senecio. However the species described seems amply distinct from other species of Senecio known to me from tropical America. Senecio armentalis is an attractive epiphytic species found on the highest elevations of Cerro María Tecum in the Guatemalan Sierra Madre where it occurs in the open forest, usually on oaks.

The basis for the name Nelsonianthus is not given but I assume that it is for E. W. Nelson who collected this species near Cabel in the Department of Quezaltenango at 11,000 feet on January 20, 1896, his collection number 3682. Material of our own collections from the same general area are being distributed. These are Williams, Molina & Williams 41719, 41723 and 41747.

CONVOLVULACEAE

IPOMOEA TRILOBA L. Sp. Pl. 161. 1753; Standley & Williams, Fieldiana, Bot. 24, pt. 9: 58. 1970.

I have had the pleasure of travelling through Mexico, and in Central America as far as Nicaragua during November and December 1973, at the end of an especially heavy rainy season. There were literally millions of acres of land abundantly covered with Ipomoea triloba in flower. It is everywhere in disturbed areas

and perhaps most common from some 400 to 800 meters elevation although it goes to near sea level and occasionally is seen as high as 1,500 meters. This species must be the commonest and most abundant weed from Vera Cruz to Nicaragua and further south.

GRAMINEAE

HYPARRHENIA RUFA (Nees) Stapf in Prain, Fl. Trop. Africa 9: 304. 1918. Trachypogon rufus Nees, Agrost. Bras. 345. 1829. Swallen, Fieldiana, Bot. 24, pt. 2: 170. 1955.

Jaraguá grass is native of Africa and was doubtless taken from Africa to Brazil as a forage grass. It is thought to have been introduced from Brazil to Honduras by Tiburcio Carías (president of Honduras 1932-1947) and sown as a pasture grass on the government farm in the Zamorano valley, probably in the early 1930s. This grass was well established in the Zamorano valley in the mid-1940s when I went there and had essentially driven out Panicum maximum Jacq., a much superior pasture grass also native of Africa. Panicum maximum, Guinea grass, was so common and widely known in Central America that the usual name for it was zacate or zacatón, which translates simply as "grass" or "big grass!"

Jaraguá is a tall, rough, and when mature a very tough grass that most animals can not eat. It has been the common practice to burn over Jaraguá pastures in the dry season to clear them and to make available the tender young grass as the rainy season starts. The rhizomes of the grass are resistant to fire so that it is the surviving plant over millions of acres of Mexican and Central American pasture lands. The native grasses and forbs that are not resistant to fire are killed out in the annual burnings.

Jaragua is now naturalized in most open or pasture land of Central America from a bit above sea level to some 1,600 meters. It is the dominant cover in many places. The Jaraguá covered hills can be very beautiful at the end of the rainy season but in the dry season it forms a rather unattractive cover. When Jaraguá and Ipomoea triloba grow together, at middle and lower elevations, they may form a thicket that is almost impenetrable.

HAMAMELIDACEAE

MATUDAEA TRINERVIS Lundell, Lloydia 3: 210. 1940.

Dr. B. F. Kukashka wrote in October 1973 and suggested that I check on several trees being cut commercially and exported by Maderas Centro América, S. A. of Matagalpa, Nicaragua. Among these was a tree the lumber of which is being marketed in the United States as varazón, the local name in Nicaragua. Upon the basis of wood specimens Dr. Kukashka thought the tree to be a Distylium (=Molinadendron).

Professor Molina R. and I visited Mr. Dharam Yadav at Matagalpa in November 1973 and were given specimens of the varazón. Flowering material will be supplied as soon as the tree comes into flower. There seems no question that the tree is Matudaea trinervis and that it adds an important commercial timber to those known from Central America.

The genus Matudaea, named for the well known Mexican botanist Eizi Matuda, was discovered in the state of Chiapas, Mexico as recently as 1940. Standley found the genus in Guatemala soon afterward and reported it in the Flora of Guatemala. Standley, Molina and myself have made a half dozen collections in Honduras since 1950, where the common name is reported as esquiro. Salas and Taylor found the species at "La Fundadora", Department of Matagalpa, Nicaragua in 1957 and reported the common name of guayabo.

The foresters of Maderas Centro América, the largest saw mill operators in Central America, now report the species as an abundant and very fine commercial timber in the Cordillera Isabelia (=Cordillera Central de Nicaragua), a tree to 35 meters or more tall and to about one meter in diameter.

RUBIACEAE

BORRERIA EXILIS L. Wms. nom. nov. — Borreria gracilis L. Wms. Phytologia 26: 487. 1973, not Miq. ex Hook. nor Scheele.

Dr. Joseph Kirkbride has called my attention to the improper use of the name Borreria gracilis which I applied to a Costa Rican species. A specific name with the same meaning is substituted.

PSYCHOTRIA CALOPOGON L. Wms. sp. nov. — Subg. Heteropsychotria. Arbusculae usque ad 2.5 m. altae pilosae. Folia elliptica vel late elliptica acuminata pilosa, laminae usque ad 30 cm. longae; inflorescentia pedunculata paniculata multiflora; calyx dense pilosus, lobi anguste lanceolati acuti; corolla alba, tubi cylindrici, lobi ovati acuti pilosi; stylus tubo subaequilongus, stigma bilobatum; fructus desideratur.

Shrubs to 2.5 m. tall, the stems spreading pilose pubescent, probably glabrescent with age, stipules lanceolate, bilobate, the apices scarious. Leaves narrowly elliptic to broadly elliptic, acuminate, with about 20 pairs of secondary nerves, these prominent below, pilose on both surfaces, more so below and along the mid-nerve, pale green above and lighter below, the blades 12-30 cm. long and 3.5-12 cm. broad, the petioles 1-3 cm. long, spreading pilose pubescent; inflorescence terminal, pedunculate, a rather loose many-flowered panicle with the lateral branches of capitulate bracteate cymules; cymules subtended by 3-5 lanceolate, acute or acuminate pilose bracts mostly 4-5 mm. long and 1.5-2 mm. broad; hypanthium and calyx about 2 mm. long,

densely pilose, the calyx lobes narrowly lanceolate, acute, about 0.7-0.8 mm. long; corolla white, mostly 4-5 mm. long, the tube narrow and about 3.5 mm. long, the lobes ovate, acute, pilose dorsally, 1-1.5 mm. long; style about as long as the corolla tube, stigma bipartite; stamens attached in the throat of the corolla and the anthers exserted and about 0.5 mm. long; fruits not known.

Guatemala: shrub about 5-8 feet tall, flowers white; calyx pale green; leaves membranaceous, pale green above, grey-green beneath, dense rich forest between Ixcán and Río Ixcán, Sierra de los Cuchumatanes, Dept. Huehuetenango, alt. 150-200 m.; July 23, 1942, Steyermark 49308 (type, F); Cubilquitz, Dept. Alta Verapaz, alt. 350 m., July 1903, Tuerckheim 8403 (F).

A representative of a complex group of taxa related to P. pilosa Ruiz & Pavón of South America. The Central American specimens called P. pilosa are a mixture of several species.

PSYCHOTRIA CHRYSOCALYMMA L. Wms. sp. nov. - Subgenus Heteropsychotria. Arbusculae usque ad 2 m. vel ultrae, ramuli dense piloso-pubescentes. Folia petiolata elliptica acuminata utrinque pubescentia usque ad 15 cm. longa; inflorescentiae laterales longe pedunculatae subumbelliformes; hypanthium et calyx dense et breviter pilosum, lobi angusti lanceolati acuti; corolla alba extus pilosa, lobi oblongo-lanceolati; fructus anguste ovoideus pubescens porcatus.

Shrubs to 2 m. tall or perhaps more, the branches densely and softly short pilose-pubescent; stipules persistent, with two lateral lanceiform lobes 2-3 mm. long. Leaves short petiolate, elliptic, acuminate, pilose-pubescent or sparsely hirsute on both surfaces, 12-15 cm. long and 4-5.5 cm. broad when mature, secondary nerves 11-13 pairs, conspicuous below, petiole slender, 1-2 cm. long; inflorescence lateral, long pedunculate subumbelliform cyme covered with yellowish or golden multicellular pubescence, the peduncle about 6 cm. long, the cyme about 4 cm. long, the bracts subtending each division of the inflorescence linear and acute, 3 to 10 mm. long; flowers in each cymule about 4-5, short pedicellate, subtended by bracts longer than the calyx; hypanthium and calyx about 4 mm. long, densely short pilose, calyx lobes narrowly lanceolate, acute, 1.5-2 mm. long; corolla white, tubular, widest above the middle, pubescent outside especially above, 13-15 mm. long, the lobes short, oblong-lanceolate, about 2 mm. long; style as long as the corolla, apex shortly bilobate; stamens inserted in the throat of the corolla, included, anthers about 3 mm. long; fruits narrowly ovoid, each carpel prominently 3-ribbed dorsally, sparsely to densely pubescent, 5-6 mm. long.

Guatemala: shrub 5-7 feet tall; leaves membranaceous, dull green above, gray-green beneath with prominent nerves; peduncles spreading or slightly drooping, brownish green or suffused with dull brick; pedicel mustard-yellow-tawny or golden tawny as is the calyx and corolla tube; corolla lobes white; ovary dull green; hills north of Finca Piamonte, between Finca Piamonte and summit of Volcán Santa Luisa, Dept. El Progreso, alt. 2,400-3,333 m., Feb. 5, 1942, Steyermark 43518 (type, F).

Related to P. purpusii Standl. from which it may be distinguished easily by the narrow bracts, instead of broad ones, subtending the segments of the inflorescence, the fruits narrowly ovoid, not subglobose. It is a species of the eastern highlands while P. purpusii is known only from the western highlands of Guatemala and adjacent Chiapas.

The specific name recalls the "golden head-covering" of the plant.

PSYCHOTRIA IZABALENSIS L. Wms. sp. nov. - Subg. Heteropsychotria. Arbusculae aut arbores usque ad 4 m. altae glabrae vel sparse pubescentes. Folia membranacea late elliptica vel oblongo-elliptica longe acuminata glabra vel subtus leviter puberula usque ad 30 cm. longa; inflorescentia terminalis in cyma paniculata pedunculata multiflora nato; calyx perparvus, lobi triangulari-ovati acuti; corolla alba extus pubescens tubo cylindrica, lobi oblongo-lanceolati acuti; fructus desideratur.

Shrubs or small trees to 4 m. tall, the stems and leaves glabrous or sparsely pubescent, the inflorescence short pilose pubescent, the stipules persistent, truncate with the erect lateral lobes linear, densely pubescent and about 4-6 mm. long. Leaves membranaceous, broadly elliptic or oblong-elliptic, long acuminate, glabrous except the petioles and nerves on lower surface sparsely puberulent, the blades when mature 15-30 cm. long and 5-11 cm. broad and attenuate into a short 1-2 cm. long petiole; inflorescence terminal, a many-flowered paniculate cyme with the cymules at most subcapitate but usually more open, densely short pilose pubescent, pedunculate, 8-11 cm. long and 4-6 cm. broad, bracts subtending the main divisions linear-lanceolate, about 1 cm. long, bracts in the cymules conspicuous, lanceolate to oblong-lanceolate, acute, sparsely pubescent and ciliate, exceeding the calyx, mostly 3-4 mm. long; hypanthium and calyx small, about 1 mm. long, pubescent, the calyx divided to the base, the lobes triangular-ovate, acute, about 0.5 mm. long; corolla white, crisped-pubescent externally, tube cylindric but broadened and sparsely barbate in the throat, about 4 mm. long, the lobes oblong-lanceolate, acute, about 2 mm. long; stamens inserted in the corolla throat, anthers barely exerted, about 1 mm. long; style as long as the corolla, the stigma lobate; fruits not known.

Guatemala: tree 4 m., inflorescence yellow-green, along old road, Exmibal Camp 2 (La Gloria), NW of Lake Izabal, serpentine-derived laterite, vicinity of Lago Izabal, Dept. Izabal (long. $89^{\circ} 25'$ lat. $15^{\circ} 15'$), alt. 0-600 m., 6 May 1966, Jones & Facey 3257 (F, NY, EAP); shrub 3 m., corolla translucent white, 1-2 km. south of Izabal, vicinity of Lago Izabal (long. $89^{\circ} 25'$ lat. $15^{\circ} 15'$), alt. 0-600 m., 22 April 1966, Jones, Proctor & Facey 3024 (F, type; NY).

Related to Psychotria brachiata Sw. and to the complex around P. costaricensis Polak. From the first of these it is easily distinguished by the stipules and details of the inflorescence and flowers, by the larger long acuminate leaves.

PSYCHOTRIA OREODOXA L. Wms. sp. nov. — Subgenus Heteropsychotria. Arbusculae usque ad 5 m. altae ramosae glabrae aut leviter puberulae. Folia elliptica vel elliptico-oblongata longe acuminate glabra basi attenuata 10-18 cm. longa et 2-5 cm. lata; inflorescentia thyrsiformis pedunculata; calyx brevis, lobis angustis triangularibus acutis; corolla parva infra medium tubularis; fructus carnosus atropurpureus.

Shrubs to 5 m. tall, branched, the branches glabrous or obscurely puberulent, stipules persistent, about 3 mm. long with lateral aceriform lobes. Leaves elliptic or elliptic-oblongate, long acuminate, attenuate to the slender petiole, glabrous, with about 10 pairs of secondary nerves, the blades 10-18 cm. long and 2-5 cm. broad, the slender petiole mostly 1-3 cm. long; inflorescence terminal, thyrsiform, pedunculate, to about 7 cm. long; flowers white, abundant; hypanthium and calyx 1-1.5 mm. long, the calyx short, the lobes narrowly triangular, acute, about 0.5 mm. long; the corolla small, tubular below and slightly expanded above, about 5-6 mm. long, the lobes small, oblong; stamens inserted in the corolla throat, the anthers exerted and about 1.5 mm. long; fruits very fleshy, purple-black, the seeds about 2.5 mm. long, obscurely ridged.

Guatemala: moist forest, shrub 8 feet, near Vuelta del tigre below Santa María de Jesús, Dept. Quezaltenango, alt. about 1,500 m., March 11, 1939, Standley 68162; "chile", along Quebrada San Jerónimo, Finca Pirineos, lower south facing slopes of Volcán Santa María, between Santa María de Jesús and Calahuaché, alt. 1,300-2,000 m., January 1-2-8, 1940, Steyermark 33355, 33816; shrub 15 feet tall, corolla white, south facing slopes and barrancos of Volcán Santa Clara 1 1/2-2 miles west of Finca Naranjo, alt. 1,250 m., June 1, 1942, Steyermark 46803 (type, F); south facing slopes of Volcán Atitlán, above Finca Mocá, Dept. Sololá, alt. 1,000-1,250 m., June 20, 1942, Steyermark 47929.

PSYCHOTRIA OROGENES L. Wms. sp. nov. — Subgenus Heteropsychotria. Arbusculae vel arbores parvae usque ad 3-4 m. altae dense piloso-pubescentes; stipulae persistentes bilobatae, lobi lineares. Folia elliptica vel elliptico-oblongata acuminata pilosa, petiolis brevibus; inflorescentia terminalis pedunculata panicula cymosa pilosa; calyx perparvus, lobis lanceo-triangularibus; corolla alba parva extus villosa, lobis oblongis acutis; fructus subglobosus porcatus.

Shrubs or weak trees 3-4 m. tall, the branches densely pilose pubescent with spreading hairs, the stipules persistent, joined and surrounding the branches, each pubescent stipule with a lateral pair of linear-lanceolate lobes 3-4 mm. long. Leaves elliptic or elliptic-oblongate, acuminate, sparsely pilose above, prominently and softly so below, with mostly 13-16 pairs of lateral nerves, the blade 8-15 cm. long and 1.5-4 cm. broad, petioles short, 0.7-1.5 cm. long; inflorescence a terminal pedunculate panicle of cymes up to about 6 cm. long, conspicuously soft pilose when immature but less so in fruit, bracteolate, the bracts linear-filiform, those of the main branches 1 cm. long, those subtending flowers smaller; flowers white, conspicuously short pilose, usually subtended by a filiform bract about as long as the calyx; hypanthium and calyx 1-1.5 mm. long; calyx very small, the lobes lance-triangular, about 0.5 mm. long; corolla small, 4-5 mm. long, short villous outside, the lobes oblong, acute, about 2 mm. long; fruits subglobose, pilose, prominently ridged, 4-5 mm. long.

Guatemala: flores cremas, arbusto 3 m., poco frecuente, bosque denso 5 km. al noroeste de Cobán, Depto. Alta Verapaz, alt. 1,400 m., Mayo 10, 1963, Molina & Molina 12026 (F, EAP); weak tree 4 m. high, wet cloud forest, Sierra de las Minas about 5 km. south of Purulhá, Dept. Baja Verapaz, alt. 1,600 m., January 2, 1973, Williams, Molina & Williams 41924 (F, type; EAP, US, NY).

A montane cloud forest species somewhat related to P. pubescens Sw., a species of the low wet tropical forests. It is easily distinguished by the narrower densely pubescent leaves and details of flowers and inflorescences.

SPERMATOCYTES. — This tribe is perhaps as easily distinguished as any tribe in the Rubiaceae. There are in Guatemala, and in Central America, eight genera belonging to the tribe. All of these, except Ernodea, have species that superficially are much like those in others of the genera. Characters to separate these genera mostly are found in the fruits and if fruiting material is not available, or not looked at, it is easy to put a plant into an incorrect genus.

The facility with which capable botanists, — Standley, Dwyer, Molina R. and Gómez Pompa for example, — who are familiar with the tribe and have placed a species into two or

three different genera indicates that perhaps there is something wrong in the delimitation of the genera. The distinction of *Crusea* from *Diodia* is not good; that of *Spermacoce* and *Hemidiodia* is not sharp; the large genus *Borreria* has look-alikes in almost all of the other genera and in *Borreria* are to be found "misplaced" specimens of all of them. The tribe needs a friend for it is not feasible for a floristic worker to give it the time that it needs.



Williams, Louis O. 1974. "Tropical American plants, XVI." *Phytologia* 28, 225–232. <https://doi.org/10.5962/bhl.part.8037>.

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