

There appear to be no differences in the number of the scales. With age, the scales seem to grow laterally, the spinules increasing in number to 19 or more.

BOTANY.—*Ten new species of trees from Salvador.*<sup>1</sup> PAUL C. STANDLEY, U. S. National Museum.

The ten species of trees here described all occur in the Republic of Salvador, but some of them extend also to other parts of Central America. Part are based upon specimens obtained by the writer during the winter of 1921–22, and others upon material collected by Dr. Salvador Calderón of the Salvadorean Department of Agriculture. One of the three described is of some importance locally as a source of lumber, while another represents a genus not reported previously from North America.

*Pseudolmedia mollis* Standl., sp. nov.

Large tree, the young branchlets densely fulvous-pilose; petioles very thick, 4 to 6 mm. long; leaf blades oblong or narrowly ovate-oblong, 11 to 16 cm. long, 4 to 6.5 cm. wide, somewhat abruptly acuminate, obliquely rounded at base, subcoriaceous, glabrate above except along the nerves, the venation depressed, beneath paler, copiously soft-pilose, especially along the costa and lateral nerves, the venation elevated, the lateral nerves about 15 pairs, arcuately ascending, anastomosing near the margin; fruit globose-oval, 2 cm. long, densely soft-pilose, subtended at base by few broadly ovate, acutish bracts.

Type in the U. S. National Herbarium, no. 1,152,341, collected at Comasagua, Salvador, December, 1922, by Dr. Salvador Calderón (no. 1382).

The leaves resemble in shape and texture those of *P. oxyphyllaria* Donn. Smith, the only other species of the genus known to occur in Central America, but the pubescence is altogether different in the two species. The vernacular name of the Salvadorean tree is "tepeujushte."

*Ledenbergia macrantha* Standl., sp. nov.

Tree, about 6 m. high, with long, somewhat pendent branches; young branchlets sparsely tomentulose, soon glabrate; petioles slender, 2 to 4.5 cm. long, sparsely villosulous; leaf blades elliptic or broadly ovate, 4.5 to 8 cm. long, 2.5 to 4.5 cm. wide, acuminate, acute or obtuse at base, thin, glabrous above, beneath villosulous along the costa near the base, elsewhere glabrous racemes very numerous and forming a dense panicle, their rachises 12 to 20 cm. long, tomentulose; pedicels filiform, 5 to 10 mm. long; sepals oblong-oblancoolate, in fruit 8 to 13 mm. long, 3 to 4.5 mm. wide, glabrate, conspicuously veined; fruit glabrate, rugulose, 3 mm. long.

Type in the U. S. National Herbarium, no. 1,111,202, collected along roadside at Puerta de la Laguna, near San Salvador, Salvador, February 24, 1923, by Dr. Salvador Calderón (no. 680). The following additional specimens have been seen:

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SALVADOR: Puerta de la Laguna, *Standley* 23656; April 27, 1922, *Calderón* 680 (both these collections are from the type tree). Department of Ahuachapán, *Padilla* 195.

Dr. Padilla gives the vernacular name as "nevado."

Until very recently, only a single species of *Ledenbergia* was known, *L. sequieroides* Klotzsch of Venezuela. During the present year there has been published a second species, *L. peruviana* O. C. Schmidt, of Peru. The Salvadorean tree differs from the South American ones in having flowers twice as large as theirs.

***Hyperbaena phanerophlebia* Standl., sp. nov.**

Tree, 4.5 to 7.5 m. high, with dense crown, glabrous throughout; petioles rather slender, 1 to 2.5 cm. long; leaf blades narrowly oblong or oblong-lanceolate, 9 to 21 cm. long, 3 to 7 cm. wide, narrowed to an obtuse apex, obtuse or acute at base, thick and coriaceous, lustrous, triplinerved from near the base, the costa salient on both surfaces, the lateral nerves scarcely elevated above but conspicuous beneath, about 5 pairs, arcuately and irregularly ascending, the lower surface slightly paler than the upper and finely reticulate; fruit subglobose, orange-yellow, about 2.5 cm. in diameter.

Type in the U. S. National Herbarium, no. 1,138,730, collected in a coffee plantation in the hills south of Santa Tecla, Salvador, altitude about 900 meters, April 10, 1922, by Paul C. Standley (no. 23025). Also collected in moist forest near Santa Tecla upon the same date, *Standley* 23014.

This is not closely related to any of the species of *Hyperbaena* previously reported from Central America.

***Rollinia rensoniana* Standl., sp. nov.**

Tree, about 6 m. high, the young branchlets thinly villous-tomentose; petioles 6 to 12 mm. long; leaf blades elliptic-oblong, 12 to 23 cm. long, 5 to 8 cm. wide, acute to long-acuminate, rounded or obtuse at base, thin, above tomentulose when young but in age glabrate, beneath densely tomentose at first with brownish and whitish hairs, in age soft-pilose with short spreading hairs, the lateral nerves 15 to 21 pairs, prominent beneath; flowers solitary or geminate, densely covered with a brownish feltlike tomentum, the pedicels 1 to 2 cm. long, becoming much longer after anthesis; sepals broadly rounded-ovate, abruptly short-acuminate; corolla lobes laterally compressed, obovate-oval, 10 to 13 mm. long, 7 to 9 mm. wide, broadened toward the apex and rounded, divaricate or slightly ascending; very immature fruit tomentose, subglobose, composed of numerous carpels with rounded tips.

Type in the U. S. National Herbarium, no. 1,138,729, collected along roadside at Santa Tecla, Salvador, altitude about 900 meters, April 10, 1922, by Paul C. Standley (no. 23033). The following additional specimens have been examined:

SALVADOR: Ateos, *Standley* 23045. Izalco, *Standley* 21866; *Pittier* 1964.

*Rollinia rensoniana* seems to be rather common in the uplands of central and western Salvador, but I was not able to learn anything of its fruit or of the vernacular names applied to it. Only two other species have been reported from Central America, *R. jimenezii* and *R. pittieri*, both described by Dr. W. E. Safford. Neither of those species has the abundant spreading pubescence that characterizes the Salvadorean tree.

The species is named for Dr. Carlos Renson, of the Chemical Laboratories of the Department of Agriculture of Salvador, who, during many years residence in that country, has made important contributions to our knowledge of its botanical features.

*Inga calderoni* Standl., sp. nov.

Young branchlets densely pilose with short fulvous hairs; leaf rachis 5.5 to 9 cm. long, narrowly winged, densely short-pilose; leaflets 5 or 6 pairs, narrowly oblong-lanceolate, 7 to 10.5 cm. long, 1.5 to 2.2 cm. wide, long-attenuate, obliquely obtuse or rounded at base, copiously fulvous-pilose above with subappressed hairs, beneath more densely pilose with mostly spreading hairs; legume oval-quadrangle, 5 cm. long, 3.5 cm. wide, strongly compressed, nearly 1 cm. thick, covered with a dense feltlike tomentum of stiff fulvous hairs.

Type in the U. S. National Herbarium, no. 1,152,344, collected at Comasagua, Salvador, December, 1922, by Dr. Salvador Calderón (no. 1392).

The form of the fruit is quite unlike that of any other species of *Inga* known from Central America. The vernacular name is "pepeto de mico."

*Cupania mollis* Standl., sp. nov.

Branchlets subterete, finely tomentose, somewhat striate, glabrate in age; leaves abruptly pinnate, the rachis and petiole together about 23 cm. long, finely tomentose; leaflets about 14, oblong or elliptic-oblong, 8 to 13 cm. long, 3.5 to 5 cm. wide, obtuse, rounded or obtuse at base, on petiolules 3 to 8 mm. long, serrate with low appressed teeth, entire toward the base, glabrate above, beneath paler, densely velvety-pilosulous with short spreading hairs; panicles axillary, long-pedunculate, many-flowered, the branches finely tomentose; flowers sessile or nearly so; capsule glabrous without and within, subclavate-trigonal, narrowed below into a stout stipe 5 to 6 mm. long, the body obtusely angulate, 12 to 15 mm. in diameter, rounded and apiculate at apex, the partition walls thin.

Type in the U. S. National Herbarium, no. 1,152,345, collected at Comasagua, Salvador, December, 1922, by Dr. Salvador Calderón (no. 1400).

The fruit is similar to that of *C. glabra* Swartz, but the pubescence of the leaves is altogether different. The vernacular name is "cola de pavo," a name applied to various other trees of the family Sapindaceae.

*Karwinskia calderoni* Standl., sp. nov.

Shrub or tree, 2 to 12 m. high, glabrous throughout; petioles 7 to 12 mm. long; leaf blades lance-oblong or sometimes oblong-ovate, 3.5 to 10 cm. long, 1.5 to 3.5 cm. wide, rounded at base, acute to long-acuminate at apex, green above, pale beneath, the lateral nerves 7 to 14 pairs, elevated beneath; peduncles sometimes 6 mm. long but usually much shorter, often bifurcate above the middle, each branch bearing a few-flowered umbel, the pedicels 1.5 to 4 mm. long; flowers 3 to 4 mm. broad; fruit subglobose, black and lustrous, 6 to 7 mm. long.

Type in the U. S. National Herbarium, no. 1,151,851, collected at Aculhuaca, one of the suburbs of San Salvador, Salvador, July 14, 1922, by Dr. Salvador Calderón (no. 900). The following additional specimens have been examined:

GUATEMALA: Estanzuela, Dept. Santa Rosa, *Heyde & Lux* 3954. Berberena, Dept. Santa Rosa, *Heyde & Lux* 6088. Without locality, *Heyde* 192. Gualán, *Kellerman* 5610.

SALVADOR: Tonacatepeque, *Calderón* 214; *Standley* 19467. San Salvador, *Standley* 19118, 23544; *Calderón* 420. Armenia, *Standley* 23451. Ahuachapán, *Standley* 19901. La Libertad, *Standley* 23225. Between San Martín and Laguna de Ilopango, *Standley* 22528. La Unión, *Standley* 20650. Dept. de Ahuachapán, *Padilla* 186. Without locality, *Renson* 265. San Vicente, *Standley* 21665. Santa Ana, *Standley* 20427.

HONDURAS: Amapala, *Standley* 20697.

NICARAGUA: Aserradores Island, *Baker* 625.

*Karwinskia calderoni* is the only species of which I have seen Central American specimens. It is related to *K. humboldtiana* of Mexico, but is evidently distinct in the acuminate leaves and the frequently if not usually bifurcate peduncles. In Salvador it is known as "güiligüiste" or "huilihuiste," and at Ampala the name "pimientillo" was given for it. The tree is extremely abundant in the drier portions of the Pacific slope of Central America, occurring usually on dry hillsides at low or middle elevations. It is found also on the Atlantic slope of Guatemala. The wood is employed for various purposes, particularly for cart axles, railroad ties, mallets, shuttles, and fuel. Pigs are said to be paralyzed by eating the fruit, and similar properties are generally ascribed to the Mexican species.

*Clethra vicentina* Standl., sp. nov.

Tree, about 9 m. high, with dense rounded crown; young branchlets fulvous-tomentose or glabrate; petioles 7 to 15 mm. long; leaf blades oblanceolate-oblong, 8 to 12 cm. long, 2.5 to 3.5 cm. wide, obtuse, attenuate to the base, subcoriaceous, entire, green and glabrous above, covered beneath, except upon the nerves, with a very fine, close whitish tomentum; racemes numerous, 12 to 15 cm. long, the rachis slender, closely fulvous-tomentose, the pedicels slender, 3 to 5 mm. long; calyx lobes ovate-oval, 3.5 to 4 mm. long, obtuse, tomentulose; petals white, 5 to 6 mm. long, erose and ciliate; style 1.5 mm. long.

Type in the U. S. National Herbarium, no. 1,137,375, collected in moist forest on the Volcán de San Vicente, Salvador, altitude 1,500 meters, March 8, 1922, by Paul C. Standley (no. 21603).

Related, apparently, to *C. hondurensis* Britton, in which the leaves are broader and dentate, and the calyx lobes acute.

*Clethra vulcanicola* Standl., sp. nov.

Tree, 4.5 to 6 m. high, the young branchlets bearing a few appressed hairs but soon glabrate; petioles 7 to 12 mm. long; leaf blades oblanceolate-oblong or obovate-oblong, 9 to 12 cm. long, 2.5 to 4.5 cm. wide, acute or acuminate, acute or obtuse at base, coarsely serrate, glabrous above, green beneath and glabrous except for a few stiff, usually appressed hairs along the costa and lateral nerves; racemes 10 to 13 cm. long, the rachis fulvous-tomentose, the pedicels slender, 5 to 6 mm. long; calyx lobes 3 mm. long, ovate, obtuse, fulvous-tomentulose; capsule 6 to 7 mm. in diameter, tomentose.

Type in the U. S. National Herbarium, no. 1,138,667, collected on the rim of the crater of the Volcán de San Salvador, altitude about 1,800 meters, April 7, 1922, by Paul C. Standley (no. 22954).

Similar in general appearance to *C. alcoceri* Greenm., of Hidalgo, but in that species the pedicels are very short and the leaves are white-tomentulose beneath. *Clethra suaveolens* Turcz. is more closely related, but in that the leaves are entire. The vernacular name of *C. vulcanicola* is "zapotillo."

*Avicennia bicolor* Standl., sp. nov.

Tree or shrub, the young branchlets glabrous; petioles very stout, 4 to 15 mm. long; leaf blades broadly elliptic to elliptic-ovate or oval-ovate 7 to 13 cm. long, 3.5 to 7 cm. wide, rounded or obtuse at apex, obtuse at base and usually abruptly short-decurrent, glabrous and lustrous above, with prominent venation, beneath densely covered with a minute whitish tomentum; flowers spicate, opposite, the rachis elongate and the pairs of flowers distant 5 to 8 mm. from each other, the spikes numerous, forming lax panicles 5 to 17 cm. long; branches of the panicles minutely tomentose; bracts and bractlets rounded, obtuse, tomentulose; corolla 4 mm. long, the tube glabrous, the lobes obovate, subtruncate at apex, sericeous outside, glabrous within; style nearly obsolete.

Type in the U. S. National Herbarium, no. 715142, collected in mangrove swamp at Aguadulce, Province of Coelá, Panama, December 5, 1911, by H. Pittier (no. 4968). The following additional specimens have been examined:

SALVADOR: Coast of Departamento de Ahuachapán, *Padilla* 333.

PANAMA: Punta Paitilla, *Heriberto* 206.

It seems remarkable that a form so distinct as this should not have been named long ago, but it may well be that it is of somewhat rare occurrence, although the specimens cited indicate that it has a rather wide range. *Avicennia bicolor* is related to the South American *A. tomentosa* Jacq. (which has been reported from various parts of Mexico and Central America, and even from Florida, although probably erroneously), but differs in its large, broad leaves and, more conspicuously, in the distinct form of the inflorescence. In *A. tomentosa* the flowers are few and the inflorescence is short and congested.

Dr. Padilla reports that in Salvador this species is known by the vernacular name of "mangle negro."

BOTANY.—*New species of Urticaceae from Colombia.*<sup>1</sup> ELLSWORTH  
P. KILLIP, U. S. National Museum.

While on a recent expedition to Colombia for the U. S. National Museum, the Gray Herbarium, the New York Botanical Garden, and the Philadelphia Academy of Sciences, Dr. Francis W. Pennell and myself gave particular attention to the family Urticaceae, collecting about 70 numbers of this group. Most of the species here proposed as new are based upon material collected on this expedition, which clearly are not referable to any of the species contained in the comprehensive monograph of Urticaceae by Weddell,<sup>2</sup> or to the comparatively small number described since the publication of that work. Several other specimens collected on this expedition probably constitute new species, but in the absence of authenticated material they have not been included in the present paper.

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<sup>2</sup> In DC. Prodr. 16<sup>1</sup>: 32-235. 1869.