

Anthaspidella clintoni, n. sp.

Although related to *Anthaspidella scutula* Ulrich and Everett from the Black River (Platteville) limestone at Dixon, Illinois, in that it has the clusters consisting of the oscula and radiating canals comparatively small and close together, the present species differs in that the clusters measure 15 millimeters, on an average, from center to center.

Anthaspidella traini, n. sp.

Sponge suggesting *Anthaspidella florifera* Ulrich and Everett, from the Black River limestone at Dixon, Illinois, but differing in that the clusters are farther apart, averaging 25 millimeters from center to center.

Genus *Streptosolen* Ulrich and Everett.

Streptosolen occidentalis, n. sp.

Sponge with the form and general structure of *Streptosolen obconicus* Ulrich and Everett, the genotype, from the Black River (Platteville) limestone at Dixon, Illinois, but differing in that the canals do not intertwine so much and the central osculum is much wider and has larger tubes.

BOTANY.—*The genus Hampea*.¹ PAUL C. STANDLEY, U. S. National Museum.

The genus *Hampea* consists of a small group of American trees and shrubs which has been referred by most authors to the family Bombacaceae, although others have believed its more natural position to be in the Malvaceae. The genus was based by Schlechtendal upon a single species, *H. integerrima*, described from Veracruz. In 1862 Triana and Planchon described a second species, *H. thespesioides*, from Colombia, and in 1886 Sereno Watson a third from Guatemala. A variety of *H. integerrima* was described from Costa Rica in 1899 by Capt. John Donnell Smith, and in 1923 I transferred to the genus a Mexican plant described as a *Thespesia* by Presl, and published a new species from the Yucatán Peninsula.

Practically all the scanty herbarium material of the genus has been referred without question to the original *H. integerrima*. Our representation of the genus has increased rapidly in recent years, and when an attempt was made recently to name two Central American specimens, it became evident that the group was badly in need of revision.

In the present treatment nine species are recognized, one indigenous in Colombia, the others ranging from Panama to southern Mexico.

Through the courtesy of Dr. B. L. Robinson the material of this genus in the Gray Herbarium has been lent for study by the writer.

¹ Published by permission of the Secretary of the Smithsonian Institution. Received July 7, 1927.

HAMPEA Schlecht. *Linnaea* 11: 371. 1837.

KEY TO THE SPECIES

Leaf blades with small auriculiform appendages at base. Leaves entire; capsule glabrous within except along the sutures; calyx in bud closed, in anthesis irregularly lobed.

Appendages of the leaf blade 5 mm. long; capsule 2-2.3 cm. long; seeds 8 mm. long..... 1. *H. appendiculata*.

Appendages 2 mm. long; capsule 1.5-1.7 cm. long; seeds 5 mm. long. 2. *H. panamensis*.

Leaf blades not appendaged at base.

Leaves glabrous beneath or essentially so.

Leaves entire; calyx truncate, not closed except in very young buds, 5-7 mm. long. Capsule densely hispid within. 3. *H. integerrima*.

Leaves 3-angulate; calyx closed in bud until shortly before anthesis, irregularly lobate, 10 mm. long..... 4. *H. Rovirosae*.

Leaves obviously stellate-tomentose beneath. Capsule glabrous within except along the sutures.

Leaves cordate at base, angulate or lobate.

Pedicels solitary; leaves 5 or 7-nerved at base... 5. *H. thespesioides*.

Pedicels in dense clusters in the leaf axils; leaves 9-nerved.

6. *H. platanifolia*.

Leaves truncate or rounded at base or merely concave, not cordate.

Capsules 2.5-3 cm. long. Leaves entire. 7. *H. tomentosa*.

Capsules 1-1.8 cm. long.

Leaves entire, usually abruptly acuminate, sparsely and minutely stellate-pubescent beneath; pedicels in anthesis 1.4 cm. long or shorter..... 8. *H. stipitata*.

Leaves mostly angulate or shallowly lobate, rounded to acute at base, densely and coarsely stellate-tomentose beneath (in age sometimes glabrate); pedicels in anthesis mostly 2-3.8 cm. long..... 9. *H. trilobata*.

1. *Hampea appendiculata* (Donn. Smith) Standl.

Hampea integerrima var. *appendiculata* Donn. Smith, Bot. Gaz. 27: 331. 1899.

Although described originally as a variety, it is evident that this Costa Rican plant is worthy of specific rank. It differs from *H. integerrima* in its appendaged leaves; lobed, not truncate calyx; and in the glabrous rather than hispid inner surface of the capsule. The following specimens are at hand:

COSTA RICA: La Palma, alt. 1,550 m., Tonduz 12462 (*J. D. Smith* 7379; type). La Hondura, Prov. San José, alt. 1,300 m., Standley 37627, 36141. Tilarán, Guanacaste, alt. 600 m., Standley & Valerio 44401. Platanares (Moravia), Rowlee & Jiménez 208. El Muñeco, Prov. Cartago, alt. 1,400 m., Standley & Torres 50941. Los Ayotes, Guanacaste, alt. 600 m., Standley & Valerio 45458. Naranjos Agrios, Guanacaste, alt. 600 m., Standley & Valerio 46427. La Tejona, Guanacaste, alt. 600 m., Standley & Valerio 45922.

This species is usually a small tree, 5 to 25 meters in height. It is common in the wet forests of central Costa Rica and of the Province of Guanacaste. The local name is "buriogre."

2. *Hampea panamensis* Standl., sp. nov.

Medium-sized tree, the trunk sometimes 60 cm. in diameter; young branches densely stellate-tomentose, the tomentum minute, ferruginous or ochraceous; petioles slender, 3.5–6.5 cm. long, stellate-tomentose; leaf blades ovate or broadly ovate, 9–22 cm. long, 5–12 cm. wide, entire or slightly undulate, abruptly acuminate or merely acute, at base truncate or rounded and often asymmetric, auriculate-appendaged at the insertion of the petiole, the appendages rounded, 2 mm. long; blades membranaceous, deep green on the upper surface, when young sparsely and very minutely stellate-puberulent but in age glabrous or nearly so, beneath paler, covered with a minute, appressed, rather dense stellate tomentum of fulvous hairs, 5-nerved at base; flowers numerous, fasciculate in the leaf axils, the pedicels 5.9 mm. long, stellate-tomentose; bractlets 3, narrowly triangular or subulate, 2–2.5 mm. long, appressed to the calyx, caducous; calyx in bud closed, globose, in anthesis campanulate, 6 mm. long, minutely tomentose, shallowly and irregularly 3-lobate, the lobes rounded; petals spreading or reflexed, 1 cm. long, densely and very minutely tomentose outside, glabrous within, gland-dotted; capsule obovoid-globose, short-stipitate, 1.5–1.7 cm. long, rounded at apex, verruculose and brown-tomentose, 3-valvate, within hispid along the sutures but elsewhere glabrous; seeds 2 in each cell, oval, 5 mm. long, blackish brown, lustrous, the aril caplike, covering less than half of the seed; pedicels in fruit slender, about 2 cm. long, the calyx persistent.

Type in the U. S. National Herbarium, no. 1,269,804, collected in the Almirante region, Province of Bocas del Toro, Panama, in 1927, by G. P. Cooper and G. M. Slater (no. 15). The following collections also belong here:

PANAMA: Almirante region, *Cooper & Slater* 8. Changuinola Valley, *V. C. Dunlap* 227.

The vernacular names are given as "burío" and "azote." The wood is described as creamy gray and of medium coarse texture.

Hampea panamensis is closely related only to *H. appendiculata*, which has rather narrower leaves with much larger appendages, and with a denser tomentum on the lower surface, and larger capsules and seeds.

3. *Hampea integerrima* Schlecht. Linnaea 11: 372. 1837.

This is the type of the genus. The original material was collected near Josocola and Hacienda de la Laguna, Veracruz, by Schiede. The plant is very uniform in foliage, flower, and fruit characters. The following specimens have been examined:

VERACRUZ: Zacuapan, *Purpus* 4453, 4453a, 8030 (Gray Hb.), 10748. Orizaba, *Botteri* in 1856; *Bourgeau* 3116 (Gray Hb.). Mirador, *Liebmann* 393. Misantla, *Purpus* 5925. Jalapa, *C. L. Smith* 1536 (Gray Hb.).

OAXACA: Colonia Melchor Ocampo, *Conzatti* 173 (Gray Hb.).

Known in Veracruz as "jonote blanco."

4. *Hampea Rovirosae* Standl., sp. nov.

Young branchlets very sparsely and minutely stellate-puberulent, soon glabrous or nearly so; petioles slender, 3.5–16 cm. long, glabrate; leaf blades

rounded-ovate to suborbicular, 8–17 cm. long, 7–16 cm. wide, abruptly short-acuminate to obtuse, at base truncate or subcordate, the smaller leaves entire, the larger angulately 3-lobate, membranaceous, deep green above, glabrous or nearly so, beneath slightly paler, with a few minute stellate hairs scattered along the nerves, elsewhere glabrous, 7-nerved at base; flowers fasciculate in the leaf axils, the pedicels stout, 5–15 mm. long, minutely and sparsely stellate-puberulent; bractlets filiform, 3 mm. long; calyx ovoid in bud, in anthesis irregularly and shallowly cleft, campanulate, 1 cm. long, minutely stellate-tomentose or glabrate; petals reflexed, nearly 2 cm. in total length, broadly rounded at apex, minutely stellate-tomentose on the outer surface, glabrous or nearly so on the inner surface.

Type in the U. S. National Herbarium, no. 943,425, collected on moist banks of the Río Grijalva, Tabasco, Mexico, August 19, 1889, by J. N. Rovirosa (no. 586). Vernacular name, "majagua blanca."

Hampea Rovirosae is closely related to *H. integerrima* and may be only a form of that species. It differs from the latter in the broader, sometimes angulate leaves, and in the larger, irregularly lobed calyx.

5. *Hampea thespesioides* Triana & Planch. Ann. Sci. Nat. Bot. IV. 17: 188. 1862.

No material has been seen of this species, the only one occurring outside Central America and Mexico. It is reported, in the original publication, from the following localities:

COLOMBIA: Forests of the Province of Antioquía, alt. 700 m., *Triana*. Between Las Ceibas and Honda, and between El Peñón and Quebrada Grande, *Goudot*. Near Muzo, *Purdie*.

The vernacular names are "zapotillo" and "achote cimarrón."

Judging from the description, *H. thespesioides* is related to the following Costa Rican species. The authors give no dimensions of the parts of the plant, and detailed comparison is therefore difficult.

6. *Hampea platanifolia* Standl., sp. nov.

Large shrub or small tree, with few branches, the young branchlets densely and coarsely stellate-tomentose with brownish pubescence; petioles stout, 16–27 cm. long, stellate-tomentose; leaf blades rounded-cordate in outline, 18–30 cm. long and usually of equal or greater breadth, rounded to cuspidate-acuminate at apex, at base shallowly or usually deeply cordate, the sinus narrow or broad, 3–7 cm. deep, the blades angulately 3 or 5-lobed, the lobes broadly rounded or obtuse, often cuspidate, membranaceous, deep green on the upper surface, when young densely stellate-tomentose, the tomentum persistent along the nerves, rough to the touch, beneath paler, at first densely and rather coarsely stellate-tomentose with fulvous hairs, the tomentum in age sparser but copious, the blades 9-nerved at base; flowers numerous, densely clustered in the leaf axils, the pedicels stout, 8 mm. long or shorter, coarsely stellate-tomentose; bractlets linear or filiform, 4–6 mm. long, deciduous; fully developed flowers not seen; calyx at first closed, but expanding before anthesis, broadly campanulate, 5 mm. long and 7 mm. broad, densely and minutely tomentose, subtruncate and remotely repand-dentate, the 5

teeth short, narrowly triangular; corolla in bud densely and minutely stellate-tomentose outside; pedicels in fruit stout, 2–3 cm. long; capsule densely and coarsely stellate-tomentose with yellowish tomentum, short-stipitate, 3-valvate, the valves 3.5–4.5 cm. long, 13–15 mm. wide, glabrous within except along the sutures, there hispid, the cells apparently about 5-seeded.

Type in the U. S. National Herbarium, no. 938,656, collected in forest near El Copey, Province of San José, Costa Rica, altitude 1,800 meters, February, 1898, by A. Tonduz (no. 11667). Three other sheets of the same collection are in the National Herbarium.

Collected also at Capulín, on the Río Grande de Tárcoles, Province of Alajuela, Costa Rica, altitude 80 meters, April 2, 1924, *Standley* 40177.

It is unusual in Costa Rica to find a species which grows at so great an elevation as 1,800 meters occurring at sea level, but it is probable that seeds have been transported downstream from the mountains to Capulín, where I found the plant growing.

Hampea platanifolia is very unlike the other Central American species in its large, broad, long-petiolate leaves. It appears to be related to *H. thespesioides*, although the description of the latter species is deficient in some important details. Only open capsules of the Costa Rican plant are available. Their long narrow valves indicate that the fruit must be very narrow in outline, and decidedly different from the globose capsule found in other species.

7. *Hampea tomentosa* (Presl) Standl. Contr. U. S. Nat. Herb. **23**: 787. 1923.

Thespesia tomentosa Presl, Rel. Haenk. **2**: 136. 1836.

The type was collected by Haenke in western Mexico. The following collections are in the National Herbarium:

OAXACA: Cafetal San Rafael, Distrito de Pochutla, alt. 800 m., *Conzatti, Reko & Makrinius* 3292. Cafetal Montecristo, alt. 800 m., *Reko* 3428.

SALVADOR: Ahuachapán, alt. 800 m., *Standley* 19811.

8. *Hampea stipitata* S. Wats. Proc. Amer. Acad. **21**: 460. 1886.

The following specimens have been examined:

GUATEMALA: Chocón Plantation, a large tree, March 20, 1885, *Watson* 31 (type; Gray Hb.). Quiriguá, *Standley* 24600. Finca Sepacuité, Alta Verapaz, *Cock & Griggs* 576, in part.

HONDURAS: Near Puerto Sierra, *Wilson* 62. Near Cuyamel, *Record & Kuylen* 17. San Pedro Sula, *Thieme* 5603.

Known in Honduras as "majao colorado."

9. *Hampea trilobata* Standl. Contr. U. S. Nat. Herb. **23**: 787. 1923.

Specimens have been examined, as follows:

CAMPECHE: Apazote, Dec. 27, 1900, *Goldman* 488 (type).

YUCATAN: Izamal, *Gaumer* 845. Cotilcim, *Gaumer* 23386. Without locality, *Gaumer* 24260.

BRITISH HONDURAS: Without locality, *Record* in 1926; *Winzerling* V.18.

Known in British Honduras as "moho." The Maya name used in Yucatán is given as "toobhoob."



Standley, Paul Carpenter. 1927. "The genus *Hampea*." *Journal of the Washington Academy of Sciences* 17, 394–398.

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