

BOTANY.—*New species of plants from western Mexico.* PAUL C. STANDLEY, U. S. National Museum.¹

Among the numerous collections of Mexican plants in the U. S. National Herbarium there are probably none of greater value and few equal in importance to those obtained by Prof. C. Conzatti during his many years of residence in the State of Oaxaca. At frequent intervals he has generously presented to the National Museum sets of specimens of his collections, mostly secured in Oaxaca, until now these amount to over four thousand sheets, which possess an added value because of the care with which they have been prepared. Almost every sending from Professor Conzatti includes at least a few undescribed plants, and always there are representatives of many rare and imperfectly known species. The list of distinct new plants discovered in Professor Conzatti's collections is already a long one, and there doubtless remain many more in the herbarium under groups which have not been studied critically.

Five of the species here proposed as new were contained in a small shipment of plants received last summer. This sending also included an exceptionally large number of rare species, many of which were known previously from a single collection. Several others of the plants probably represent new species, but they belong to groups in which it does not appear desirable to describe further novelties until critical revision can be undertaken. There is published here also a description of a new species of *Caesalpinia* from Sinaloa, and a tree previously described as a *Pithecollobium* is transferred to a more natural position in the genus *Albizzia*.

***Allionia grandiflora* Standl., sp. nov.**

Stems slender, branched, densely short-pilose throughout, the pubescence viscid above; petioles slender, 5–12 mm. long, short-pilose, the blades ovate to broadly ovate, 3–5 cm. long, 2–3 cm. wide, acuminate, rounded or obtuse at base, thin, densely short-villous on both surfaces; involucre mostly in terminal one-sided cymes, short-pedunculate, 1-flowered, about 1 cm. long, densely villous, the lobes lanceolate, acuminate; perianth magenta, 2.5–3 cm. long, densely pilose below, glabrate above, the tube 1.5–2 cm. long and 3 mm. thick; stamens included; fruit (immature) 7 mm. long, constricted near the base, minutely puberulent, the 5 ribs broad and nearly smooth.

Type in the U. S. National Herbarium, no. 1,110,839, collected on the Cerro Jucusá, Tututepec, Oaxaca, Mexico, altitude 240 meters, Dec. 13, 1921, by C. Conzatti (no. 4449).

In general appearance this plant resembles a *Mirabilis*, but it possesses

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the technical characters of the genus *Allionia*. It is not closely related to any previously known species, its most distinctive character being the large perianth.

***Albizzia tomentosa* (Micheli) Standl.**

Pithecollobium tomentosum Micheli, Mém. Soc. Phys. Hist. Nat. Genève 34: 285. pl. 28. 1903.

In a recently published part of a volume upon the woody plants of Mexico,² some doubt was expressed by the writer as to the proper generic position of the tree described by Micheli as *Pithecollobium tomentosum*. When the manuscript for the treatment of the genus was prepared, fruiting material of this species was not available. Specimens with both fruit and flowers, collected recently in the State of Sinaloa, Mexico, by Mr. Jesús G. Ortega (no. 4554), indicate that the proper place of the tree is in the genus *Albizzia*. The fruit is flat, about 11 cm. long and 2 cm. wide, and has thin, elastically dehiscent valves. The vernacular name used in Sinaloa is "palo joso."

***Caesalpinia ortegae* Standl., sp. nov.**

Branchlets densely covered with stipitate black glands; leaves long-petiolate, the petioles and rachis covered with stipitate glands; pinnae usually 3 pairs, the leaflets 7 or 8 pairs, oblong, 6–11 mm. long, 2.5–4 mm. wide, rounded at apex, thinly pilose with short slender stiff whitish subappressed hairs, beneath copiously furnished with sessile black glands; racemes elongate, densely covered on the rachis, pedicels, and calyx with black stipitate glands and also pilosulous with short spreading white hairs, the pedicels 5–10 mm. long, articulate below the middle; sepals entire; petals about 1 cm. long; fruit elastically dehiscent, flat, densely covered with short-stipitate black glands, falcate, about 6 cm. long and 1.2 cm. wide; seeds strongly compressed, rounded-ovate, 7–8 mm. long.

Type in the U. S. National Herbarium, no. 1,083,885, collected in the State of Sinaloa, Mexico, by Jesús G. Ortega (no. 890).

Well distinguished from the related Mexican species by the extraordinary abundance of stipitate glands on all parts of the plant. It is a pleasure to be able to name so well-marked a species in honor of its collector, who during the past few years has made many valuable contributions to the knowledge of the Sinaloan flora.

***Amyris konzattii* Standl., sp. nov.**

Branchlets slender, grayish, glabrate; leaves alternate, the rachis slender, 4–7 cm. long, thinly puberulent, the leaflets about 21, rhombic or ovaterhombic, 6–12 mm. long, 3–8 mm. wide, obtuse or rounded at apex, very oblique at base, entire or obscurely crenulate, glabrous or sometimes sparsely puberulent above, with very numerous large glands; flowers in lax terminal glabrous panicles, the fruiting pedicels 5–10 mm. long; drupes globose, 8–10 mm. in diameter, the pericarp filled with large and conspicuous oil glands.

Type in the U. S. National Herbarium, no. 1,110,840, collected at Los Sabinos, between Juchatengo and Santa Ana, Oaxaca, Mexico, altitude 1,000 meters, Dec. 29, 1921, by C. Konzatti (no. 4556).

² Contr. U. S. Nat. Herb. 23: 397. 1922.

In the key to the species of *Amyris* by Percy Wilson in the North American Flora (25: 216. 1911), this plant runs at once to *A. texana* (Buckl.) P. Wils., a species occurring in Texas and northeastern Mexico, but with trifoliolate leaves. *Amyris konzattii* is not closely related to any of the species previously known from North America.

Schaefferia oaxacana Standl., sp. nov.

Branches greenish, striate-angulate, glabrous; leaves mostly fasciculate, oblong-spatulate or oblong-obovate, 1–2 cm. long, 4–8 mm. wide, rounded or emarginate at apex, cuneately narrowed at base to a very short petiole, glabrous, pinnately nerved, the costa prominent, the lateral nerves ascending at a very acute angle, inconspicuous; flowers solitary or fasciculate at the nodes, on stout pedicels 1.5–2.5 mm. long; fruit oval, 2-celled, about 8 mm. long.

Type in the U. S. National Herbarium, no. 1,110,837, collected near the Cumbre de las Calaveras, Distrito de Zimatlán, Oaxaca, Mexico, altitude 2,200 meters, Nov. 27, 1921, by Conzatti (no. 4325).

The only related species is *S. cuneifolia* Gray, a native of Coahuila and Texas. In that the branchlets are short, stiff, divaricate, and often spinose, while in *S. oaxacana* they are long, slender, ascending, and not spinose, differences which give quite different aspects to the two species. In the Texan plant, moreover, the fruits are much smaller and sessile.

Bouvardia oaxacana Standl., sp. nov.

Branchlets slender, terete, glabrous or minutely puberulent about the nodes; stipule sheath 2–3 mm. long, puberulent, the lobes obtuse, cuspidate; leaves opposite, the petioles puberulent, equaling or shorter than the stipules, the blades ovate or broadly ovate, 4–6 cm. long, 2–4 cm. wide, acuminate, broadly rounded at base, thin, sparsely puberulent or glabrate, conspicuously 5-nerved, the lateral nerves arcuate and extending nearly or quite to the apex; inflorescence terminal, cymose-corymbose, dense, many-flowered, the pedicels 2–4 mm. long, hirtellous; hypanthium hirtellous; calyx lobes linear-lanceolate, 5–9 mm. long, puberulent; corolla red, glabrous outside, the tube about 17 mm. long, the lobes oblong, 5 mm. long, obtuse, glabrous; anthers about equaling the corolla lobes; style not exerted.

Type in the U. S. National Herbarium, no. 1,110,842, collected between Santa Cruz and El Aguacate, Distrito de Juquila, Oaxaca, Mexico, altitude 500 meters, Dec. 24, 1921, by C. Conzatti (no. 4513).

Related to *B. quinquenervata* Standl., of Chiapas, which is distinguished by its small corolla and shorter, narrower calyx lobes. In one of the specimens of *B. oaxacana* the corolla is sparsely puberulent, but this probably represents an unimportant variation from the typical form with glabrous corolla.

Chomelia barbata Standl., sp. nov.

Plants unarmed, the branchlets slender, appressed-pilose; stipules 3 mm. long, deltoid, cuspidate, appressed-pilose outside; petioles slender, 5–8 mm. long, puberulent; leaf blades elliptic or rounded-elliptic, 3.5–5.5 cm. long, 2–3.5 cm. wide, obtuse or acutish, rounded to acute at base, glabrous above except along the costa, beneath densely barbate along the costa, elsewhere

puberulent or glabrate, the lateral nerves inconspicuous; cymes lateral, dense, few-flowered, the peduncles very slender, 2.5–3.5 cm. long, pilosulous with whitish subappressed hairs; flowers sessile or subsessile, ebracteolate, obscurely or not at all secund; hypanthium and calyx cylindric, 2–2.5 mm. long, appressed-pilosulous, the lobes minute, obtuse; corolla densely appressed-pilosulous outside, the slender tube 15 mm. long, the lobes oblong-ovate, obtuse, 2.5 mm. long; anthers semiexserted; fruit white, 2-celled, oblong, glabrate, 1–1.5 cm. long.

Type in the U. S. National Herbarium, no. 1,110,841, collected in the vicinity of Chacahua, Distrito de Juquila, Oaxaca, Mexico, altitude 5 meters, Dec. 17, 1921, by C. Conzatti (no. 4475).

Related to *C. microloba* Donn. Smith, of Costa Rica, which differs in its small flowers and scant pubescence.

ZOOLOGY.—*A revision of the recent representatives of the crinoid family Pentacrinidæ, with the diagnoses of two new genera.*¹ AUSTIN H. CLARK, National Museum.

A detailed study of the recent representatives of the crinoid family Pentacrinidæ shows that these are by no means so closely allied to the fossil species in the same family as has been supposed. None of them can be considered as congeneric with *Isocrinus pendulus* with which most of them have been associated, and their relationships with other fossil types are still more remote.

The following disposition of the living forms is suggested.

KEY TO THE RECENT GENERA OF PENTACRINIDÆ

- a*¹ Second post-radial ossicle not an axillary
 - b*¹ fourth post-radial ossicle an axillary *Saracrinus*
 - b*² first axillary beyond the fourth post-radial ossicle *Metacrinus*
- a*² Second post-radial ossicle an axillary from which two arm trunks arise
 - b*¹ elements of the IBr series (the first two post-radial ossicles) united by syzygy
 - c*¹ at least the outer division series of more than 6 elements; proximal pinnules with a strongly serrate profile *Cenocrinus*
 - c*² none of the division series of more than 4 elements; proximal pinnules with a smooth profile
 - d*¹ division series beyond the first entirely, or at least mostly, of more than 2 elements
 - e*¹ division series beyond the first variable, but never 3(1+2); distal edges of the post-radial ossicles everted and produced *Teliocrinus*
 - e*² all the division series beyond the first 3(1+2); distal edges of the post-radial ossicles not produced *Endoxocrinus*

¹ Received December 6, 1922.