

long); achenes of ray and disk similar, linear-cylindric, subterete or somewhat flattened, 4 mm. long, densely hirsutulous; pappus 6 mm. long, straw-color, 1-seriate, of about 15 paleae dissected nearly to base into 2-4 slender hispidulous bristles, the lateral bristles somewhat shorter than the inner; style branches with short deltoid obtusish subglabrous appendages.

PERU: Half-trailing on grassy canyon ledges or slopes, Llata, Dept. Huanuco, alt. 2135 m., 21 Aug. 1922, *Macbride & Featherstone* 2241 (type no. 518725, herb. Field Mus.; dupl. no. 1,186,055, U. S. Nat. Herb.).

Nearest *Dyssodia jelskii* Hieron., also of Peru, which is described as having cuneate-obovate merely dentate leaves and outer phyllaries (bracteoles) equalling the inner.

***Cirsium rhotophilum* Blake, nom. nov.**

Carduus maritima (sic) Elmer, Bot. Gaz. 39: 45. 1905.

Cirsium maritimum Petrak, Beiheft. Bot. Centralbl. 35: Abt. 2: 288. 1917. Not *Cirsium maritimum* Makino, Bot. Mag. Tokyo 24: 249. 1910.

Petrak's reason for transferring Elmer's name to *Cirsium*, when at the same time he cited an earlier use of the name *Cirsium maritimum* by Makino for a new species described from Japan, is not obvious. At any rate, this very distinct species, known only from the type locality at Surf, Santa Barbara County, California, must receive a new name. The one here given (from *ρῶθος*, the dash of waves) refers to its habitat on sand dunes on the seacoast.

BOTANY.—*The genus Lozanella*.¹ E. P. KILLIP and C. V. MORTON
U. S. National Museum.

Lozanella, a genus of Ulmaceae of the tribe Celtidoideae, was established by Greenman in 1905 and to it was referred a single species, *L. trematoides*, proposed at the same time and based upon a Pringle collection from Hidalgo, Mexico. Three years previously, however, Donnell Smith had described from Costa Rican material a species in the genus *Trema*, *T. enantiophylla*, which clearly is identical with *Lozanella trematoides*.

In the course of studies of tropical American Urticaceae which the senior author has been making, several specimens have been observed in unidentified material referred to that family which, though evidently representing a single genus, did not belong to Urticaceae. Comparison of these specimens with type material of *Lozanella trematoides* and *Trema enantiophylla* deposited in the National Herbarium shows that they represent two species of *Lozanella*, one the species described by Donnell Smith and by Greenman, the other new.

¹ Published by permission of the Secretary of the Smithsonian Institution. Received June 1, 1931.

Of special note is the fact that the additional collections of the original species were made at widely separated localities, in Guatemala, in Costa Rica, in the Santa Marta Mountains and the Eastern and Western Cordilleras of Colombia, and in northern Peru. The second species has a more limited distribution, ranging from south-eastern Peru to central Bolivia.

The tribe Celtidoideae is distinguished by its drupaceous fruit and curved embryos. *Celtis* and a few related genera are at once dis-

TABLE 1. CHARACTERS OF CERTAIN CELTIDOIDEAE

	Lozanella	Trema	Parasponia	Aphananthe	Gironniera	Chaetacme
Range	Mexico to Bolivia	Throughout Old and New World Tropics	Malay Archipelago and Pacific Is.	Japan, Philippine Is., Australia	Eastern Asia and Pacific Is.	Africa
Cotyledons	Broad, scarcely curved, equal	Narrow, recurved, equal	Narrow, recurved	Narrow, recurved	Narrow, recurved	Narrow, recurved, unequal
Leaves	Opposite, serrate	Alternate, serrate	Alternate, serrate	Alternate, serrate	Alternate, entire or serrate	Alternate, entire
Stipules	United	Free	United	Free	United	United
Inflorescence	Dioecious	Frequently monoecious	Frequently monoecious	Dioecious	Dioecious	Dioecious
Aestivation	Imbricate or slightly valvate above	Valvate or slightly imbricate above	Imbricate	Valvate	Imbricate	Valvate
Endosperm	Fleshy	Fleshy	Fleshy	Thin or none	Fleshy or none	Practically none
Other characters	Branches all opposite		♀ flowers solitary		♀ flowers cymose or solitary	Spines present

tinguished by their broad, contorted cotyledons. The remaining genera of the tribe have uncontorted narrower cotyledons. They are: *Trema*, *Parasponia*, *Aphananthe*, *Gironniera*, and *Chaetacme*. The relationship of *Lozanella* to these genera, which other than *Trema* are all Old World, is far from clear. They all have alternate leaves and narrow recurved cotyledons, whereas *Lozanella* has opposite leaves and broad, scarcely curved cotyledons. The united stipules of *Lozanella* are found also in *Parasponia*, *Gironniera*, and *Chaetacme*.

The opposite branches of *Lozanella* are characteristic. The various characters are summarized in Table 1.

KEY TO SPECIES OF LOZANELLA

Mature leaves densely pubescent beneath, the hairs yellowish; petioles and rachises densely pubescent; pistillate inflorescences simple or with short lateral branches, the flowers congested; perianth lobes much imbricate

1. *L. permollis*.

Mature leaves not densely pubescent beneath, the hairs whitish; petioles and rachises sparingly pubescent; pistillate inflorescences conspicuously branched, the flowers solitary or clustered; perianth lobes imbricate below, becoming somewhat induplicate-valvate above.....2. *L. enantiophylla*.

Lozanella permollis Killip & Morton, sp. nov.

Arbor inermis dioica; caules pubescentes; folia opposita, elliptica, petiolata, apice acuminata, basi late oblique cuneata, serrata, basi integra, supra scabra, subtus molliter lanata, nervis reticulatis, stipulis caducis, intraaxillaribus, in ramis cicatrices circulares conspicuas reliquentibus; ♂ inflorescentia cymosa, ramosa, floribus aggregatis, pedicellis brevibus, bracteatis; perianthium 5-partitum, laciniis imbricatis, carinatis, obtusis, ciliatis; stamina 5, perianthii laciniis opposita, hypogyna, sub disco piloso inserta, aestivatione erecta; filamenta subulata, exserta; antherae dorso supra basim adfixae, introrsae; ♀ inflorescentia axillaris, ramis lateralibus nullis vel brevibus; rachis dense pubescens; flores sessiles; perianthii lacinae aequales, oblongae, sub fructu persistentes; staminodia nulla; drupa parva, monosperma, stylis marcescentibus coronata; ovulum unum, pendulum.

Dioecious tree about 8 meters high; branches of previous season terete, sparingly pubescent, leafless; branches of the season leafy, more pubescent, increasingly so toward the growing tip, the hairs dense, matted, ferruginous; stipules united around the stem, caducous, leaving conspicuous circular scars; petioles flattened, 1.5 to 4 cm. long, densely spreading yellow-pubescent; leaves opposite, elliptic, broadest at middle, the blades 9 by 4 cm. to 17.5 by 8.5 cm., acuminate at apex, broadly cuneate and oblique at base, conspicuously serrate (teeth curving toward apex), entire near base, above dark green, prominently scabrous, the hairs white, pustulate, beneath paler, densely pubescent, the hairs appressed, long, yellowish, confined to the veins and veinlets (young leaves velvety pubescent), conspicuously reticulate-venose beneath, 3-nerved from the base, the midnerve giving rise to about 3 pairs of secondary veins, the two outer nerves exteriorly to 7 or 8 secondary veins, the principal nerves impressed above; staminate inflorescences cymose, several in each leaf axil, divaricately branched, the flowers borne in small clusters, the peduncle about 1 cm. long, with dense pubescence similar to that of stem and petiole, the pedicel very short or subobsolete, bracteate; perianth 5-lobed, the lobes 3 mm. long, about 1.6 mm. wide, obtuse, scarious-margined, conspicuously carinate, free almost to base, prominently imbricate in bud, sparingly pubescent on both sides, long-ciliate; hypogynous disk present, densely long white-hairy; stamens borne on border of disk, 5, opposite perianth segments; filaments 3 mm. long at maturity, subulate, glabrous, exserted; anthers erect from the beginning, introrse, oval, 1.2 mm. long; rudimentary ovary present, small; pistillate inflorescences several in each leaf axil, not divaricately branched, the lateral branches none or very short,

the peduncle about 1 cm. long, densely pubescent like the petioles, the flowers borne in sessile clusters along the pubescent axis; flowers sessile; perianth segments 5, equal, imbricate, oblong, 1 mm. long, about 0.7 mm. wide, obtuse, sparingly pubescent on both sides, ciliate, persistent and becoming fleshy in fruit, the base then rather stipitate; hypogynous disk present, fleshy, densely long white-hairy; staminodia none; fruit a drupe, about 1 mm. wide and long, compressed laterally, green, glabrous, the flesh thin; styles 2, conspicuously hairy, about 1 mm. long, persistent on the fruit; seed oval, compressed, yellow, the pericarp thin; ovule solitary, pendulous from the summit of ovary; embryo immature.

Type of staminate plant in the U. S. National Herbarium, no. 1,156,898, collected at Unduavi, South Yungas, Department of La Paz, Bolivia, November, 1900, altitude 3100 meters, by O. Buchtien (No. 2814). Additional material of this collection, U. S. N. H. No. 1,044,987.

Type of pistillate plant in the U. S. National Herbarium, no. 1,156,897, collected at same time and place by O. Buchtien (No. 2815). Additional material of this collection, U. S. N. H. No. 1,044,988.

Additional specimens examined: BOLIVIA: COCHABAMBA: Incachaca, Province of Sacaba, 2500 meters alt. *Steinbach* 5788 (F²), 5819 (F). PERU: Cuzco: Lucumayo Valley, *Cook & Gilbert* 1376 (N).

***Lozanella enantiophylla* (Donn. Smith) Killip & Morton.**

Trema enantiophylla Donn. Smith, Bot. Gaz. 33: 259. 1902.

Lozanella trematoides Greenm., Proc. Amer. Acad. 41: 236. 1905.

Specimens examined: MEXICO: HIDALGO: Near Honey Station, *Pringle* 8983 (N, type collection of *L. trematoides*). Barranca below Trinidad Iron Works, 1,550 meters alt., *Pringle* 13607 (N). GUATEMALA: CHIMALTENANGO: Volcán Acatenango, 2500 meters alt., *Kellerman* 6611 (F). COSTA RICA: HERIDA: Cerros de Zurquí, northeast of San Isidro, 2,000–2,400 meters alt., *Standley & Valerio* 50357 (N). SAN JOSÉ: Río Pedregoso, near El Copey, 1800 meters alt., *Tonduz* (Donn. Smith 7517B, Inst. Nat. Costaric. 11734, N). CARTAGO: Estrella, *Cooper* 325 (Donn. Smith 5949, N, type). El Muñeco, Río Navarro, 1,400–1,500 meters alt., *Standley & Torres* 51108 (N). COLOMBIA: MAGDALENA: Santa Marta Mountains, *H. H. Smith* 1437 (N). SANTANDER: Las Vegas, 2,600 meters alt., *Killip & Smith* 16133 (N). CALDAS: Río San Rafael, below Cerro Tatamá, 2,600–2,800 meters alt., *Pennell* 10373 (N). PERU: LIBERTAD: Río Mishiolla Valley, Province of Pataz, 2,000 meters alt., *Weberbauer* 7049 (F, N).

Standley notes that this is a shrub or tree, 3 to 5 meters high; Weberbauer that it is a shrub 7 meters high. The plant observed in the Eastern Cordillera of Colombia by Mr. Smith and the senior author was a tree 5 to 6 meters high, with a rather slender trunk and a rounded crown.

² F, Field Museum of Natural History; N, U. S. National Herbarium.



Killip, Ellsworth P. and Morton, C. V. 1931. "The genus *Lozanella*." *Journal of the Washington Academy of Sciences* 21, 336–339.

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