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A REVISION OF EUCNIDE

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The genus *Eucnide*, in the Loasaceae, was established by Zuccarini (1844) with the description of a single species, *E. bartonioides*. Asa Gray (1857) transferred the earlier *Microsperma lobata* Hooker (1840) to *Eucnide*, since there already existed a *Microsperma* described by Lagasca in 1816, a genus near *Flaveria* in the Compositae. He stated that *Microsperma rudis* Schauer, 1847, probably should be included in the same specific concept. Following this, ten other species were described, the three latest being: *E. hypomalaca* Standley (1940), *E. xylinea* C. H. Muller (1942), and *E. guatemalensis* Standley (1944).

Eucnide is obviously and amply distinct from *Sympetaleia*, which has sympetalous corollas and is the only other member of the Eucnideae as delimited by Gilg (1894). It somewhat resembles *Mentzelia*, in the Mentzelieae, but the numerous small seeds, covering a large placenta, or in many rows on it, are in distinct contrast to the larger seeds in one or two rows on the placentas of *Mentzelia*.

The genus is here considered to consist of 10 taxa, circumscribed in 8 species, and ranging geographically from southwestern Texas and the southwestern United States through Mexico into Guatemala.

There appear to be two natural, but somewhat intergrading series in the genus. One series has flowers solitary in the leaf axils. It includes *E. bartonioides*, *E. xylinea* and *E. urens*. The second group has terminal inflorescences more or less developed. Plants with few-flowered inflorescences may have the lower

flowers subtended by leaf-like bracts; collections from young plants beginning to flower might be confused with the first group.

E. bartonioides, ranging from Texas to Chihuahua and Tamaulipas, is readily distinguished by its long fruiting peduncles; in flower it tends to resemble other species, especially since the size of the flowers is quite variable. The dwarf, endemic *E. xylinea* of western Coahuila, and the more wide-spread *E. urens* of the southwestern United States and adjacent Baja California are amply distinct.

The tendency toward terminal inflorescences reaches its greatest development in *E. cordata* of Baja California, which has many-flowered inflorescences often lifted above the leaves on a short peduncle. *E. grandiflora* of Oaxaca, and its similar var. *guatemalensis*, are easily recognized by their large flowers with petals 5.5 to 8 cm. long, while *E. cordata* (sen. lat.) of central to northeastern Mexico is characterized by small petals usually 6-10 mm. long. *E. sinuata* (incl. *E. Nelsonii*), Michoacan to Vera Cruz and Guatemala, is characterized by its long fruiting peduncles (5-11 cm. long). *E. Pringlei* from Guerrero, and its var. *hypomalaca* of southern Sonora and adjacent Chihuahua have corollas 3-4 cm. long.

The author is indebted to the curators of the Gray Herbarium, the National Herbarium of the Smithsonian Institution, the Chicago Museum of Natural History and the University of California for the loan of their material of *Eucnide*. The symbols for these herbaria, used in citation of specimens, are the standardized ones of Lanjouw and Stafleu (1956). Thanks are also due the librarians of Oklahoma State University for their generous assistance in securing photostats of publications unavailable locally.

Eucnide Zucc., Del. Sem. Hort. Monac. 1844; Abhandl. Akad. Wissensch. Munich. Math.-Naturwissen. Abtielung. 1-11. 1845
Microspermum Hook. Ic. Plant. 3. 1840, non Lagasca, Gen. et Sp. Pl. 25. 1816.

Plants herbaceous or suffrutescent, covered with glochidiate hairs which may have extra verticils below their apices, these often mixed with simple hairs, hairs frequently in two layers of different lengths, or

of uneven lengths, often stinging, usually stiff, sometimes villous-canescenscent, sometimes pustulate-based; leaves usually alternate, sometimes crowded or opposite, usually petioled, sometimes sessile, blades mostly subrotund to ovate, more or less lobed and toothed; stems erect and branched, or matted, or pendulous on cliff faces; flowers single on axillary peduncles or in inflorescences with bracts leaf-like, or much reduced; sepals 5, linear-lanceolate to ovate-lanceolate, persistent; petals 5, white to yellow, lanceolate or lanceolate-spatulate to nearly ovate, 0.4-8 cm. long; stamens several to numerous, usually exerted; filaments 0.5-11 cm. long, slightly joined to each other basally, and to the bases of the petals; anthers rounded-quadrate, 0.4-2.1 mm. long and about as wide; ovary inferior, 5-carpellate, unilocular, with ovules in several rows on each placenta; fruits subhemispheric to subturbinate, opening by 5 apical tooth-like valves; style usually exerted slightly beyond the petals and stamens, but included in one species; stigmas somewhat 5-lamellate to 5-angled or 5-sulcate, oblong to clavate and often twisted to narrowly obconic; seeds numerous, elongate, minute, 0.5-1.25 mm. long and 0.13-0.38 mm. wide, longitudinally lineolate.

KEY

- a. Flowers large; petals 5.5-8 cm. long.
 - b. Leaves mostly wider than long, or nearly orbicular; petals acutish.
 - 8a. *E. grandiflora* var. *grandiflora*.
 - b. Leaves longer than wide; petals obtusish 8b. *E. grandiflora* var. *guatemalensis*.
- a. Flowers smaller; petals less than 4.5 cm. long.
 - c. Flowers single in leaf-axils, or if crowded then subtended by bracteal leaves similar to the stem leaves, but smaller
 - d. Flowers and leaves large; petals 1-4 cm. long; fruits (5) 10-17 mm. long and (5) 6-10 mm. wide; leaf blades mostly 2.5-8 cm. long and 2-8 cm. wide.
 - e. Peduncles (especially of older flowers and of fruits) 8-30 cm. long; stamens exerted; leaves all petioled 1. *E. bartonioides*.
 - e. Peduncles short, 5-10 (15) mm. long; stamens included, often one-third to one-half as long as petals; upper leaves often sessile 3. *E. urens*.
 - d. Flowers and leaves small; petals 2-2.5 cm. long; fruits 3-5 mm. long and 6-8 mm. wide at their apices; leaf blades mostly 5-15 mm. long and 4-10 mm. wide, densely villous-canescenscent 2. *E. xylinea*.
- c. Inflorescences present when plants well developed
 - f. Pedicels long, fruiting ones (3) 5-11 cm. long; corollas 2-2.5 cm. long 5. *E. sinuata*.
 - f. Pedicels short, most of them 1-3 cm. long
 - g. Flowers large; petals 1.5-4 cm. long
 - h. Petals usually 3-4 cm. long
 - i. Vestiture of fruits of long, pointed hairs, 1.2-2.1 mm. long, under

which is often a dense layer of minute, often glochidiate hairs, ca. 0.2 mm. long

- 6a. *E. Pringlei* var. *Pringlei*.
 i. Longer hairs on fruits mostly 0.4–1.0 mm. long, mostly glochidiate, but sometimes with a few simple hairs, a sparse layer of minute, capillary, sometimes glochidiate hairs, ca. 0.2 mm. long, present 6b. *E. Pringlei* var. *hypomalaca*.
 h. Petals 1.5–2 (2.5) cm. long 7. *E. cordata*.
 g. Flowers small; petals (4) 6–10 (12) mm. long 4. *E. lobata*.

1. ***Eucnide bartonioides*** Zuccarini, Del. Sem. Hort. Monac. 28, 1844; Abhandl. Akad. Wissenschaften, Munich 4: 1-7, Tab. 1. 1845.

Plant herbaceous, covered with long, bristly, probably stinging hairs, and with shorter glochidiate ones; often trailing, or hanging on cliff sides; leaves alternate, but the nodes often crowded, blades mostly suborbicular to subovate, cordate to subcordate, irregularly and shallowly lobed, and coarsely and unevenly toothed, mostly 3-8 (12) cm. wide and long, about equalling, or slightly shorter than the petioles; flowers single, axillary; peduncles becoming 8-30 cm. long in fruit; upper branches of well-developed fruiting plants sometimes have the subtending leaves reduced in size showing a tendency toward the development of an inflorescence having flowers with leaf-like bracts; sepals linear-lanceolate to nearly lanceolate-ovate, on small flowers often 3-5 mm. long and 1-1.5 mm. wide and on large flowers often 10-20 mm. long and 2-5 mm. wide, persistent on fruits; petals obovate to obovate-oblongate, narrowed toward their bases, usually 1-4 cm. long, yellow, drying lighter; stamens several to numerous, slightly exserted, usually 1-5 cm. long; fruits hemispheric to obovate-turbinate, 5-12 mm. long and 4-8 mm. wide; seeds 0.6-1 mm. long and 0.2-0.33 mm. wide.

The plants, and particularly the flowers, vary greatly in size. Most collections have petals 2-4 cm. long, and fruits 8-12 mm. long and 6-8 mm. wide. However the petals may be only 3-10 mm. long, and other flower parts may be correspondingly small. On Johnston and Muller 1204 the note appears "variable in size according to habitat". Another sheet, "F. L. 419, collected in 1850" states "flowers of very different sizes". Flower size seems not to be correlated with geographic distribution. Small-flowered specimens occur from the northern limit of the species' range in Comal County, Texas, to Chihuahua in the southwest and Tamaulipas in the southeast.

This species has been attributed to Guatemala (Standley and Steyermark 1940: 179) as "has been collected there but once". The single specimen seen from Guatemala which was labelled

E. bartonioides, Kellerman 8062 (F), is not that species, but is *E. sinuata*.

The author has not seen the type, but the drawing accompanying the description (Zuccarini, 1845) shows the unmistakable long fruiting peduncles of this species.

Representative collections: TEXAS: BREWSTER CO.: *Sperry 519*, banks of Tornillo Creek near Hot Springs (US); COMAL CO.: *Lindheimer 814*, Comanche Spring, New Braunfels, June 1850 (F, GH, US); EDWARDS CO.: *Palmer 11010*, shaded limestone ledges, Upper Cedar Creek near Barksdale, Oct. 12, 1916 (US); PRESIDIO CO.: *Hinckley 1868*, rocky ledge, north fork of Palo Blanco Creek, Sierra Tierra Vieja, July 1, 1941 (GH); REEVES CO.: *Mueller 8827*, Pecos, June 14, 1931 (F); UVALDE CO.: *Cory 29149*, chalk bluff of Nueces River, May 19, 1938 (GH); VAL VERDE CO.: *McKelvey 1903*, near mouth of the Pecos, Apr. 20, 1931; CHIHUAHUA: *Johnston 8035*, shelter of limestone ledge, 11½ miles south of Ojinaga, Aug. 10-12, 1941 (GH); *Pringle 520*, face of cliffs, Santa Eulalia Mts., Sept. 1885 (GH, UC, US); COAHUILA: *Marsh 1037*, Musquiz-La Mariposa, Dec. 5, 1936 (F, GH); *Palmer 355*, Monclova, Aug. 1880 (GH, US); *Stewart 1019*, rocky arroyo, 6 km. north of C. Sierra Mojada, Aug. 4, 1941 (GH); NUEVO LEON: *Frye and Frye 2438*, flat on limestone walls, upright in soil, 39 miles north of Monterrey, Apr. 23, 1939 (GH, UC, US); *Gentry 6729*, limestone cliffs, Cuesta de Mamaluque, Aug. 14, 1942 (GH, UC, US); *Palmer 354*, mouth of caves, 27 miles southeast of Monterrey, March 1880 (GH, US); TAMAULIPAS: *Bartlett 10587*, limestone ledges, La Tamaulipeca, near San Miguel, July 25, 1930 (F, US); *Palmer 36*, vicinity of Victoria, Feb. 1 to Apr. 9, 1907 (F, GH, UC, US).

2. *Eucnide xylinea* C. H. Muller, Am. Midl. Nat. 27: 487. 1942.

Plants growing in mats as much as 2 meters wide on cliff faces; principal branches appearing to be perennial; erect, herbaceous branches mostly 4-10 cm. high; plant densely villous-canescens, long hairs not glochidiate, shorter ones sometimes so; leaf blades ovate, mostly 5-15 mm. long and 4-10 mm. wide, upper ones smaller, on petioles one-third as long as the blades to equalling them; sepals linear-lanceolate, 8-15 mm. long; petals 20-25 mm. long; stamens 20-25 mm. long; style ca. 35 mm. long; fruits subhemispheric, 3-5 mm. long and 3-8 mm. wide on peduncles 12-25 mm. long; seeds light yellow, oblong, 0.63-0.84 mm. long and 0.2-0.33 mm. wide.

The type is *C. H. Muller 3311*, Canon de San Salvador, above Esmerelda, in Sierra Mojada, Municipio de Sierra Mojada, Coahuila, Sept. 14, 1939 (US); isotypes (UC, US).

Collections seen: COAHUILA: *Johnston 9003*, high banks of arroyo, plastered against cliff, covering areas of 4-5 square meters, Canon de la Charretera, Sierra de la Madera, 5200 ft. altitude, Sept. 13, 1941 (GH);

Stewart 1075, mats 2 meters broad on cliffs below crest, Canon de Hidalgo, Sierra Mojada, near Esmeralda, Aug. 4, 1941 (GH).

3. ***Eucnide urens*** (Parry ex A. Gray) Parry, *Am. Nat.* **9**: 144. 1875; *Mentzelia urens* Parry ex A. Gray, *Proc. Am. Acad. Arts and Sciences*, n. s., **10**: 71-72. 1874; *Eucnide Parryi* House (*Mentzelia urens* Parry ex Gray, non Vell. *Fl. Flum.* **5**: 5. 97. 1825), *Bull. N. Y. State Mus.* **234**: 67. 1922.

Suffrutescent with spreading herbaceous branches; leaf blades mostly ovate, sometimes oblong to obovate, coarsely and irregularly toothed, not lobed, 2-7 cm. long and 2-6 cm. wide on petioles equally long, uppermost leaves sometimes sessile and slightly amplexicaul; plants bristly with stinging hairs, plus glochidiate hairs which often have verticils of short retrorse barbs on their axes; sepals linear-lanceolate, 15-20 mm. long; petals light yellow, pale cream or greenish yellow, 30-45 mm. long, apiculate; stamens included, 10-18 mm. long; style included; stigma 5-ridged, 6-8 mm. long, ca. one-third the length of the style; fruits 10-20 mm. long and 8-12 mm. wide at their apices; seeds nearly oblong, very light yellow, 0.5-0.6 mm. long and ca. 0.25 mm. wide.

In describing "*Mentzelia (Eucnide) urens* Parry in herb." Gray cited three collections: Bigelow in 1854 (no. 79), rocky ravines of the Colorado near the confluence of Williams River; Dr. Parry in 1867, (winter vestiges only) from the same locality; and Dr. Parry (in blossom) near St. George, southern Utah. Since the first and second specimens cited are very poor, the third one, C. C. Parry 79, southern Utah, 1874, is selected as Lectotype. It is in the Gray Herbarium, mounted in the middle of a sheet, with the other two collections mounted on either side. Isotypes: F, US.

E. urens grows in southwestern Utah, northeastern Arizona, southwestern Nevada, adjacent California and northern Baja California.

Selected collections: ARIZONA: GRAND CANYON: *Cummings* June 22, 1942, growing in Red Wall limestone near Mooney Falls, Havasu Canyon (US); MOHAVE CO.: *Kearney and Peebles 11241*, petals very pale cream color, Boulder Lake, Apr. 18, 1935 (US); CALIFORNIA: INYO CO.: *Train 658*, dry rocky canyons against cliff banks, Emigrant Canyon, Panamint Range, Apr. 19, 1937 (GH, US); SAN BERNARDINO CO.: *Hitchcock 6091*, shrub 2 ft. tall, in desert wash, 4 miles below Cave Spring, Apr. 17, 1940; DEATH VALLEY NATL. MONUMENT: *Epling, Robison and Haines*, Apr. 20, 1935, Death Valley Grotto Canyon (US); NEVADA: CLARK CO.: *Clokey 8023*, limestone ledges, south of Indian Springs, July 10, 1938 (F, GH, US); *Heller 10450*, petrified forest, canyon west of Logan.

June 8, 1912 (F, GH, US); LINCOLN CO.: *Kennedy and Gooding* 75, Muddy Valley, May 1, 1906 (US); UTAH: *Parry* 79, "southern Utah", 1874 (F, GH, US); BAJA CALIFORNIA: *Brandeggee*, May 15, 1889, Santa Maria (US); *Harvey* 604, Pt. San Fermin Mts., Apr. 22, 1933 (US); *Harvey* 647, Pt. San Fermin Wash, Apr. 22, 1933 (US).

4. *Eucnide lobata* (Hook.) A. Gray, Pl. Lindh., Boston Journ. Nat. Hist. 6(2): 191-192. 1857; *Microsperma lobata* Hook., Ic. Plant. 3: t. 234. 1840; *Mentzelia lobata* (Hook.) Walp., Rep. 2: 224. 1843; *Microsperma rudis* S. Schauer, Linnaea 20: 721-722. 1847; *Eucnide floribunda* Wats., Proc. Amer. Acad., 17: 358. 1882; *Eucnide Watsoni* Urban & Gilg. K. Deutsche Akad. Naturf. Halle 76: 105. 1900.

Plants herbaceous or suffrutescent (herbaceous branches usually collected), with simple bristly hairs and shorter glochidiate ones; leaf blades ovate to rotund-ovate, irregularly toothed and usually shallowly lobed, rarely sinuate-toothed to nearly entire, mostly 3-10 cm. long, and nearly as wide, sometimes cordate at their bases, on petioles, 1.5-6 cm. long; sepals ovate to ovate-lanceolate, somewhat attenuate, 4-5 mm. long; petals yellowish, 6-12 mm. long; stamens several to many, about equalling the petals; style and stigma 8-10 mm. long; stigma oblong to oblong-clavate, 1.5-2 mm. long; fruits ovate-hemispheric to ovate-oblong, 7-12 mm. long; seeds greenish-yellow, oblong to oblong-ovate, tapering at ends, 0.5-1.05 mm. long and 0.21-0.376 mm. wide.

Although Urban (1900) cites a specimen from Comal County, Texas, (Matthews 471) this is probably a misidentification of *E. bartonioides*. Young, small-flowered specimens of the latter species, without the characteristic, long fruiting-peduncle, might easily be mistaken for *E. lobata*.

A small fragment labelled "Berlandier ex Hook." is mounted in the upper left quarter of a sheet in the Gray Herbarium. It is possible that this is a part of the type collection. In any event, the illustration accompanying the description of *Microsperma lobata* is easily recognized by the small flowers and the short fruiting pedicels as being conspecific with the taxon as here considered. Furthermore, other characteristic collections have been seen from the type locality "Santa Catarina, near Monterrey, Nouv. Leon, Mexico. Berlandier".

Representative collections: COAHUILA: *Hinton* 16675, hanging plant, flowers yellow, small isolated colonies, limestone cliff near Saltillo, July 14, 1946 (GH, US); *Johnston* 7158, a sprawling sparsely branched brittle shrub, petals and stamens yellow, shelter of cliff at canyon mouth, 4 miles west of Cuatro Cienegas, Aug. 24-26, 1938 (GH); *Johnston* 9324, corolla yellow, plants 3-4 ft. broad, flattened, shrubby caudex, crevices

on canyon wall, deep narrow canyon, ca. 2 km. southeast of Puertocito, western end of Sierra de la Madre, Sept. 21, 1941 (GH); *Palmer 832* (GH, type of *E. floribunda*), San Lorenzo de Laguna and vicinity, 22-27 leagues southwest of Parras, May 1-10, 1880 (F, US); *Waterfall 13228*, along arroyo in gravelly slopes in desert, 18 mi. ne. of Saltillo, Aug. 6, 1957 (OKLA, SMU); GUANAJUATO: *Kenoyer 2271*, Yichu mine, Aug. 20, 1947 (GH); HIDALGO: *Moore 1389*, in crevices of rock overhang, slopes and summit of Cerro de las Canteras, near Puerto de San Pedro, km. 104 on highway from Pachuca to Actopan, Oct. 9, 1946 (GH, UC, US); *Moore 2133*, flowers yellow, open, stems sticky, branched, forming mats against rocky underhang, near Jihuico, Mezquitlan (GH, UC); NUEVO LEON: *Chase 7761*, bench in canyon, Galeana, Aug. 3, 1939 (F, GH); *Nelson 6107*, Santa Catarina, Apr. 13, 1902 (GH, US); *Pennell 16797*, Rio Santa Catarina, Sierra Madre Orientale, Monterrey, June 17, 1934 (US); *Pringle 9801*, dry banks and ledges, Monterrey, Sept. 4, 1902; *Waterfall 13228*, conglomerate bank, 24 miles west of Monterrey, Aug. 6, 1957 (F, GH, OKL, OKLA, SMU); PUEBLA: *Purpus 3379*, vicinity of San Luis Tultitlanapa near Oaxaca, July 12, 1905 (UC); *Rose, Painter and Rose 9925*, collected near Tehuacan, Aug. 30 to Sept. 8, 1905 (GH, US); QUERETARO: *McVaugh 10371*, desert arroyos, 45-50 miles northeast of Queretaro, Apr. 24, 1949 (US); *Waterfall 14117*, on cliff sides, 10 miles south of Zimapan, Aug. 20, 1957; TAMAULIPAS: *Stanford, Retherford and Northcraft 959*, small creek, 9 km. east of Palmillas, Aug. 15, 1941 (GH, UC).

5. ***Eucnide sinuata*** Wats. Proc. Am. Acad. Arts and Sciences 17: 358. 1882; *E. Nelsoni* Rose, Contrib. U. S. Nat. Herb. 12: 286-287. 1909.

Stems herbaceous, often sprawling or hanging on cliffs; densely vestite with long spreading simple hairs, and shorter glochidiate ones on stems, leaves, pedicels, ovaries and sepals, often quite bristly on pedicels, ovaries and sepals; leaf blades usually ovate, sometimes cordate, mostly 3-9 cm. long and 2.5-8 cm. wide, on petioles 3-9 cm. long; fruiting pedicels usually (3) 5-11 cm. long; sepals linear to linear-oblong, 10-15 mm. long; petals 20-25 mm. long, often remaining erect and overlapping laterally into a tube-like structure; stamens many, slightly exerted; style 20-25 mm. long, slightly enlarged apically into a stigma ca. 1-1.5 mm. long; fruits obovate to turbinate, 10-13 mm. long and 6-8 mm. wide; seeds oblong, greenish-yellow, ca. 0.6-0.8 mm. long and 0.2-0.3 mm. wide.

Plants beginning to flower may not have the elongate fruiting pedicels found in more mature specimens. The only probability of confusion would be with *E. Pringlei* var. *Pringlei* which has petals 3.5-4 cm. long.

The type collection is *Botteri* 266, Orizaba, Vera Cruz. Watson stated that the type was in the Gray Herbarium, but I have not seen it in the material borrowed for study. A sheet of type material (us) was available for study.

Collections seen: HIDALGO: *Moore* 2026, forming masses on underhang of road cut, barranca walls above Metzquititlan on road to Zacultipan, Nov. 11, 1946 (GH, UC); *Moore* 2122, limestone talus between high and low water levels, Laguna de Metzquititlan between San Cristobal and main body of lake, Nov. 23, 1946 (GH, UC); MEXICO: *Hinton* 5895, hanging down, cliffs by the river, Pungaranchito, District of Temascaltepec, Apr. 10, 1934 (F, GH, US); *Hinton* 7562, on sand by the river, Villa Neda, District of Temascaltepec, Mar. 27, 1935 (GH, US); MICHOACAN: *Hinton* 11803, cliffs, Huetamo, Mar. 10, 1938 (F, GH, US); *Hinton* 13332, hanging in clumps, dry clay cliffs in mixed forest, Ruzantla-Paso Tierra Caliente, District of Zitacuaro, Oct. 5, 1938 (F, GH, UC, US); *Hinton* 13403, hanging, cliff by river, Zitacuaro-Pucuaro, Oct. 25, 1938 (GH, UC, US); *Nelson* 6926, isotype of *E. Nelsoni* (US); SAN LUIS POTOSI: *Purpus* 5242, Minas de San Rafael, June 1911 (UC); VERA CRUZ: *Purpus*, July 1906, steep rocks, Barranca de Tenampa, Zacuapan (UC, US); *Purpus* 16434, on steep rocks, barranca near Rancho Remudadero, Apr. 1935 (A, F, US); GUATEMALA: *Kellerman* 8062, Guastatoyo, Dept. of Jalapa, Jan. 20, 1908 (F).

6. *Eucnide Pringlei* Rose, Contr. U. S. Natl. Herb. 12: 287. 1909.

6a. *E. Pringlei* var. *Pringlei*

Stems herbaceous, covered with varying amounts of long, rather soft, sometimes twisted hairs; shorter glochidiate hairs, or hairs with verticils of short recurved hooks, absent to abundant, but minute ones, ca. 0.2 mm. long often present; leaf blades suborbicular to ovate, mostly 5–12 cm. long and 5–10 cm. wide, shallowly lobed and irregularly toothed, often cordate, on petioles usually 3–7 cm. long; sepals linear-lanceolate, 15–20 mm. long; petals yellowish, remaining wrapped around each other in a tubular structure (3) 3.5–4 cm. long; stamens many, 4–5 cm. long; style 4.5–6 long; stigma 1.5–2 mm. long; fruits subhemispheric, 8–10 mm. long and 8–10 mm. wide, with long pointed hairs, 1.2–2.1 mm. long, under which is usually a dense layer of minute, often glochidiate hairs, ca. 0.2 mm. long; seeds light yellow, pointed at both ends, 0.6–1.0 mm. long and 0.2–0.3 mm. wide.

The type is *C. G. Pringle* 10077, limestone cliffs, Iguala Canon, 2500 ft., Guerrero, Mexico, Sept. 22, 1905 (us); isotypes: (F, US).

Known only from the type collection.

6b. *E. Pringlei* var. *hypomalaca* (Standl.) Waterfall, comb. et stat. nov., based on *E. hypomalaca* Standl., Field Mus. Publ. Bot. 22: 41. 1940.

Suffrutescent; plant with both long soft hairs and long glochidiate ones, minute glochidiate hairs ca. 0.2 mm. long, may also be present; leaf blades nearly ovate, 5-10 cm. long and 4-9 cm. wide, shallowly lobed and irregularly toothed, on petioles 3-5 cm. long; sepals linear-lanceolate, 15-30 mm. long; petals cream-white, 2.5-4 cm. long, usually not fully opening; stamens 3-5 cm. long; styles 3-7 cm. long, upper 1.5-2 mm. expanded into a 5-ridged or 5-lamellate stigma; ovary with long hairs mostly glochidiate and up to 1 mm. long, and with shorter capillary, often glochidiate hairs ca. 0.2 mm. long, often present; fruits subhemispheric to obovoid to subtruncate apically, 8-10 mm. long and 6-8 mm. wide; seeds bright yellow or greenish-yellow, oblongish, pointed at ends, 0.5-0.8 mm. long and 0.13-0.2 mm. wide.

The type is *H. S. Gentry 1315*, Arroyo Mescales, Rio Mayo, Sonora, Feb. 18, 1935 (F).

Collections seen: CHIHUAHUA: *Hartman 1016*, Batopilas, Apr. 1892 (GH, US); *Hewitt 272*, abundant locally, 1 m. in diameter, cliffs and walls of ruined buildings, Batopilas, Apr. 5, 1948 (GH); SONORA: *Gentry 3021*, perennial spreading bush, flowers cream white, on arroyo bank rocks, Arroyo de Mescales, Rio Mayo, Mar. 3, 1937 (GH).

7. ***Eucnide cordata*** (Kell.) Kell. ex Curran, Bull. Calif. Acad. 1: 137. 1885; *Mentzelia cordata* Kellogg, Proc. Calif. Acad. 2: 33. 1863; and as an illustration, *Hesperian* p. 33. 1863.

Suffrutescent; plant with long hairs which may be simple, glochidiate, or with verticils of short recurved spines along main axis; leaf blades suborbicular to broadly ovate, shallowly lobed and irregularly toothed, principal ones 4-9 cm. long and 4-10 cm. wide, on petioles 2-6 cm. long; inflorescences branched, several-flowered; sepals linear-lanceolate to lanceolate-ovate, 9-13 mm. long; petals yellowish white, or greenish white, not expanding, 1.5-2 (2.5) cm. long; style 2.5-4 cm. long with upper 1-2 mm. slightly expanding into a stigma; fruits bristly, subhemispheric to subcampanulate, 7-10 mm. long and 7-10 mm. wide; seeds light yellow or greenish yellow, linear-oblong to oblong, 0.59-1.0 mm. long and 0.125-0.138 mm. wide.

Immediately preceding the description of *Mentzelia cordata* the statement appears "Dr. Kellogg read a description of a new species of *Mentzelia*, from Cerros Island, presented by Dr. J. A. Veatch". From this it is inferred that a specimen collected by J. A. Veatch, wherever it may be deposited, is the type, and that the type locality may be Cedros Island.

In the following citations the islands off the coast of Baja California are listed separately for convenience in giving the location of the collections.

Selected collections: BAJA CALIFORNIA (mainland): *Gentry 4226*, low succulent bush, flowers white, rocky arroyo margins and moist rock recesses, Las Cuevitas, below Comundu, Feb. 17, 1939 (GH); *Johnston 3070*, 3 ft. high with a few coarse loose ascending stems, La Paz, Apr. 12, 1921 (US); *Orcutt 1347*, near San Quentin, Apr. 22, 1886 (F, GH, US); *Rose 16656*, Mulege, Apr. 4, 1911 (US); *Shreve 7065*, 12 miles south of Santa Rosalia, Mar. 9, 1935 (F, GH); ANGEL DE LA GUARDIA ISLAND: *Johnston 3410*, shrubby with ascending stems, bank of wash near ocean, Palm Canyon, May 3, 1921 (A, GH, US); CARMEN ISLAND: *Palmer 867*, Nov. 1-7, 1890 (GH, US); CEDROS ISLAND: *Anthony 72*, July-Oct., 1896 (F, GH, US); *Greene*, May 3, 1885 (F, GH); *Mason 1982*, June 3, 1925 (US); *Palmer 753*, 4 ft. high, Mar. 18-20, 1889 (F, GH, US); *Rose 16101*, Mar. 10, 1911 (US); ESPIRITU SANTO ISLAND: *Bryant*, Apr. 1892 (GH); *Collins, Kearney and Kempton 144*, Apr. 1, 1931 (US); *Jones 27104*, Sept. 30, 1930 (US); *Nelson and Goldman 7505*, herb 6-10 inches, in rock crevices, Feb. 7, 1906 (US); *Rose 16861*, Apr. 18, 1911 (US); PICHILMQUE ISLAND: *Rose 16538*, Mar. 20, 1911 (GH, US); SAN LUIS ISLAND: *Johnston 3311*, infrequent on sides of draws, Apr. 28, 1921 (A, F, GH, US); SONORA: *Drouet and Richards 3837*, on sand as bases of large rocks on shore of island at entrance to harbor, Guaymas, Dec. 2, 1939 (F); *Drouet and Richards 3882*, on gravelly beach at base of bluff north of Cabo Arco, Guaymas, Dec. 6, 1939 (F); *Palmer 325a*, Islands in harbor, Guaymas, Oct. 1887 (GH); *Palmer 341*, Guaymas and Los Angeles Bay (US).

8. *Eucnide grandiflora* (Groenland) Rose, Contr. U. S. Natl. Herb. 3: 317. 1895; *Microsperma grandiflora* Groenland, Revue Horti-cole 349, t. 84, 1861.

8a. *E. grandiflora* var. *grandiflora*

Stems herbaceous; plant with long simple hairs, shorter glochidiolate ones, and an underlayer of still shorter and finer hairs of both kinds; leaf blades broadly ovate to suborbicular, usually slightly wider than long, shallowly lobed and irregularly toothed, principal ones 8-12 cm. long and 9-13 cm. wide, often with a more or less quadrate basal sinus, on petioles 6-15 cm. long; inflorescences few-flowered, bracts herbaceous, lobed and toothed, but much smaller than the leaves; pedicels 3-5 cm. long, becoming recurved in fruit; sepals linear-lanceolate or linear-falcate, 2.5-5 cm. long; petals white to white with a greenish tinge, acutish, 5.5-8 cm. long; stamens many, 8-11 cm. long; style 10-12 cm. long; stigma abruptly expanded, 2-3 mm. long and 2-2.5 mm. wide; ovary broadly obconic, bristly; fruits campanulate, 12-18 mm. long and 16-18 mm. wide; seeds light yellow, linear, 0.97-1.25 mm. long and 0.13-0.2 mm. wide.

No type is known for *Microsperma grandiflora* Groenland, pub-

lished as an illustration with a narrative in a garden magazine.

Rose, in making the transfer to *Eucnide* and in supplying a more complete and formal description, cited two collections, *E. W. Nelson 1589* and *C. G. Pringle 4645*. Both collections are quite representative of the species, and since I have seen 4 sheets of the latter collection and only 2 sheets of the former, I am choosing as lectotype *C. G. Pringle 4645*, dry cliffs, Tomellin Canyon, 3000 ft., May 17, 1894, Oaxaca, Mexico (us); Isotypes: (F, GH).

Collections seen: OAXACA: *Conzatti 1757*, Estacion Almoloyas, 1907 (us); *Gonzales 44*, Cuicatlan, Dec. 4, 1895 (GH); *Nelson 1589*, six miles above Domingullo, Oct. 3, 1894 (GH, us); *Relso 4234*, Canon de Tomallia, Sept. 9, 1919 (us); *Rose and Rose 11343*, Tomellin Canon, Sept. 7, 1906 (us).

8b. *Eucnide grandiflora* var. *guatemalensis* (Standl. & Steyererm.) Waterfall, comb. et stat. nov., based on *E. guatemalensis* Standl. & Steyererm., Field Mus. Publ. Bot 23: 178-179. 1944.

Similar to var. *grandiflora*, differing principally in being more or less viscid, in having leaf blades slightly longer than wide, and in its obtusish petals. Although Standley and Steyermark (1944:179) stated that "the size of its flowers . . . approaches *E. grandiflora* . . . that has still larger flowers, with petals fully 7 cm. long", it will be seen that its petal length falls well within the size, 5.5-8 cm. here ascribed to var. *grandiflora*.

The Type is *J. A. Steyermark 50818*, leaves viscid-fetid, filaments and petals white-pale greenish, pale green at very base, on vertical bluffs, northwest of Cuilco, two-thirds way up Cerro Chiquihui above Carrizal, alt. 1350-2300 meters, Dept. Huehuetenango, Guatemala, Aug. 17, 1942 (F); Isotype: (us). This variety is known only from the type collection. DEPARTMENT OF BOTANY AND PLANT PATHOLOGY AND THE RESEARCH FOUNDATION OKLAHOMA STATE UNIVERSITY, STILLWATER.

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THELESPERMA NUECENSE, A NEW SPECIES FROM SOUTH TEXAS AND ITS BEARING ON THE STATUS OF *T. FILIFOLIUM*

B. L. TURNER

Thelesperma nuecense n. sp.¹ Planta annua, 45-100 cm. alt., glabra ubique; unicus caulis a quaque rosula oriens; folia rosulae relative pauca, ternatisecta, 5-15 cm. long., petiolis 4-7 cm. longis, breviter ciliatis 1-8 mm. ad basim; folia inferiora mediaque pinnate 1 vel 2 (3)-secta, divisione terminali 1-7 cm. long.; folia in parte caulis superiore semel-composita, 1-5 divisionibus longis linearibusque; capitula 2-30 in omnibus caulibus primariis, matura in pedunculis elongatis 10-40 cm. long.; involucrium exterius ex 8-12 phyllariis herbaceis subulatis 2-4 mm. long. omnino levibus constans; involucrium interius 10-14 mm. lat., 5-10 mm. alt. normaliter ex 8 phyllariis, ca. 1/3 ad 2/5 longitudinis subtus coalescentes; oves radii octo, steriles; ligula 1.5-2.5 cm. long., 1-1.5 cm. lat., inconspicue trifida, aurea, maculam clarissimam rubro-brunneam ad basim habens; flores disci multi, corollis rubiginosis, regularibus aut quasi regularibus, glabris, 6 mm. longis; lobi florum disci quinque, aequi, 2 mm. long., 1½-2 plo longiores quam iugulum, venis perspicuis rubro-brunneis secundum margines praediti; rami styli in appendiculas subulatas hispidas, ca. 0.3 mm. long. supra lati facti; palea oblonga, ad apicem rotundata, marginem latum scariosum 6-7 mm. long., 1.5-2 mm. lat., atque par nervorum mediorum perspicuorum habens; ovarium glabrum; achaenium maturum subbrunneum, manifeste verrucosum ad fere leve; pappus e 2 dentibus crassis 0.5 mm. long., ut videtur pubescentibus, excrescentias hispidas retrorse barbatis habentibus, constat.

Annual; leaves once or twice ternatisect, the segments filiform or nearly so; heads radiate; outer phyllaries subulate 2-4 mm. long, about one-half as long as the inner; achenes narrow, without wings; pappus of 2 stout retrorsely barbed teeth; disk corolla regular, the lobes about twice the length of the throat.

Plant 45-100 cm. high, glabrous throughout; stems single from each

¹Grateful acknowledgment is due Dr. Hannah T. Croasdale of Dartmouth College who prepared the Latin description.



Waterfall, U. T. 1959. "A revision of Eucnide." *Rhodora* 61, 231–243.

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