

# NEW COMBINATIONS FOR *EUPHORBIA* AND *DITAXIS* (EUPHORBIACEAE) IN NORTHWESTERN MEXICO AND SOUTHWESTERN UNITED STATES

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## ABSTRACT

*Euphorbia villifera* var. *crepuscula* is elevated to specific status and *Ditaxis californica* is reduced to a variety of *D. serrata*.

## RESUMEN

*Euphorbia villifera* var. *crepuscula* se eleva a estado específica y *Ditaxis californica* se reduce a una variedad de *D. serrata*.

During the course of our preparation of a synopsis of the Euphorbiaceae of Sonora, Mexico, and work on several local floras, the need for the following new taxonomic changes became apparent. We have seen all specimens cited here.

***Euphorbia crepuscula*** (L. C. Wheeler) comb. nov.—*Euphorbia villifera* Scheele var. *crepuscula* L. C. Wheeler, Contributions from the Gray Herbarium 127:61. 1939.

This species is quite distinct from *E. villifera* Scheele. The two share the character of having laterally compressed cocci, the distal part of which is empty, but as noted by Wheeler, there are a number of significant differences between them. *Euphorbia crepuscula* has linear or oblong-linear leaves, an epappilate epidermis, and seeds with distinct transverse ridges, while *E. villifera* has ovate to triangular-ovate leaves, a papillate epidermis, and seeds that are smooth to slightly wrinkled. Also, in *E. crepuscula* the bracteoles have fewer filiform, hairlike divisions than in *E. villifera*.

When Wheeler described this taxon as a variety of *E. villifera*, he seems to have placed too much emphasis on the carpel character. The affinities of *E. crepuscula* are not obvious, but the seeds, which possess transverse ridges and frequently whitened angles, bear striking similarity to *E. hyssopifolia* L. We know of only three collections of this species. The Sonora collections are in the southeastern part of the state.

*Specimens examined.* MEXICO: SONORA: Guirocoba, District



of Alamos, 13 Nov 1933, *Gentry 789M* (holotype, GH) [Guircocoba is at the boundary of tropical deciduous forest and oak woodland]. Mesa la Lagunita, 27°58'20"N, 109°06'30"W, 1100 m, Chihuahua oak woodland, basalt soil, 6 Nov 1986, *Martin et al. s.n.* (ARIZ). SINALOA: Cofradía, 22 Oct 1904, *Brandeggee s.n.* (GH).

***Ditaxis serrata* (Torrey) A. A. Heller var. *californica* (Brandeggee) comb. nov.**—*D. californica* (Brandeggee) Pax & K. Hoffm., *Pflanzenreich* 4, 147, 6:70. 1912.—*Argythamnia californica* Brandeggee, *Zoe* 5:230. 1906.

This unusual *Ditaxis* is endemic to Shreve's (1951) Lower Colorado Desert subdivision of the Sonoran Desert. It occurs in southeastern California (Webster 1993), the east flanks of the Sierra Juárez in northeastern Baja California (Wiggins 1980), and northwestern Sonora (Felger 1992). The single collection from Sonora, consisting of two small plants, is disjunct about 200 km. It has not been found again in Sonora despite repeated searches at the same station and surrounding territory.

*Ditaxis californica* is here reduced to a variety of *D. serrata* because we find no difference between them other than the glabrous, naked condition of the former. *Ditaxis serrata* var. *californica* primarily occurs in the western part of the overall geographic range of *D. serrata*.

Wiggins (1964:785) pointed out the "pistillate calyx with a conspicuous glandlike callosity just below each intersepaly sinus" as a key character for *D. californica*. This feature is present among the type collection and on many other specimens of var. *californica*, and is also variously present or absent on var. *serrata* as well as the very closely related *D. neomexicana* (Muell. Arg.) A. A. Heller. Among these three taxa there appear to be minor differences in the shape of the floral glands. However, these characters may well vary with seasonal or local environmental conditions. Another character of questionable significance is the shape of the stigma branches. This does not seem to be a diagnostic character as the stigma branches are usually terete in all three taxa or sometimes slightly flattened apically.

An annotation by Ivan M. Johnston on a specimen of var. *californica* collected in California (South base of Eagle Mts., *Munz & Keck 4833* in 1922, POM) reads "This looks suspiciously like a glabrate form of *D. serrata*." Another California collection from the Colorado Desert (*Wolf 3048* in 1932, RSA) has three plants on the herbarium sheet. Two are glabrous (var. *californica*) and one is pubescent (var. *serrata*); these plants are strikingly similar apart from the presence or absence of hairs. An analogous situation occurs in Texas, with *D. humilis* Engelm. & A. Gray var. *laevis* Torrey being



a glabrous segregate of the hairy and more common and widespread var. *humilis*.

*Specimens examined.* USA: CALIFORNIA: Riverside Co., Marshall Canyon, 7 mi W of Coachella, 100 ft, April 1905, *Hall 5796* (holotype of *Argythamnia californica*, UC; isotypes, UC and POM). MEXICO: SONORA: Puerto Peñasco, Casa García (ca. 3 km E of center of town), coastal dunes with annuals, 50 ft, 28 Mar 1980, *Yatskievych 80-43* (ARIZ).

#### ACKNOWLEDGMENT

The authors thank the curators and staffs of the following herbaria for their assistance: ARIZ, GH, RSA-POM, UC.

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Steinmann, Victor W. and Felger, Richard Stephen. 1995. "NEW COMBINATIONS FOR EUPHORBIA AND DITAXIS (EUPHORBIACEAE) IN NORTHWESTERN MEXICO AND SOUTHWESTERN UNITED STATES." *Madroño; a West American journal of botany* 42, 455–457.

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