

**TAXONOMIC STUDY OF THE *LASIANTHAEA*
CEANOTHIFOLIA (ASTERACEAE: HELIANTHEAE)
COMPLEX**

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ABSTRACT

Lasianthaea ceanothifolia is recognized as having three, largely allopatric, intergrading varieties in Mexico: var. **ceanothifolia**, var. **gracilis** and var. **gradata**. The long-standing var. *verbenifolia* is treated as a synonym of the typical variety. A key to the complex is provided, along with a map showing their distribution. *Phytologia* 94(3): 367-371 (December 1, 2012).

KEY WORDS: Asteraceae, *Lasianthaea*, *L. ceanothifolia*, Mexico

Preparation of a treatment of the Mexican species of *Lasianthaea* has occasioned the present paper.

Becker (1979) provided an excellent treatment of the Mexican species of Mexico, this expanded upon by Turner (1988). The present contribution is to be included in my forth coming treatment of *Lasianthaea* for The COMPS OF MEXICO (cf. Turner 2009, etc.).

LASIANTHAEA CEANOTHIFOLIA (Willd.) K. Becker, Mem. N. Y. Bot. Gard. 31: 38. 1979.

This is a highly variable species within which Becker (1979) recognized four, more or less, intergrading varieties, as did McVaugh (1984); I would recognize but three intergrading varietal taxa, as follows:

1. Awns of disk achenes mostly 1.5-2.0(3.0) mm long; leaves softly pubescent beneath; Son, Chi, Sin and Dur.....var. **gradata**
1. Awns of disk achenes mostly 2.5-5.5 mm long; leaves variously pubescent beneath; Central Plateau s Sin and Nay southwards ...(2)
2. Middle and outer involucre bracts conspicuously many-nerved below, mostly glabrous except for the ciliate margins; s Sin, Dur, Nay, Jal and Col; mostly Pacific slopesvar. **gracilis**
2. Middle and outer involucre bracts not conspicuously many-nerved below, their surfaces mostly pubescent; widespread from s Sin and Zac, southwardsvar. **ceanothifolia**

var. **ceanothifolia**

Lasianthaea ceanothifolia var. *verbenifolia* (DC.) K. Becker

Zexmenia ceanothifolia var. *conferta* A. Gray

Zexmenia cordifolia Blake

Zexmenia microcephala Hemsl.

Zexmenia verbenifolia (DC.) Blake

s Sin, Nay, s Zac, Agu, Gua, Jal, Mic, Mex, Mor, Ver, Gue, Oax and Cps, mostly tropical deciduous forests, 1000-2000 m; Sep-Dec.

Suffruticose shrublets or shrubs 0.5-6.0 m high; leaves opposite, 4-15 cm long, 1.5-5.0 cm wide; petioles 0-12 mm long; blades variously ovate, 3-nervate from or near the base, the undersurfaces relatively rough, the margins serrate; heads radiate, in terminal subumbellate clusters of 8-30, the peduncles mostly 1.2-3.0 cm long; involucre mostly 5-8 mm high, 3-8 mm wide, the bracts 3-5 seriate, graduate; ray florets 8-11, the ligules yellow, 4-8 mm long; disk florets mostly 10-30, the corollas yellow; disk achenes 3.5-5.0 mm long, the pappus of 2 awns 4-6 mm long, clearly exerted from the involucre at maturity; chromosome number, $n = 10$ pairs.

This is a widespread highly variable taxon, typified by collections from near Cuernavaca, Morelos, best recognized by its numerous, relatively small, narrow heads from which the achenal awns protrude at maturity giving the head a bristly appearance. It appears to intergrade with its more northern, lower elevational, allopatric, cohort,

var. **gracilis**, where their boundaries approach each other. Additionally, it apparently hybridizes upon occasion with yet other, very distinct, taxa such as **L. crocea**, as well noted by Becker (1979).

McVaugh (1984) accepted Becker's 4-varietal concept of **L. ceanothifolia**, distinguishing var. *verbenifolia*, the type, according to McVaugh (1984), possibly collected "near San Blas," Nayarit, Mexico. It differs from var. **ceanothifolia** largely by petiolar length [(1-5(12) mm long in the former, 5-20 mm long in the latter)]. In my examination of numerous sheets of the complex from throughout Mexico, I could not see that such a correlation exists. McVaugh also reported that plants of var. *verbenifolia* grow in close proximity to var. **gracilis** in southern Nayarit, and that at that site, the latter taxon flowers "somewhat earlier" than the former. In my opinion, the area concerned is where var. **ceanothifolia** grades into var. **gracilis** (sensu the present author), and not much inference can be made as to the flowering periods of such populations.

I have not examined material of **L. ceanothifolia** from the state of Chiapas, but accept the identifications of Strother (1999), who cites a number of collections from the more eastern portions of the state, all assembled by Matuda.

var. **gracilis** (W.W. Jones) K. Becker, Mem. N. Y. Bot. Gard. 31: 44. 1979.

Zexmenia gracilis W.W. Jones

Zexmenia rotundata Blake

s Sin, Dur, Nay, Col, and Jal, in mostly tropical deciduous forests, 100-1000 m; Aug-Oct.

This is a relatively distinct taxon, as noted by Becker (1979). It is typified by collections from Nayarit, and is identified best by its striate, nearly glabrous, outer involucre bracts and mostly, sparsely pubescent, linear lanceolate leaf blades, these usually 3-4 times as long as wide; chromosome number, $n = 10$ pairs.

This variety, and perhaps others, occasionally forms hybrids with **L. helianthoides** (Becker, 1979) and presumably with yet other species.

var. **gradata** (Blake) K. Becker, Mem. N. Y. Bot. Gard. 31: 43. 1979.
Zexmenia gradata Blake

Son, Chi, Sin and Dur, tropical deciduous and pine-oak forests, 200-1300 m; Sep-Dec.

This variety is typified by collections assembled in Sinaloa. It resembles var. **ceanothifolia**, but the heads are smaller, on mostly shorter peduncles, bearing fewer (10-20) disc florets, the leaves more softly pubescent beneath, and the achenes having shorter awns, as noted in the above key to taxa.

Both Becker (1979) and McVaugh (1984) thought this variety to be the most distinct of the several infraspecific taxa proposed here. The taxon resembles var. **ceanothifolia** but is usually readily distinguished by its sub-pinninerved leaves which are somewhat softly pilose beneath, and by its disk achenes with awns 2-4 mm long, which do not extend much beyond the involucre at maturity, if at all.

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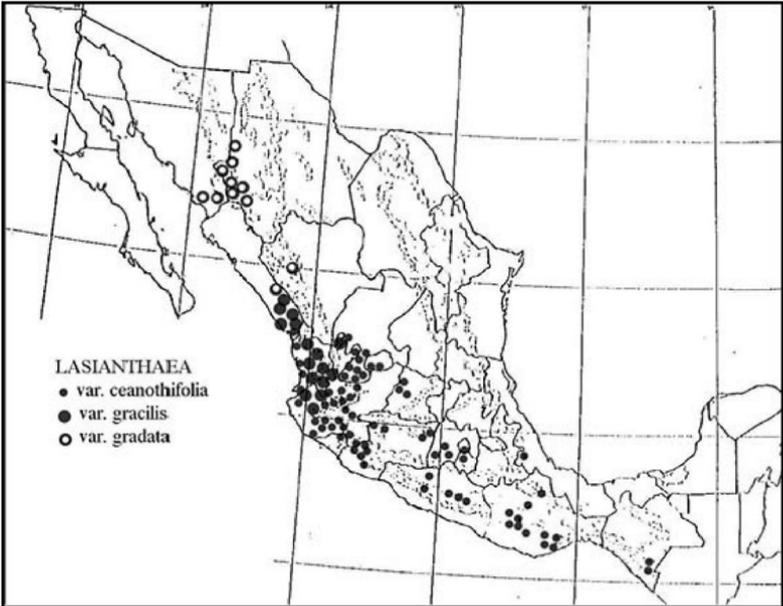


Fig. 1. Distribution of infraspecific taxa of *Lasianthaea* in Mexico.