

A REEVALUATION OF THE GENUS *ALEPIDOCLINE* (ASTERACEAE,  
HELIANTHEAE, GALINSOGINAE) AND DESCRIPTION OF A NEW SPECIES  
FROM OAXACA, MÉXICO

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ABSTRACT

*Alepidocline* S.F. Blake is accepted as a valid genus with four species. It is related to *Galinsoga* and *Sabazia* but is amply distinct by a syndrome of characters and appears to be a monophyletic assemblage of four annual species which are distributed from Oaxaca, México, through Central America to Venezuela. A new species, *Alepidocline macdonaldana*, from Oaxaca, is described and illustrated, and two new combinations are made, *Alepidocline breedlovei* and *Alepidocline trifida*.

KEY WORDS: Asteraceae, Heliantheae, *Alepidocline*, *Galinsoga*, *Sabazia*, México

Description of *Alepidocline macdonaldana* in the account that follows has necessitated a reevaluation of the generic limits of *Sabazia*, *Galinsoga*, and related cohorts. As noted by Turner (1976) in his discussion of the submergence of *Alepidocline annua* S.F. Blake into an expanded-*Sabazia*, Blake was unaware of the phyletic position of *Alepidocline* in the tribe Heliantheae, relating this to *Schistocarpha*. At least he did not suggest a relationship to *Sabazia* or *Galinsoga*. Robinson & Brettell (1973) also considered the relationships of *Alepidocline* to be with *Schistocarpha*, but clearly noted its relationship to the subtribe Galinsoginae. Robinson (1979), with his description of *Galinsoga macrocephala* H. Robins. (= *Alepidocline annua* S.F. Blake), has added additional views on the relationship of *Alepidocline*. Unaware of the synonymy of *Galinsoga macrocephala* with *Alepidocline annua*, he placed the species in an expanded *Galinsoga*, noting that the species was "unique in the genus by the comparatively large size of the heads . . . and that the peripheral paleae do not form complexes with the inner involucreal bracts as in typical *Galinsoga*." Robinson (1975) also noted that the readily deciduous setiform pappus of "*G.*

*macrocephala*" (= *Alepidochne annua*) differs from the forms traditionally placed in *Galinsoga*, but that "a similar form is found in one Mexican species, *G. formosa* Canne (= *Sabazia trifida* Fay) included in [*Galinsoga*] by Canne (1977)." However, Robinson (1981), subsequently accepted *Alepidochne* as a valid genus without comment, although, as noted in the above, he positioned the generitype within an expanded *Galinsoga*.

In my forthcoming treatment of *Galinsoga* and *Sabazia* for the Asteraceae of México (Turner & Nesom, in prep.) I originally intended to position both *Alepidochne annua* and *Galinsoga formosa* Canne (= *Sabazia trifida* Fay) in *Sabazia*, retaining *Galinsoga* in the classical sense (a group of short rayed annuals having a persistent pappus (when present), and the familiar achenial complex involving the inner bracts and outer pales. Discovery of the present species has occasioned my reexamination of the entire complex, including *Alloispermum*, which is the oldest generic name for the genera under discussion, were all of these to be combined into a single genus. A legitimate case might be made for this, for all of these taxa have base chromosome numbers of  $x = 8$  (if not 4) and all possess a syndrome of characters that suggest a common origin.

In my restudy of the several genera involved, I conclude that *Alepidochne* is a distinct phylad, readily distinguished from *Alloispermum*, *Galinsoga*, and *Sabazia* by several characters, the most notable being 1) the disk corollas, which possess tubes equal to or up to four times as long as the limbs; 2) the achenes, which possess small "buttonlike" carpodia on the ventral sides of obovoid striatulate achenes; 3) pales completely deciduous from the receptacle (with the notable exception of *A. trifida*); 4) 8-10 linear pappus scales which are detached from minute sockets of the achene at the slightest touch. Taken together, these provide ample evidence that *Alepidochne* is a closely knit phyletic group with perhaps only remote relationships to *Sabazia*. Within *Alepidochne* as constructed here, *A. trifida* approaches *Galinsoga* in possessing well defined, 3 cleft, persistent pales, but most of the other characters listed for *Alepidochne* are found in the species concerned.

In view of the above account, I feel compelled, however reluctantly, to resurrect *Alepidochne*. As reconstructed, *Alepidochne* contains four species, readily identified by the following key:

1. Ultimate peduncles of heads mostly 0.1-1.0 cm long; Oaxaca .....  
     ..... *A. macdonaldana*
- 1' Ultimate peduncles of heads mostly 1-6 cm long ..... (2)
  2. Ligules of ray florets 1-2 mm long ..... *A. annua*
  - 2' Ligules of ray florets 10-20 mm long ..... (3)
3. Involucres campanulate, the bracts graduate ..... *A. breedlovei*

3' Involucres hemispheric, the bracts subequal ..... *A. trifida*

*Alepidocline annua* S.F. Blake, J. Washington Acad. Sci. 34:441. 1984.

*Sabazia annua* (S.F. Blake) B. Turner.

*Galinsoga macrocephala* H. Robins.

This species is apparently a locally common, cornfield weed in Guatemala (Nash 1976). Its recent discovery in Venezuela by H. Robinson (described as *Galinsoga macrocephala*), is perhaps a recent introduction; it is almost certainly native to Chiapas, México, however, for it reportedly occurs there in evergreen pine-oak-fir cloud forests.

*Alepidocline breedlovei* (B. Turner) B. Turner, *comb. nov.* BASIONYM:

*Sabazia breedlovei* B. Turner, *Wrightia* 5:303. 1976.

This taxon is clearly closely related to *Alepidocline annua* but is more robust with larger heads and much longer rays.

*Alepidocline macdonaldana* B. Turner, *sp. nov.* (Figure 1). TYPE: MÉXICO. Oaxaca: 35 km ESE of Miahuatlán, 5-10 km NE of Santo Domingo Ozolotepec, Cerro Quiexobra (ca. 16° 10' N, 96° 15' W), common in moist subalpine meadows in mountain saddles, 3500-3600 m, 3 Oct 1990, *Andrew McDonald 3009* (HOLOTYPE: TEX; Isotype: MEXU).

Herbae annuae tenellae 3-15 cm altae; folia 10-15 mm longa, 5-10 mm lata, petiolis 1-2 mm longis laminis ovatis vel ovati-ellipticis; capitula 1-3 ad nodum, plerumque sessilia in axillis foliorum; involucri campanulata, bracteis 2-3-seriatis subaequalibus; flosculi radii ca. 3; flosculi disci 12-20; achenia obovoidea glabra, pappo squamarum linearium deciduorum ca. 8.

Delicate erect herbs 3-15 cm high. Stems slender, branched from the base, pilosusculus with multiseptate hairs. Leaves opposite, 10-15 mm long, 5-10 mm wide; petioles winged, mostly 1-2 mm long; blades ovate to ovate elliptic, pubescent above and below with appressed hairs, the margins denticulate. Heads 1-3, mostly sessile and surpassed by the subtending leaves, rarely on peduncles to 1 cm long. Involucres campanulate, 4-6 mm high, 4-5 mm wide, the bracts 2-3 seriate, subequal, scarious, 2-3 mm wide, 5-8 striate, the apices obtuse or rounded. Receptacle broadly conical, 2-3 mm high, ca. 1.5 mm wide, glabrous, chaffy, the pales mostly linear, unistriate, ciliate, all of them readily deciduous with age, not at all persistent. Ray florets ca. 3 per head, pistillate, fertile, the corolla tubes 1-2 mm long, the ligules yellow, 0.1-0.5 mm long. Disk florets 12-20, the corollas yellow, sparsely pubescent, 1.5-2.0 mm long,

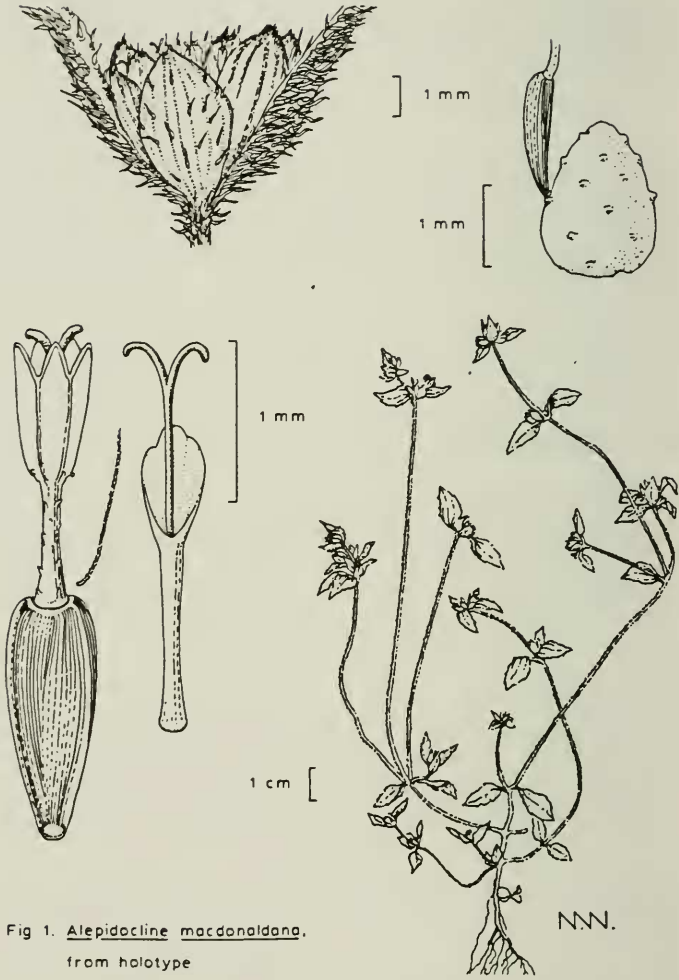


Fig 1. Alepidocline macdonaldana,  
from holotype

the tube ca. as long as the limb, the lobes (3)4-5, ca. 0.3 mm long. Achenes black, substriatulate, glabrous, obovoid or clavate with rounded shoulders, those of the ray and outer disk florets having small buttonlike carpopodia on the adaxial side, the pappus of ca. 8 linear pappus scales which dehisce at the slightest touch.

This very distinctive species superficially resembles *Galinsoga subdiscoidea* Cronquist of northwestern México, but in details of the receptacle, corolla, and achenes, especially the pappus, it clearly belongs to *Alepidoclinae*.

*Alepidoclina trifida* (Fay) B. Turner, *comb. nov.* BASIONYM: *Sabazia trifida* Fay, *Brittonia* 25:197. 1973. *Galinsoga formosa* Canne (not *Galinsoga trifida* Pers., 1807).

This species is known only from the type collection (ca. 125 km S of Cd. Oaxaca, Oaxaca, México). It apparently stands somewhere between the classically conceived *Galinsoga*, *Sabazia*, and *Alepidoclinae*, but closer, I think, to the latter genus. The character that best links the four species is that of the pappus, for all have very delicate linear-lanceolate pappus scales that are attached to a circle of minute sockets, hence the derivation of the generic name *Alepidoclinae* (a combination of the Greek words for bed and scale), according to Blake.

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