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

B.L. Turner

Department of Botany, The University of Texas, Austin, Texas 78713 U.S.A.

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 involucral bracts as in typical *Galinsoga.*" Robinson (1975) also noted that the readily deciduous setiform pappus of "*G.*

macrocephala" (= *Alepidocline 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 *Alepidocline* 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 *Alepidocline 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 *Alepidocline* 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" carpopodia 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 *Alepidocline* is a closely knit phyletic group with perhaps only remote relationships to *Sabazia*. Within *Alepidocline* as constructed here, *A. trifida* approaches *Galinsoga* in possessing well defined, 3 cleft, persistent pales, but most of the other characters listed for *Alepidocline* are found in the species concerned.

In view of the above account, I feel compelled, however reluctantly, to resurrect *Alepidocline*. As reconstructed, *Alepidocline* 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; involucra 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, pilosiusculus 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,

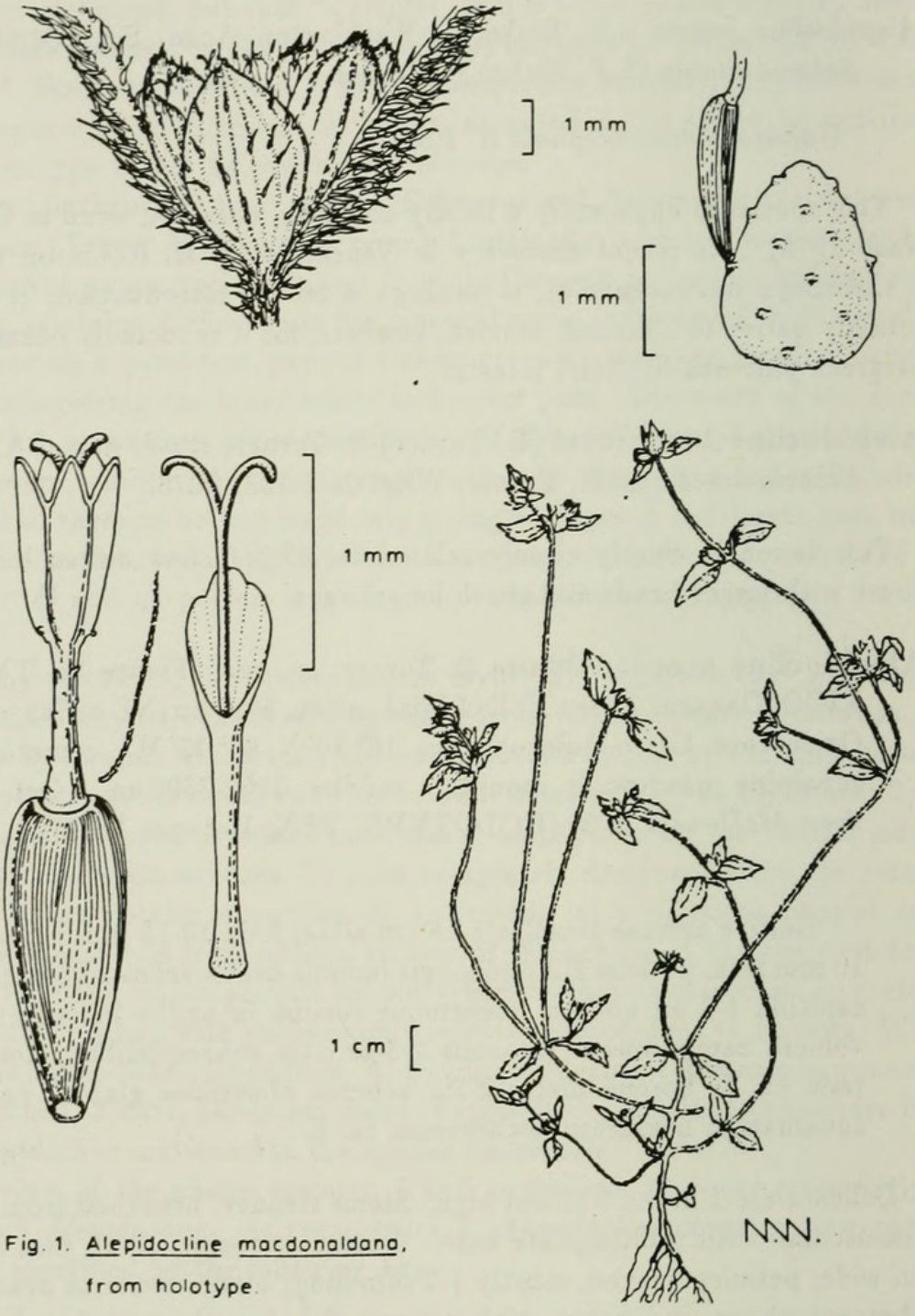

Fig. 1. Alepidocline macdonaldana, from holotype.

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 *Alepidocline*.

Alepidocline 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 *Alepidocline*, 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 *Alepidocline* (a combination of the Greek words for bed and scale), according to Blake.

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