

SUBMERGENCE OF THE GENERA ASANTHUS AND DYSCRITOGYNE
WITHIN STEVIOPSIS (ASTERACEAE, EUPATORIEAE),
INCLUDING NEW COMBINATIONS

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In King and Robinson's (1987) overview of the tribe Eupatorieae they recognize three small genera, Steviopsis, Asanthus and Dyscritogyne which were originally separated out of Brickellia and Eupatorium (sensu lato). These several genera are interesting in that the seven species concerned all look very much as if they belong to Brickellia (indeed, several were so treated by both B.L. Robinson, 1917 and McVaugh, 1984), yet all lack a pubescent basal swelling on the stylar shaft which readily distinguishes these from Brickellia.

King and Robinson (1987) place Asanthus, Dyscritogyne and Steviopsis in their subtribe Alomiinae (which includes Brickellia) positioning them as generic numbers 87, 91 and 94, respectively. Nevertheless, they comment under Asanthus that "In relationship, Asanthus may be closest to Steviopsis..." [having positioned the genus between Ageratella (86) and Malperia (88)]. Under Dyscritogyne they note that "The genus is distinct from its closest potential relative, Steviopsis, by the densely glanduliferous achenes and by the multiseriate involucre with round-tipped bracts..." [having positioned the genus between Alomia (90) and Kyrsteniopsis (92)]. Finally, under Steviopsis, they note that "the sum of all characters of Steviopsis continues to indicate a position in the Alomiinae close to Dyscritogyne and possibly Asanthus [having positioned this between Pseudokyrsteniopsis (93) and Carminatia (95)].

In our forthcoming treatment of the Asteraceae of Mexico (Turner and Nesom, in prep.) we intend to combine these several generic names under Steviopsis with the belief that there is reasonable evidence that they do not belong to Brickellia (largely because they lack a node at the base of the stylar shaft, the best single apomorphy) yet in many characters of the involucre, corolla, and style branches they appear to relate to Brickellia. The latter genus, as is well known, has a chromosome base of $x=9$. Unfortunately, chromosome numbers are not known for any of the seven species which make up my concept of Steviopsis. If, however, any of these were to have a chromosome number of $n=9$, the group might have to be looked at anew as regards phyletic relationships. But, as of now, I feel the present treatment is superior to that accorded the group by King and Robinson in that the several disparate elements appear more closely related one to the other than they do to yet other groups; in addition the nomenclature is much simplified.

STEVIOPSIS King & H. Rob., Emended Description

Asanthus King & H. Rob.

Dyscritogyne King & H. Rob.

Perennial, suffruticose, herbs or shrubs. Stems brittle, terete, arising from stout woody rootstocks. Leaves mostly alternate but sometimes opposite throughout, linear-lanceolate to cordate, petiolate or sessile, firm, reticulate-venose and often glandular-punctate beneath, (1)3-nervate from the base. Heads pink or yellowish, 3-numerous in mostly terminal cymules. Involucres 2-7 seriate, very imbricate to nearly eximbricate. Receptacles plane or convex, glabrous, epaleate. Corollas tubular, glabrous or atomiferous-glandular. Anthers appendaged. Style branches narrowly linear, smooth, expanded towards the apex, the basal shaft not swollen or nodose. Achenes 5-sided, the ribs basically 5, or 6 to 10 by intercalation of lesser ribs.

Type species, Steviopsis rapunculoides (DC.) King & H. Rob.

STEVIOPSIS ADENOSPERMA (Sch.-Bip) B. Turner, comb. nov.--

Based upon Eupatorium adenospermum Sch.-Bip, in Seem. Bot. Voy. Herald 299. 1856.

STEVIOPSIS DRYOPHILA (B.L. Rob.) B. Turner, comb. nov.--

Based upon Eupatorium dryophilum B.L. Rob., Proc. Amer. Acad. Arts 36:478. 1901.

King and Robinson (1987) place both of the above taxa as the only species of their genus Dyscritogyne. McVaugh (1984), however, positions the two within his broadly conceived Eupatorium, largely because of their 5-ribbed achenes, much as would B.L. Robinson (1917) who excluded them from Brickellia, largely for the same reason, although he placed Brickellia arsenei B.L. Rob., a synonym of Steviopsis adenosperma, within Brickellia, largely because the specimens concerned were sufficiently immature so that the ribbing on the achenes was not evident.

STEVIOPSIS SQUAMULOSA (A. Gray) B. Turner, comb. nov.---

Based upon Brickellia squamulosa A. Gray, Proc. Amer. Acad. Arts 15:30. 1879.

This species is positioned by King and Robinson (1987), along with two other species, in their genus Asanthus. As noted by these authors, it is a more-or-less discordant element within their Asanthus; indeed, I would count it as the most remote element within my concept of Steviopsis.

STEVIOPSIS THYRSIFLORA (A. Gray) B. Turner, comb. nov.--

Based upon Brickellia thyriflora A. Gray, Proc. Amer. Acad. Arts 15:30. 1879.

I recognize two somewhat intergrading allopatric varieties under this taxon as follows:

1) var. thyriflora, occurring from southern Durango eastward to San Luis Potosi, from whence the type (GH!) and

2) var. SOLIDAGINIFOLIA (A. Gray) B. Turner, comb. nov.-based

upon Brickellia solidaginifolia A. Gray, Proc. Amer. Acad. Arts 22:306. 1887.

This taxon is largely confined to western Chihuahua and northern Durango and is distinguished by its smaller involucre, less imbricate, narrower involucral bracts in fewer series, the type from Chihuahua (GH!).

King and Robinson (1987) recognize both of the above taxa as specifically distinct members of their genus Asanthus. McVaugh (1984), however, considers these to be synonymous, recognizing only Brickellia thrysiflora. He clearly recognized the relatively trivial distinctions between the two regional entities, however, noting also that seeming intermediates between these occur, which indeed is the case. The "intermediates", however, are largely rather isolated examples of intermediate character states; i.e., the suite of several characters which distinguish them do not breakdown. The following key will distinguish between the varieties from among those specimens available to me (largely ARIZ, GH, LL and TEX).

Involucres 2-4 seriate, the inner bracts 1 mm wide or less-----
-----var. solidaginifolia

Involucres 4-6 seriate, the inner bracts 1-2 mm wide-----
-----var. thrysiflora

The distribution of the two taxa is shown in Fig. 1.

It should be noted that King and Robinson (1987) retain S. arsenei King & H. Rob, but I consider this to be a leaf-form of Steviopsis rapunculoides. It is distinguished almost solely by its ternate leaves (mostly 3 to a node), a not uncommon anomaly among Asteraceae generally. Also, it should be mentioned that King and Robinson (1972) recognized the name Steviopsis pulcherrima (B.L. Rob.) King & H. Rob., which B.L. Robinson (1927, by annotation and comments on a sketch of the type of S. vigintisetata, GH!) clearly indicated to be a synonym of Stevia vigintisetata DC. For this reason the name Steviopsis pulcherrima disappeared from their 1987 contribution, albeit arrived at without knowledge of B.L. Robinson's earlier discovery.

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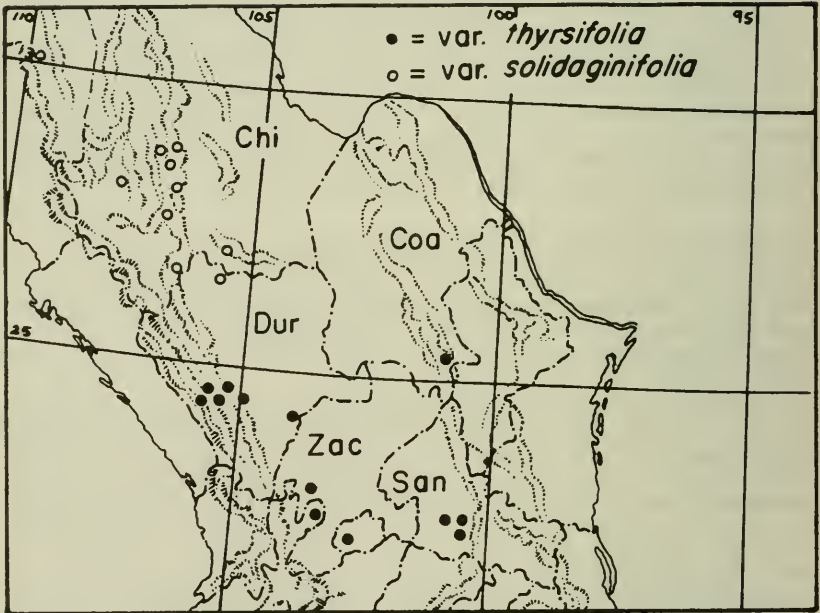


Fig.1 Distribution of *Steviopsis thyrsofolia*