

TAXONOMIC OVERVIEW OF THE *SENECIO FLACCIDUS* COMPLEX IN NORTH AMERICA, INCLUDING *S. DOUGLASII*

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ABSTRACT

The earliest specific name for the widespread North American taxon long known as *Senecio douglasii* DC. is shown to be *S. flaccidus* Less. This has occasioned two new infraspecific combinations in the complex, including: *Senecio flaccidus* Less. var. *douglasii* (DC.) B. Turner & T. Barkley, *comb. nov.*, and *S. flaccidus* Less. var. *monoensis* (E. Greene) B. Turner & T. Barkley, *comb. nov.* A key to the taxa and a map showing their distribution in México is provided.

KEY WORDS: *Senecio*, Asteraceae, Senecioneae, taxonomy, nomenclature, North America.

Preparation of a treatment of *Senecio* (sensu lato) for México (Barkley & Turner, in prep.) has revealed that *S. douglasii* DC., long recognized as the name for a common, widespread, highly variable, perennial subshrub of the western United States (Barkley 1978) and México, must be replaced by the earlier name, *S. flaccidus* Less., which is typified by material originally collected along the semi-arid western slopes of Cofre de Perote, Veracruz, México (near the village of Perote).

Material from the type locality and throughout most of northern México is essentially indistinguishable from what Barkley (1978) has treated as *Senecio douglasii* var. *longilobus* (Benth.) Benson. The latter taxon is known to intergrade with *S. douglasii* var. *douglasii* in northern México and adjacent Arizona, and both of these appear to intergrade with *S. douglasii* var. *monoensis* (E. Greene) Jepson over at least part of their distribution. In order to provide correct names for members of the "*S. douglasii*" complex, we have provided here an overview of the *S. flaccidus* complex as it appears in México. Except where noted, types for most of the names referred to in the present paper are

accounted for by Barkley (1978). The distributional map (Figure 1) is based upon a wide range of material available on loan to the junior author and a large assortment of collections (LL, TEX) available to the senior author.

Senecio flaccidus Less., Linnaea 5:161. 1830.

Perennial subshrubs or rarely appearing annual, 3-12 dm high, persistently tomentose to variously glabrate; stems several, mostly branched in the upper third, arching upward from a taprooted, woody base; leaves about equally distributed along the stem, linear to narrowly filiform, or deeply pinnatifid into long, narrow segments, 2-10+ cm long overall, sometimes with fascicles of smaller leaves in the axils of the principal leaves; inflorescence a series of corymbiform or subcorymbiform cymes, each with 3-10(-20+) cylindrical or campanulate heads; involucre bracts ca. 21 or 13, 5-8+ mm long, greenish or stramineous at the tip, not black tipped; calyculate bracts prominent and up to 1/2 as long as the principal bracts, or reduced and inconspicuous, or sometimes absent; ray florets ca. 13 or 8, the ligule 10-15(-20) mm long, yellow or sometimes light yellow to ochroleucous; achenes canescent hirtellous; chromosome number, $n = 20$ pairs.

A widespread, common and complicated entity that has long gone under the name *Senecio douglasii* in the U.S.A. It is well adapted to sites with continual, mild disturbance. Three regional intergrading varieties are recognized, but subsequent studies may alter this concept of the species.

Key to *Senecio flaccidus* Varieties in México

1. Heads subcylindrical when young, principal involucre bracts ca. 13 or 21, 5-8+ mm long, calyculate bracts absent or inconspicuous; herbage tomentose with long, lanate hairs, sometimes unevenly glabrate; northern México, south to Puebla and Veracruzvar. *flaccidus*
- 1' Heads large and campanulate, principal involucre bracts ca. 21, 7-10+ mm long, calyculate bracts usually prominent and up to 1/2 as long as the principal bracts 2
2. Herbage glabrous or nearly so at maturity; Baja California, Sonoravar. *monoensis*
- 2' Herbage tomentose with persistent short, grayish hairs, sometimes unevenly tomentose; northern Sonoravar. *douglasii*

Senecio flaccidus Less. var. *douglasii* (DC.) B. Turner & T. Barkley, *comb. nov.* BASIONYM: *Senecio douglasii* DC., *Prodr.* 6:429. 1837.

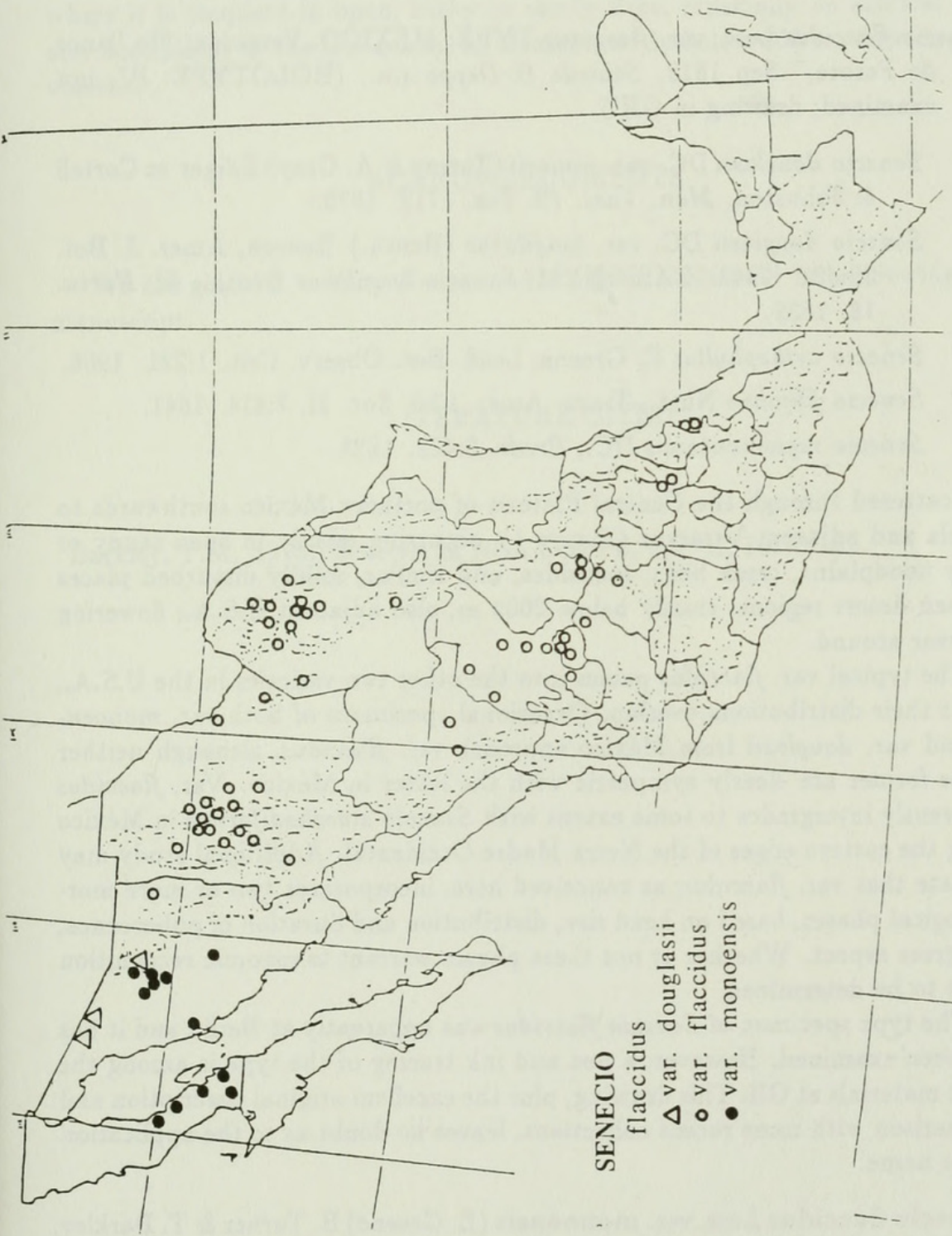


Fig. 1. Distribution of *Senecio flaccidus* in Mexico.

Senecio douglasii DC. var. *tularensis* Munz, El Aliso 4:99. 1958.

Known in México from only a few questionable collections in northern Sonora (extending into México from a much wider distribution in the U.S.A.), open sandy or rocky sites in desert hills, mostly below 1500 m, July-October.

Senecio flaccidus Less. var. *flaccidus* TYPE: MÉXICO. Veracruz: "In llanos de Perote," Sep 1819, *Schiede & Deppe s.n.* (HOLOTYPE: B?, not examined; drawing in GH!).

Senecio douglasii DC. var. *jamesii* (Torrey & A. Gray) Ediger ex Correll & Johnston, *Man. Vasc. Pl. Tex.* 1712. 1970.

Senecio douglasii DC. var. *longilobus* (Benth.) Benson, *Amer. J. Bot.* 30:631. 1943. BASIONYM: *Senecio longilobus* Benth., *Pl. Hartw.* 18. 1839.

Senecio orthophyllus E. Greene, *Leaf. Bot. Observ. Crit.* 1:221. 1906.

Senecio filifolius Nutt., *Trans. Amer. Phil. Soc. II.* 7:414. 1841.

Senecio regiomontanus DC., *Prodr.* 6:429. 1838.

Scattered through the Central Plateau of northern México southwards to Puebla and adjacent Veracruz (Figure 1), occurring mostly in open sandy or rocky floodplains, creek beds, roadsides, and similar, mildly disturbed places in open desert regions, chiefly below 2000 m, also adjacent U.S.A.; flowering the year around.

The typical var. *flaccidus* passes into the other two varieties in the U.S.A., where their distributions overlap. Occasional specimens of both var. *monoensis* and var. *douglasii* from México approach var. *flaccidus*, although neither of the former are clearly sympatric with the latter in México. Var. *flaccidus* apparently intergrades to some extent with *Senecio stoechadiformis* in México along the eastern edges of the Sierra Madre Occidental. Additional study may indicate that var. *flaccidus*, as conceived here, incorporates two or more morphological phases, based on head size, distribution and duration of pubescence, and gross aspect. Whether or not these phases warrant taxonomic recognition is yet to be determined.

The type specimen of *Senecio flaccidus* was apparently at Berlin and it has not been examined. However, a pen and ink tracing of the type is among the Klatt materials at GH. This drawing, plus the excellent original description and comparison with more recent collections, leaves no doubt as to the application of the name.

***Senecio flaccidus* Less. var. *monoensis* (E. Greene) B. Turner & T. Barkley, *comb. nov.* BASIONYM: *Senecio monoensis* E. Greene, *Leaf. Bot. Observ. Crit.* 1:221. 1906. *Senecio douglasii* DC. var. *monoensis* (E. Greene) Jepson, *Man. Fl. Pl. Calif.* 1149. 1925.**

Senecio filicifolius Greenm., Ann. Missouri Bot. Gard. 1:774. 1914.

Senecio lathyroides E. Greene, Leafl. Bot. Observ. Crit. 2:21. 1909.

This variety occurs in northwestern México (Figure 1) and adjacent U.S.A., where it is frequent in open, rocky or sandy sites, especially on alluvial fans and floodplains in the low desert, in México mostly below 800 m; flowering all seasons.

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LITERATURE CITED

Barkley, T.M. 1978. *Senecio*, in N. Amer. Fl., Ser. II. 10:50-139.



Barkley, T. M. and Turner, B. L. 1990. "Taxonomic overview of the *Senecio flaccidus* complex in North America, including *S. douglasii*." *Phytologia* 69, 51–55. <https://doi.org/10.5962/bhl.part.19649>.

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