

NEW TAXA IN *SENECIO* FROM MÉXICO

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ABSTRACT

The following new taxa are described from México: *Senecio guer-
rerensis* *sp. nov.*, *S. venturae* *sp. nov.*, *S. praecox* (Cav.) DC. var.
tzimolensis var. *nov.*, and *S. durangensis* Greenm. var. *atrapi-
latus* var. *nov.*.

KEY WORDS: *Senecio*, Asteraceae, México, systematics.

Preparation of the treatment of *Senecio* for the forthcoming book on the Asteraceae of México, by B.L. Turner & Guy Nesom, has shown the existence of four previously undescribed taxa. The four are known to me only from the collections that are cited here.

Senecio guerrerensis and *S. venturae*, both described below, are referable to Group 5c, Streptothamni-Pentacalia, in the scheme of Barkley (1985). The segregate genus *Pentacalia* Cassini was resuscitated for the group by H. Robinson & Cuatrecasas (1978). The group includes about 130 species, most of which are Andean, with about 15 in Central America, and five in México. The Mexican species are all epiphytic or semi-epiphytic woody vines or leaning subshrubs in cloud forest communities. Apparently, they are inconspicuous except when in flower, and flowering may not occur every year. Herbarium specimens seldom have mature, filled achenes. The group clearly needs revision, but with the Central American and Mexican species merely an appendage on the Andean group, the project becomes formidable.

Senecio guerrerensis T.M. Barkley, *sp. nov.* Figure 1. TYPE: MÉXICO. Guerrero: Arbusto trepador, flores amarillas, barranca húmeda con vegetación de bosque de *Quercus*, *Abies* y *Pinus*, Aserradero Agua Fría, Municipio de Tlacotepec, alt. 2700 m, 11-IV-1963, (J.) Rzedowski 16525 (HOLOTYPE: MICH; Xerocopies: KSC, TEX).

APR 2 1964



HERBARIUM OF KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS
Senecio guerrrerensis Barkley
1964
Approved by J. M. Barkley
1964

ESCUELA NACIONAL DE CIENCIAS BIOLÓGICAS
INSTITUTO POLITÉCNICO NACIONAL
HERBARIO

Fam. Compositae
Gen. *Senecio*
Spec. *Senecio guerrrerensis*
Loc. Guerrero Negro, Baja California Sur
Habitat: Open sandy area
Date: April 1964
Collector: J. M. Barkley
No. 1000

Figure 1. *Senecio guerrrerensis* - holotype.

Senecioni parasitico Hemsl. similis, sed capitulis discoideis bractearum conspicuarum foliacearum calyculo provisus diversis.

Weakly ligneous vine, upper stem and peduncles with abundant, loose pubescence of white, crinkled hairs to 0.5 mm long, at least some of which have a few darkened crosswalls, and with scattered short, curly multicellular hairs with dark crosswalls. Leaves apparently subcoriaceous or subturgid when fresh, lanceolate, the well developed ones with blade 10-12 cm long and 3-4 cm wide, tapering to an acute-acuminate apex, weakly rounded to acute at the base, margin entire or nearly so, slightly revolute, sometimes with a few scattered marginal hairs, petiole unwinged, 1-2 cm long. Inflorescence a terminal, pyramidal cluster of several rounded or subcorymbiform cymes of (8)10-12 heads each, ultimate pedicels 4-5 mm long; heads discoid; principal involucre bracts 8, ca. 7 mm long and 1.5-2 mm wide, loosely subtended by 3-5(7) leafy subcalyculate bracts, 5-7(8) mm long and 1.3-2 mm wide; disk florets 10-13, bisexual, corolla 7-10 mm long, clearly divisible into a limb, throat, and corolla lobes, the lowest 1-1.5 mm of the limb conically expanded downward, the corolla lobes nearly 2 mm long; receptacle with low chartaceous ridges among the achenes. Achenes glabrous, (no mature ones seen); pappus of abundant capillary bristles, extending 5-7 mm beyond the involucre.

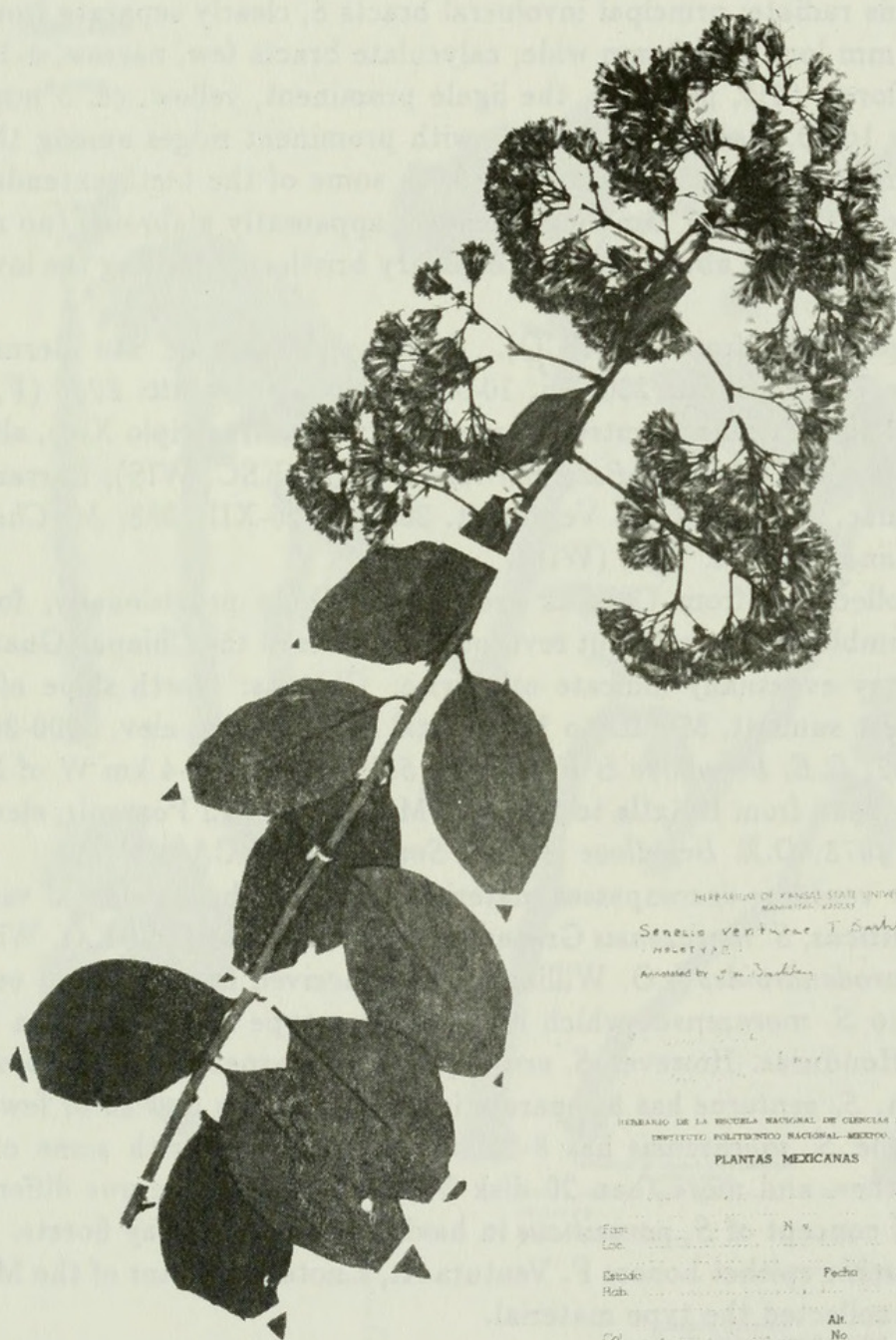
Senecio guerrerensis superficially resembles *S. parasiticus* Hemsl. in habit and gross aspect, but it differs from the latter and other species of Group 5c in having conspicuous, foliaceous calyculate bracts subtending each head, and in having strictly discoid heads. It occurs in an area where no other member of the group is presently known. It is known to me from only the type specimen.

The specific epithet is derived from the name of the state, Guerrero.

Senecio venturae T.M. Barkley, *sp. nov.* Figure 2. TYPE: MÉXICO. Veracruz: Planta herbácea trepadora; flor amarilla, olor agradable, escasa, bosque de encino, ladera de cerro, El Carrizal, Municipio de Ishuacan de los Reyes, alt. 2230 m, 11-XI-1971, *F. Ventura A. 4493* (HOLOTYPE: MICH; Isotypes: CAS, KANU, UMO).

Senecioni morazensi Greenm. similis, sed involucri bracteis separatis flosculisque uniuscujusquam capituli 20 vel minus numerosis abstans.

Subligneous vine, glabrous or nearly so, except for scattered short, brownish hairs on the upper branches, and especially on the pedicels in the inflorescence. Leaves coriaceous, the blade lanceolate to ovate or elliptic-ovate, 4-6(7) cm long and 2-4 cm wide, ca. 2X longer than wide, variously acute to subacuminate at the apex, gently tapering at the base to an unwinged petiole 1-1.5(+) cm long, margin entire or slightly wavy, venation pinnate, the midrib



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Senecio venturae T. Barkley
HOLOTYPE

Annotated by J. M. Coulter

1931

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INSTITUTO POLITÉCNICO NACIONAL-MÉXICO, D. F.

PLANTAS MEXICANAS

Fam. N. s.

Loc.

Estado Fecha

Hab.

Alt. m.

Col. No.

Observ.

Det.

Figure 2. *Senecio venturae* - holotype.

prominent but the lateral veins obscure. Inflorescence a terminal paniculiform or thyriform cluster of several corymbiform cymules, each cymule with 5-10 heads; heads radiate; principal involucre bracts 8, clearly separate from each other, 5-6 mm long and 2 mm wide; calyculate bracts few, narrow, 1-1.5 mm long; ray florets (4)5, pistillate, the ligule prominent, yellow, ca. 5 mm long; disk florets 16-20, bisexual; receptacle with prominent ridges among the achenes, the margin of the ridges dentate with some of the teeth extended into hairlike projections 0.5-1 mm long. Achenes apparently glabrous, (no mature ones seen); pappus of abundant, long capillary bristles, exceeding the involucre by 2-3 mm.

Paratypes: (All from MÉXICO). Oaxaca: Alturas de San Bernardino, Distrito de Teotitlán, alt. 2300 m, 10-XII-1907, *C. Conzatti 2085* (F, MO). Veracruz: Pequeña cañada entre Tonalco y Oxtlapa, Municipio Xico, alt. 2500 m, 8-X-1986, *M. Cházaro y Paty Hernández 4039* (KSC, WIS); Barranca del Alto Pixquiac, Municipio Las Vegas, alt. 2650 m, 26-XII-1988, *M. Cházaro y Paty Hernández de Ch. 5774* (WIS).

Two collections from Chiapas are included here provisionally, for they clearly resemble *S. venturae*, but revisionary studies of the Chiapas-Guatemala material may eventually indicate otherwise: Chiapas: North slope of Cerro Mozotal near summit, Municipio Motozintal de Mendoza, elev. 2900-3000 m, 31 Jan 1982, *D.E. Breedlove & F. Almeda 58206* (CAS); 3-4 km W of El Porvenir along road from Huixtla to Siltepec, Municipio of El Porvenir, elev. 2800 m, 17 Jan 1973, *D.E. Breedlove & A.R. Smith 31764* (CAS, MO).

Senecio venturae encompasses materials that have been referred variously to *S. parasiticus*, *S. morazensis* Greenm., *S. magistri* Standl. & L.O. Williams, and *S. phorodendroides* L.O. Williams. As conceived here, *Senecio venturae* is similar to *S. morazensis*, which is based on a type collection from Depto. Morazan, Honduras. However, *S. venturae* differs in aspect from *S. morazensis*. In addition, *S. venturae* has 8 separate involucre bracts and 20 or fewer disk florets, while *S. morazensis* has 8-11 involucre bracts, with some of them fused together, and more than 20 disk florets. *Senecio venturae* differs from the typical concept of *S. parasiticus* in having conspicuous ray florets.

The specific epithet honors F. Ventura A., a noted collector of the Mexican flora, who collected the type material.

Senecio praecox (Cav.) DC. var. *tzimolensis* T.M. Barkley, var. nov. Figure 3 and Figure 4. TYPE: MÉXICO. Chiapas: Thick stemmed shrub 6 feet tall, tropical deciduous forest, 15 km south of Comitán on road to Tzimol and Tuxtla Gutiérrez, Municipio of Tzimol, elev. 1200 m, 20 Mar 1981, *D.E. Breedlove 50226* (HOLOTYPE: CAS).

Senecioni praecoci (Cav.) DC. varietatibus *praecoci* et *morelensis* (Miranda) McVaugh similis, sed foliorum dentibus abbreviatus

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HERBARIUM OF KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS*Senecio praecox* var. *tzimolensis* T.M. Barkley
HOLOTYPE

Annotated by J. M. Barkley

1920

PLANTS OF CHIAPAS, MEXICO

Flowers yellow.
Thick stemmed shrub 6 feet tall.
Tropical Deciduous Forest, 15 km south
of Comitán on road to Tzimol and
Tuxtla Gutiérrez. Municipio of
Tzimol.

Elevation 1200 m

D. E. Breedlove 50226

20 March 1981

Figure 3. *Senecio praecox* var. *tzimolensis* - holotype, with flowers present.

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PLANT OF CHICAGO, MEXICO

Shrub 6 feet tall.
Tropical deciduous forest with Fraxinus,
Erythroxylon, Lonchocarpus, Bursera,
Ficus and Clusia 15 km south of Comitán
on road to Tzamal and Tuxtla Gutierrez,
Municipality of Tzamal.

Elevation 1200 m
D. E. Breedlove 17605 11 November 1980

Figure 4. *Senecio praecox* var. *tzimolensis* - paratype, with leaves present.

2-4 mm longis, necnon ramis superioribus glabritis simulac capitulorum disci flosculis 6-10 diversa.

Senecio praecox (Cav.) DC. is a seasonally deciduous, rubbery stemmed shrub or small tree that is referable to Group 6, *Pittocaulon*, of *Senecio* in the scheme of Barkley (1985) or to the segregate genus *Pittocaulon* of Robinson & Brettell (1973). It is the only representative of Group 6 south of the Straits of Tehuantepec. Three varieties of *S. praecox* are recognized, and var. *tzimolensis* is distinguished by the characters noted in the key.

Key to Varieties of *Senecio praecox*

1. Leaves obscurely dentate with a few scattered, shallow teeth 2-4 mm long, ray florets (3)5, disk florets 6-10, upper branches glabrous or nearly so; Chiapas var. *tzimolensis* T.M. Barkley
- 1' Leaves with prominent triangular lobes 10-20 mm long; Oaxaca and northward.
 2. Upper branches glabrous or nearly so except for scattered small tufts of white hairs in and near axils; ray florets 5, disk florets (12)15-20; leaf venation prominently palmate var. *praecox*
 - 2' Upper branches, especially at the base of the inflorescence, densely light brownish pubescent; ray florets (2)3(5), disk florets 6-10; leaf blades with lowermost lateral veins not prominent, thus the venation obscurely palmate var. *morelensis* (Miranda) McVaugh

Paratypes: (All from MÉXICO). Chiapas: Shrub 6 feet tall, tropical deciduous forest with *Frazinus*, *Erythroxylon*, *Lonchocarpus*, *Bursera*, *Ficus*, and *Clusia*, 15 km south of Comitán on road to Tzimol and Tuxtla Gutiérrez, Municipio of Tzimol, elev. 1200 m, 19 Nov 1980, D.E. Breedlove & F. Almeda 47605 (CAS); Shrub 4 feet tall, (data otherwise identical), 21 April 1981, D.E. Breedlove 51027 (CAS).

The holotype, collected in March, is in flowering condition (Figure 3). The paratype Breedlove & Almeda 47605, collected in November, has fully developed leaves (Figure 4). The other paratype, Breedlove 51027, is in flowering condition.

The varietal epithet is derived from the locality where the plant was collected.

Senecio durangensis Greenm. var. **atrapiculatus** T.M. Barkley, var. nov.

Figure 5. TYPE: MÉXICO. Durango: Open places in pine woods in felsitic region atop the Sierra Madre Occidental, 13 1/2 miles west-southwest of El Salto, elev. about 8900 ft, 14 Nov 1965, *Arthur Cronquist 10539* (HOLOTYPE: NY; Isotypes: CAS, GH, KANU, KSC, MICH, TEX, WIS).

Senecioni durangensis Greenm. varietati *durangensis* similis, sed foliis profunde lobatis et bracteis involucri calyculique apice nigris diversa.

Senecio durangensis Greenm. is a perennial herb or weak subshrub to 12 dm tall in the mountains of southwestern Chihuahua and Durango, of apparent affinity with the more northern *S. eremophilus* Rich. It is referable to Group 11c, Triangulares, of *Senecio* in the scheme of Barkley (1985). Two varieties are recognized as follows, and var. *atrapiculatus* is distinguished by the characters noted in the key.

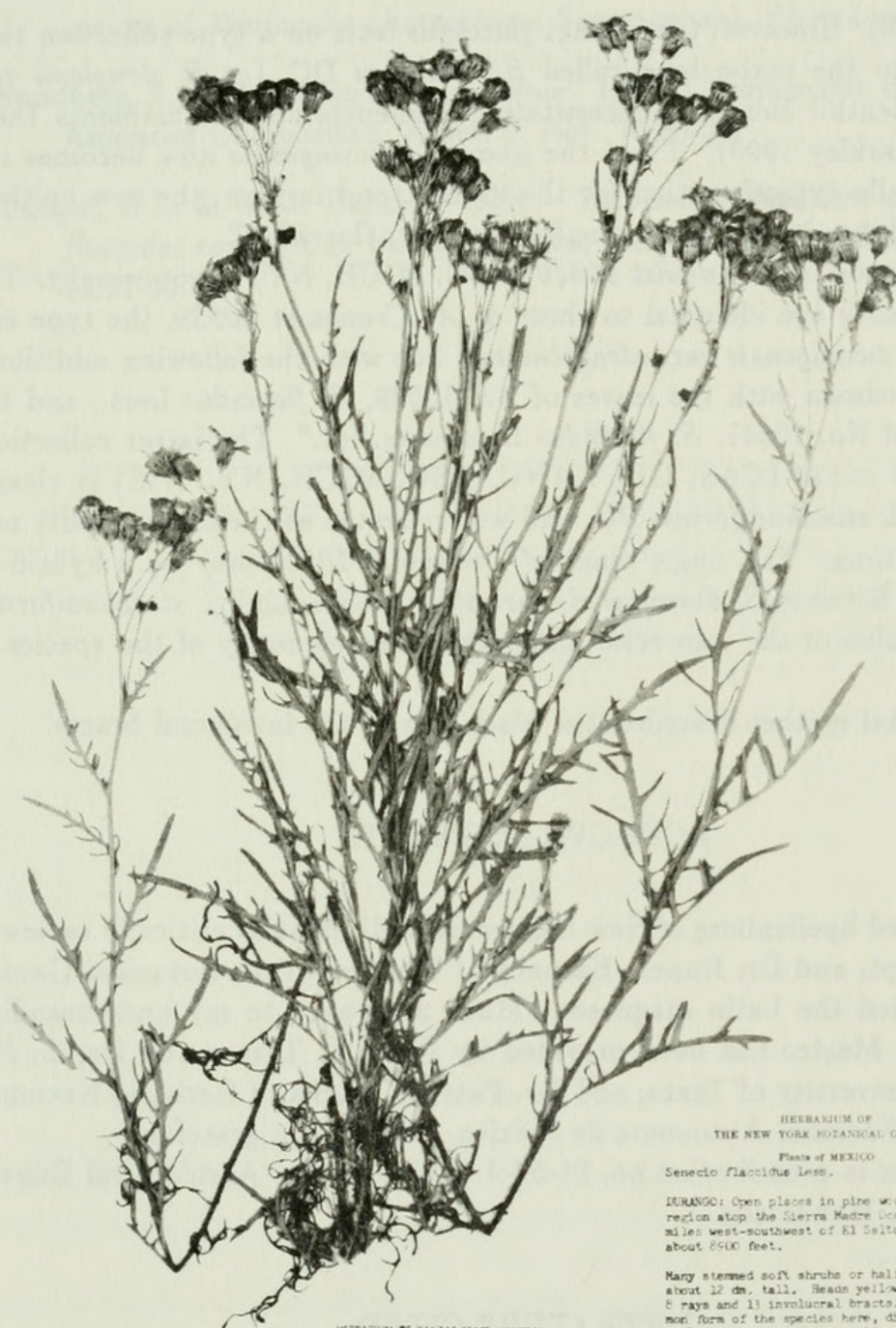
Key to Varieties of *Senecio durangensis*

1. Midcauline leaves mostly < 6 cm long and 3 cm wide overall, some merely dentate and not deeply dissected; principal involucre bracts obscurely if at all black tipped; calyculate bracts reduced and inconspicuous; Sierra de Mohinora of southwestern Chihuahua, and extreme northern Durango, just south of Hidalgo de Parral, Chihuahua var. *durangensis*
- 1' Midcauline leaves 5-10 cm long and 2-4 cm wide overall, all deeply lobed; principal involucre bracts and calyculate bracts with prominent black tips; southern Durango, vicinity of Las Adjuntas and El Salto var. *atrapiculatus* T.M. Barkley

Paratypes: (All from MÉXICO). Durango: México Hwy 40, 2 miles W of Las Adjuntas, elev. ca. 8500 ft, 7 Nov 1964, *David Flyr 270* (TEX); along Hwy 40, 73.0 mi W of the junction of Hwy 40 and Hwy 45 in Durango, just E of Las Adjuntas, under pines and cypresses, amongst boulders, 27 Sept 1984, *Scott Sundberg & Matt Lavin 2876* (CAS, NY, TEX).

Sundberg & Lavin 2876 is cited under the name *Senecio chihuahuensis* S. Wats. as a voucher for a chromosome count of $2n = \text{ca. } 20 \text{ II}$ by Sundberg, *et al.* (1986).

Senecio durangensis var. *atrapiculatus* has been called *S. flaccidus* Less. in the past, and *S. durangensis* s. str. has been treated as a variety of *S. flaccidus*



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Plants of MEXICO

Senecio flaccidus Less.

DURANGO: Open places in pine woods in felsitic region atop the Sierra Madre Occidental, 11-12 miles west-southwest of El Salto. Elevation about 8500 feet.

Many stemmed soft shrubs or half-shrubs up to about 12 dm. tall. Heads yellow, with mostly 8 rays and 13 involucre bracts. The less common form of the species here, differing from 10521, the common form, in its more dissected leaves and less hairy stem. See also 10516, with leaves of 10539 and pubescence of 10521.

Arthur Cronquist 10539 November 12, 1965

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Senecio durangensis var. *atrapiculatus*

HOLOTYPE J. M. Barkley

Annotated by J. M. Barkley

1937

Figure 5. *Senecio durangensis* var. *atrapiculatus* - holotype.

(Barkley 1989). However, the epithet *flaccidus* rests on a type collection that is referable to the taxon long called *S. douglasii* DC. (or *S. douglasii* var. *longilobus* [Benth.] Benson), necessitating nomenclatural adjustments there (Turner & Barkley 1990). Thus, the name *S. durangensis* now becomes the nomenclaturally typical epithet for the species, and in turn, the new epithet, var. *atrapiiculatus*, is needed for the former "var. *flaccidus*."

The collection *A. Cronquist 10540* (KSC, MICH, NY) is noteworthy. The date and locality are identical to those of *A. Cronquist 10539*, the type collection of *S. durangensis* var. *atrapiiculatus*, but with the following additions: "A single specimen with the leaves of No. 10539, *S. flaccidus* Less., and the pubescence of No. 10541, *S. flaccidus* Less. sens. lat." The latter collection, *A. Cronquist 10541* (CAS, GH, KANU, KSC, MICH, NY, WIS) is clearly referable to *S. stoechadiformis* DC. and was collected at the same locality and at the same time. The single plant of *Cronquist 10540* may be a hybrid or introgressant between *S. durangensis* var. *atrapiiculatus* and *S. stoechadiformis* and is indicative of the imprecise distinctions among many of the species of *Senecio*.

The varietal epithet describes the black tips of the involucre bracts.

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