

NEW COMBINATIONS IN *SAIROCARPUS* (PLANTAGINACEAE)

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ABSTRACT

Three new combinations within *Sairocarpus* (Plantaginaceae) are made: *Sairocarpus cornutus* subsp. *leptaleus* (A. Gray) Barringer based on *Antirrhinum leptaleum* A. Gray, *Sairocarpus vexillocalyculatus* subsp. *breweri* (A. Gray) Barringer based on *Antirrhinum breweri* A. Gray, and *Sairocarpus vexillocalyculatus* subsp. *intermedius* (D.M. Thomps.) Barringer based on *Antirrhinum vexillocalyculatum* Kellogg subsp. *intermedium* D.M. Thomps. *Antirrhinum breweri* A. Gray is lectotypified.

KEY WORDS: Plantaginaceae, Antirrhineae, *Sairocarpus*, *Antirrhinum*

The upcoming treatment of the Plantaginaceae in the *Flora of North America* will recognize the genus *Sairocarpus* (Plantaginaceae) as a valid genus for many of the New World species formerly placed in *Antirrhinum* L., making the following new combinations necessary.

The photographs cited are available through JSTOR Plant Science (2013).

SAIROCARPUS CORNUTUS subsp. LEPTALEUS (A. Gray) Barringer, **comb. et stat. nov.** Basionym: *Antirrhinum leptaleum* A. Gray, Proc. Amer. Acad. Arts 7: 373. 1868. *Antirrhinum cornutum* var. *leptaleum* (A. Gray) Munz, Proc. Calif. Acad. Sci. Ser. 4. 15: 351. 1926. **TYPE: USA. California.** Mariposa Co.: Clark's, 1866, *H.N. Bolander 4983* (holotype: GH!; isotypes F, MO, NY!, US!, YU; photos: F0072287, GH00077905, MO-503774, NY67846, US000122124, YU001874).

Antirrhinum emarginatum Eastwood, Bull. Torrey Bot. Club 32: 214. 1905. **TYPE: USA. California.** Fresno, ploughed river bottom land, 15 May 1924, *C.E. Jenney 216* (holotype: CAS. photo: CAS0027068).

Sairocarpus cornutus (Benth.) Rothm. is distinguished from other species of *Sairocarpus* by the absence of prehensile pedicels or branches and the flowers axillary, solitary, and all chasmogamous.

Sairocarpus cornutus subsp. *cornutus* and subsp. *leptaleus* have distinct ranges in California. *Sairocarpus cornutus* subsp. *cornutus* grows along Sacramento River from Lake County north to Shasta County, while subsp. *leptaleus* grows to the west and south, along streams and ditches in the foothills of the western slopes of the Sierra Nevada from southeastern Butte County south to Kern County (Weatherwax & Thompson 2012).

Morphological differences are not as well marked, but *Sairocarpus cornutus* subsp. *leptaleus* has an inconspicuously veined corolla while the corolla of subsp. *cornutus* has distinct, violet veins. The palate of subsp. *cornutus* is densely hairy while the palate of subsp. *leptaleus* less hairy and the hairs tend to be found toward the mouth of the corolla. Also, the lower corolla lobes of subsp. *leptaleus* tend to be spreading, not reflexed, and the leaves tend to be more than 5 mm wide. Thompson (1988) considered *S. cornutus* subsp. *leptaleus* to be a distinct species but it has been

treated as either a synonym of *Antirrhinum cornutum* Benth. or as a variety of that species by others (Sutton 1988; Munz 1926; Rothmaler 1943).

SAIROCARPUS VEXILLOCALYCVLATUS subsp. BREWERI (A. Gray) Barringer, **comb. nov.**

Basionym: *Antirrhinum breweri* A. Gray, Proc Amer. Acad. Arts 7: 374. 1868. *Antirrhinum vagans* var. *breweri* (A. Gray) Jepson, Fl. W. Calif. 397. 1901. *Antirrhinum vexillocalyculatum* var. *breweri* (A. Gray) Munz, Proc. Calif. Acad. Sci., ser. 4, 15(12): 364. 1926. *Antirrhinum vexillocalyculatum* Kellogg subsp. *breweri* (A. Gray) D.M. Thomps., Syst. Bot. Monogr. 22: 82. 1988. *Sairocarpus breweri* (A. Gray) D.A. Sutton, Rev. Antirrhineae. 474. 1988. **LECTOTYPE** (here designated): **USA. California:** camp 96, below Mt. Shasta, 7 Sep 1862 (as "1863"), *W.H. Brewer 1343* (lectotype: GH!; isolectotype: US!; photos: GH00077895, US322574, US322575).

Antirrhinum breweri var. *ovalifolium* A. Gray, Proc. Amer. Acad. Arts. 7: 375. 1868. **TYPE: USA. California.** 'with 1343,' Sacramento ferry; camp 69, 7 Sep 1862, *W.H. Brewer s.n.* (holotype: GH; isotype: US!; photos: GH00077896, US0012217)

Sairocarpus vexillocalyculatus subsp. *breweri* is distinguished from the other subspecies of *S. vexillocalyculatus* by its glandular pubescent stems and relatively large flowers. It can resemble *S. cornutum*, which also has white to lilac flowers and grows in the same general area but that species has a deeper sac at the base of the corolla and pedicels less than 1 cm long.

The subspecies of *Sairocarpus vexillocalyculatus* have distinct ranges but can hybridize (Thompson 1988). Subspecies *breweri* is found on serpentine rockslides in northwestern California and southwestern Oregon.

The specimen of *Brewer 1343* in the Gray Herbarium has been considered to be the holotype and is marked as such, but not in Gray's handwriting. Gray cited three specimens: Brewer "Upper Valley of the Sacramento," Torrey "Lake County," and Bolander "Mariposa County." The Bolander specimen is *S. vexillocalyculatus* subsp. *intermedius* and the Torrey specimen is subsp. *vexillocalyculatum*, but the Brewer specimen is subsp. *breweri* and can be considered the obvious lectotype.

The holotype of *Antirrhinum breweri* var. *ovalifolium* has no locality data, but the isotype lists the Sacramento ferry locality. Neither specimen has a collection number but both have labels with the note 'with 1343.'

SAIROCARPUS VEXILLOCALYCVLATUS subsp. INTERMEDIUS (D.M. Thomps.) Barringer, **comb.**

nov. Basionym: *Antirrhinum vexillocalyculatum* Kellogg subsp. *intermedium* D.M. Thomps., Syst. Bot. Monogr. 22: 84. 1988. **TYPE: USA. California:** Sierra Co.: Downieville, 0.4 mi W of bridge over Downie River, 11 Sep 1983, *D.M. Thompson 381B* (holotype: JEPS; isotypes F, MO!, US!; photos: JEPS83280, MO-503764, US 3439403)

Populations of *Sairocarpus vexillocalyculatus* subsp. *intermedius* are found in the Sierra Nevada and are geographically isolated from populations of the other subspecies. Plants can be distinguished from subspecies *breweri* by the spreading, eglandular trichomes found mixed with glandular trichomes on the stems and from subspecies *vexillocalyculatum* by their smaller corollas and by the presence of glandular trichomes on the stem.

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