STREPTANTHUS TORTUOSUS SUBSP. *TRUEI* (BRASSICACEAE), A NEW TAXON FROM NEVADA COUNTY, CALIFORNIA

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Abstract. *Streptanthus tortuosus* subsp. *truei* is described, and its distinguishing characters from subsp. *tortuosus* and other infraspecific taxa synonymized are discussed. The novelty is easily distinguished from other plants of the species by having caudate-acuminate (vs. obtuse to subacute) sepals distinctly longer (vs. shorter) than the petals and acuminate (vs. acute to obtuse or rounded) cauline leaves. Limits of the genus *Streptanthus* and *S. tortuosus* are discussed.

Keywords: Brassicaceae, *Streptanthus,* California

The limits of *Streptanthus* Nutt. (Brassicaceae) have fluctuated a great deal during the past 12 decades. The number of genera recognized in this complex has varied from 14 (Schulz, 1936), to three (Rollins, 1993), to four (Al-Shehbaz, 2010), or one (Jepson, 1925; Rodman et al., 1981; Al-Shehbaz, 2012). The vast majority of species in the expanded *Streptanthus* have urceolate to campanulate calyx, channeled and/or crisped petals, and stamens in three pairs of unequal length. This floral character combination, often termed "streptanthoid," is unique to the group and not found elswhere in the Brassicaceae. Although there are a few species of *Streptanthus* that do not have the "streptanthoid" flowers, it is most likely that their floral "exceptions" evolved as adaptations to different breeding systems or pollinators.

Differences in fruit morphology (e.g., terete, latispetate, or angustiseptate) and cotyledonary position (accumbent vs. incumbent) were used to divide *Streptanthus* into segregates. However, fruit characters exhibit substantial convergence within genera in the family (Franzke et al., 2011; Al-Shehbaz, 2012) and therefore should not be used as the sole feature to delimit genera. In addition, molecular data (Warwick et al., 2009) show no resolution in *Streptanthus* and allied segregates and, therefore, a single, broadly delimited genus is preferred herein.

Streptanthus tortuosus Kellogg is a highly variable species widely distributed in California and adjacent Nevada and Oregon. It was divided by Rollins (1993) into five varieties separted primarily by sepal length and color, habit, and branching of stem. However, the differences used to distinguish these varities show subtantial overlap that led Al-Shehbaz (2010) to recognize a single polymorphic species.

A recent loan from the California Academy of Sciences included four collections from Nevada County, California that show substantial differences from the other populations of the species. These are described below as a new subspecies.

Streptanthus tortuosus subsp. **truei** Al-Shehbaz, *subsp. nov.* TYPE: UNITED STATES. California, Nevada Co., road between Columbia Hill and Footes Crossing on Middle Yuba River, 2,600 ft [792 m], 9 June 1971, *Gordon H. True 6705* (Holotype, CAS; Isotype, CAS). Fig. 1.

Basal leaves oblanceolate to obovate, dentate, soon withered; cauline leaves broadly ovate to ovate-lanceolate, acuminate at apex. Sepals narrowly lanceolate, 12–21 mm, apex 7–12 mm, acuminate-caudate; petals 7–14 mm, shorter than sepals. Fruits slightly arcuate to rarely straight, 4–11 cm long.

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FIGURE 1. *Streptanthus tortuosus* subsp. *truei* Al-Shehbaz. Holotype, *G. H. True 6705* (CAS).

Eponymy: The subspecies is named in honor of Gordon H. True who collected all of the specimens cited in this work.

Phenology: Flowering early June to early July.

Distribution and ecology: Partial shade in steep rocky slopes in Nevada County, California.

Distinguishing characters: *Streptanthus tortuosus* subsp. *truei* is readily distinguished from subsp. *tortuosus* by having caudate-acuminate sepals 12–21 mm that are considerably longer than the 7–14 mm petals and by the acuminate uppermost cauline leaves. In subsp. *tortuosus* the sepals are subacute to obtuse and subequal to slightly shorter than the 6–14 mm petals, and the uppermost cauline leaves are acute or obtuse to rounded at apex.

In all of the several hundred specimens of *Streptanthus tortuosus* subsp. *tortuosus* examined, including types of its eight heterotypic synonyms (see Al-Shehbaz, 2010), the sepals are shorter than or subequaling the petals, and their apices are almost always obtuse to subacute. The only exceptions are *Bell 17676* (MO) and *Constance 2355* (MO, UC) from Mariposa and Madera counties, respectively. These two collections differ from other plants of subsp. *tortuosus* by having sepals with short-acuminate apices 1–3 mm long, but their other features perfectly fit those of the type subspecies.

Streptanthus tortuous subsp. *truei* appears to be endemic to Nevada County in which subsp. *tortuosus* also grows (e.g., *Sonnie 19, Heller 7016,* and *Heller 13201*, all at MO). However, it is not known if the two subspecies grow sympatrically and whether or not they hybridize.

Additional specimens examined: United States, California, Nevada County, road between Columbia Hill and Footes Crossing on Middle Yuba River, *True 6893* (CAS, MO); same locality, *True & Howell 6784* (CAS).

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