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A NEW SPECIES OF *PENSTEMON* FROM
NYE COUNTY, NEVADA

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Penstemon (Subgen. et Sect. *Habroanthus*) ***pahutensis*** N. Holmgren, sp. nov.
(Fig. 1)

Series *Speciosi* juxta *P. speciosus* Dougl. ex Lindl. et *P. laevis* Pennell referenda, ab illis sepalis abbreviatis (3-4[-5] nec [4-]5-10 mm longis), corollae minus ventricosae ore 6-8 mm lato, palato barbato (nec nudo), antherarum thecis brevioribus (1.6-2.2 nec [1.8-]2.0-2.8 mm longis), nec non staminodio fere tota longitudine (nec tantum apicem versus vel toto glabro) barbato absimilis.

Perennial, 15-25(-32) cm tall, *stems* usually several arising from a compact, often branched caudex which surmounts a short taproot, glabrous throughout; *leaves* relatively thick, glabrous, not or scarcely glaucous, narrow, the basal leaves oblanceolate to elliptic, 5-10 cm long and 1.2-1.6 cm wide, petiolate, the cauline leaves sessile (except sometimes the lower ones), the lower leaves narrow-oblanceolate, 5-11 cm long and 0.7-1.4 cm wide, the upper leaves linear to narrow-lanceolate, 3-8(-10) cm long and 0.4-0.9 cm wide, becoming reduced and bract-like in the inflorescence; *inflorescence* more or less secund with 6-13 verticillasters; *flowers* ascending or horizontal; *sepals* 3-4 mm (up to 5 mm on the Stonewall Mountain collection) long, broadly ovate with erose-denticulate, more or less scarious margins and sometimes with a sharp tip, glabrous; *corolla* pink-lavender to bluish-lavender, (17-)21-26(-30) mm long, the tube 5-8 mm long and the throat 11-15 mm long, somewhat ventricose, 6-8 mm wide at the mouth, yellow bearded (white bearded on the Stonewall Mountain collection) on the palate, the upper lip (4-)5-7 mm long, the lower lip 4-6(-7) mm long; *anther sacs* 1.6-2.2 mm long, divaricate, sigmoidally twisted, opening distally 2/3 their length (the proximal portion remaining indehiscent), glabrous; *staminode* densely bearded for most of its length with golden yellow hairs (white hairs on the Stonewall Mountain collection); *capsules* 8-10 mm long (very few seen); *seeds* (none seen).

TYPE.—*Reveal 1206*, Nevada, Nye Co., 5.3 miles up Rainier Mesa Road from Pahute Mesa Road, about 1 mile west of Gold Meadows turnoff, elevation 7150 feet, June 10, 1968 (Holotype, NY; Isotypes, DS, JEPS, NTS¹, RENO, RSA, UTC).

¹ NTS is used to designate the Nevada Test Site Herbarium, Mercury, Nevada 89023.

PARATYPES.—All Nye County, Nevada: Stonewall Mountain, *Alexander & Kellogg* 2467 (GH, UC); Columbine Canyon, northern Pahute Mesa, *Beatley* 2752 (NTS); north side of Pahute Mesa, *Wells* 482 (NTS); south end of Pahute Mesa, *Beatley* 2749 (NTS), 3458 (NTS), 3459 (NTS), 3460 (NTS), 3658 (NTS), *Beatley & Carl* 2976 (NTS), 2984 (NTS), *Bostick* 5042 (NTS); southern Pahute Mesa, near Echo Peak Road turnout from Pahute Mesa Road, *Beatley* 8942 (DS, JEPS, NTS, NY, RENO, RSA, UTC); canyon below Echo Peak, cable access road from Pahute CP to Echo Peak, *Beatley* 6014 (NTS); head of Tongue Wash, near saddle on Stockade Wash Road, *Bostick* 5078 (NTS); southeast Pahute Mesa, Deadhorse Flat Road, 0.3 miles northeast of junction with Pahute Mesa Road, *Beatley* 4657 (NTS); valley west of Rainier Mesa, *Beatley, Carl & Rhoads* 2738 (NTS); east side of Pahute Mesa, *Bostick* 5367 (NTS); west Gold Meadows, *Reveal* 1305 (NTS, NY, RENO, UTC); Rainier Mesa, *Beatley* 1760 (NTS), 2891 (NTS), 2922 (NTS), 3732 (NTS, NY); near saddle between Eleana Range and Rainier Mesa top, *Gibbons* 483 (NTS); crest of Forty Mile and Yucca drainage basins, *Beatley & Hawthorne* 481 (NTS), *Beatley* 5764 (NTS, NY).

HABITAT.—Among sagebrush in pinyon-juniper woodland, 6400–7600 ft (1920–2280 m) elevation.

FLOWERING PERIOD.—Early June to mid July.

DISTRIBUTION.—South-central Nye County, Nevada, Stonewall Mountain, Pahute Mesa (upper Silent Canyon and especially the southeast end) and Rainier Mesa (Fig. 2).

Penstemon pahutensis has the anther-dehiscence of Subgen. *Habroanthus*, the ventricose corolla of Sect. *Habroanthus* and the sigmoidally twisted anther sacs of Series *Speciosi* as defined by Crosswhite (Amer. Midl. Nat. 77: 1–11. 1967). In particular the species appears closely related to *P. speciosus* Dougl. ex Lindl. and *P. laevis* Penn., from which it differs both in morphology and geographical distribution. The morphological differences are summarized in the following key:

Sepals 3–4(–5) mm long, corolla 17–26(–28) mm long, only slightly ventricose, the opening 6–8 mm wide, the palate bearded; anther sacs 1.6–2.2 mm long; staminode densely bearded for most of its length.

pahutensis

Sepals (4–)5–10 mm long, corolla (23–)27–35 mm long, more strongly ventricose, the opening 8–13 mm wide, the palate glabrous; anther sacs (1.8–)2.0–2.8 mm long; staminode glabrous or bearded towards the tip.

speciosus and *laevis*

The best and most easily observed characters that distinguish *P. pahutensis* from all the other species of Series *Speciosi* [which also includes *P. cyaneus* Pennell, *P. lemhiensis* (Keck) Keck & Cronq., *P. pennellianus* Keck and *P. wardii* A. Gray] are the short sepal length, 3–4(–5) mm (vs. 5–11 mm) long and the bearded (vs. glabrous) condition of the palate.

An attempt to separate *P. speciosus* and *P. laevis* became increasingly difficult as I studied the material. Crosswhite (Amer. Midl. Nat. 77: 12–27. 1967) distinguished them by size of anther sacs and seeds. My measure-



Fig. 1. *Penstemon pahutensis*. a. Habit, $\times 1/6$. b. Leaves, $\times 1/2$. c. Flowers, $\times 1$. d. Sepal, $\times 3$. e. Anther sacs, $\times 6$. f. Staminode, $\times 3$. g. Capsule, $\times 2$.

ments of the anther sacs show too much overlap. Our specimens of *P. laevis*, most of which have been annotated by Crosswhite, show the range of anther sac length to be (1.5-)2.0-2.8 mm, which, in Crosswhite's terms, would be (3-)4-5.6 mm long "across the connective (from tip to tip)" rather than the

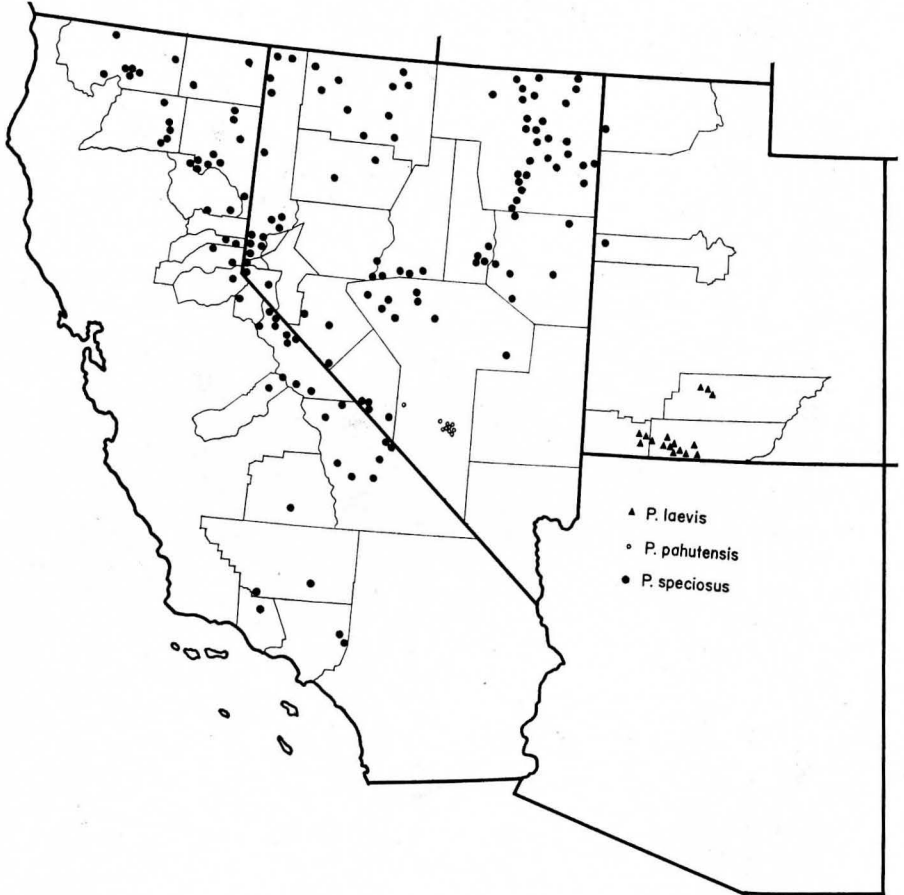


Fig. 2. Map of California, Nevada and Utah showing the distributions of *Penstemon laevis*, *P. pahutensis* and the southern part of the range of *P. speciosus*.

3.5-4 mm given by him. This new measurement seriously overlaps the 4-6 mm range given for *P. speciosus*. No seeds of *P. laevis* were available for comparison. *Penstemon laevis* probably should be relegated to varietal status under *P. speciosus* but the necessary nomenclatural combination is not here proposed.

The staminode of *P. laevis* is consistently bearded whereas that of *P. speciosus* ranges from glabrous to bearded. Crosswhite (ibid.) traces this bearded condition geographically and, although he found "no sharp separation . . . , the beard seems to be more firmly established in the southern part of the range of the species, and virtually absent in the northern part." It is this southern part of the range of *P. speciosus* that approaches the ranges of *P. pahutensis* and *P. laevis*. The fact that the staminode of *P. pahutensis* is more densely bearded than that of *P. speciosus* or *P. laevis* may be of some significance.

Penstemon pahutensis is geographically isolated from *P. speciosus* and *P. laevis* (Fig. 2). The closest approach of *P. speciosus* is documented by a collection from Gold Mountain in the southern tip of Esmeralda Co., Nevada (Keck 578, NY), 20 miles to the southwest of the Stonewall Mountain locality. These populations are separated by a low shadscale desert valley. The Stonewall Mountain population in turn is separated from the Pahute Mesa-Rainier Mesa population by 37 miles of broken sagebrush lowland and it differs in having slightly longer sepals (4–5 mm long) (Lawrence R. Heckard, pers. comm.) and a white-bearded rather than a yellow-bearded palate. This new species may be present on the islands of upland (i.e., Black Mountain, Quartz Mountain, and Tolicha Peak) in the intervening western Pahute Mesa, which have received little or no botanical attention. It is interesting that it has not been found on the Belted Range (James L. Reveal, pers. comm.) which represents a continuous northeast spur of highland from Pahute and Rainier mesas.

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