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A NEW SPECIES OF PENSTEMON (SCROPHULARIACEAE) FROM MEXICO

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In collecting toward a flora of the Chihuahuan Desert region, James Henrickson and Thomas Wendt discovered the following new species, a close relative of *Penstemon barbatus* (Cav.) Roth, in the Sierra de la Madera west of Cuatro Cienegas in central Coahuila.

Penstemon henricksonii, species nova in sectione *Elmigera*; foliis basalibus ellipticis oblanceolatisve petiolatis, foliis caulinis ovatus ut in *P. cardinalibus*; floribus *P. barbato* simulantibus autem coloribus rubro-purpureis vel marroninis non coccineis; loculis antherae divaricatis marginibus minute acutidentatis. Figure 1.

TYPE: Mexico, Coahuila, ca 35 (air) km west of Cuatro Cienegas in Cañon de la Hacienda in limestone, Sierra de la Madera along trail south-east of road's end, in loamy oak-pine-fir forest, 7700 to 9000 ft, 5 Aug 1973, near 27°03' N, 102°24' W, *J. Henrickson and T. Wendt 11903*. Holotype: RSA; Isotypes: CSLA, TEX, MEXU, NY, ARIZ, US, UC, GH.

The species is also known from a collection of fruiting material: Sierra de la Madera, among similar associates, SW Rancho Cerro de la Madera, upper Cañon del Invierno, 2500 m, 27°05' N, 102°28'30" W, 27 Aug 1974, *Wendt and Lott 649b*, TEX.

The name honors James Henrickson, biology professor at California State University, Los Angeles, plant anatomist, morphologist, systematist (especially of Fouquieriaceae), and student of the Chihuahuan Desert flora.

Perennial herb to 6 dm tall; stems and foliage glabrous. Basal leaves elliptic or oblanceolate, petiolate, the blades 5–12 cm long, 2–4 cm broad, petioles to 5 cm long; cauline leaves ovate to broadly lanceolate, 3–8 cm long, 2.0–3.5 cm broad, sessile, apex broadly acute; all leaves entire, glabrous, minutely punctate beneath. Inflorescence narrowly thyrsoïd, bracts lanceolate, pedicels mostly 2-flowered, less than 2 cm long. Calyx segments lanceolate, acute, entire, with narrowly scarious margins, glabrous, 6–7 mm long. Corolla like that of *P. barbatus* but dark maroon-red or purplish red, the upper lip erect and shielding the anthers, lower lip sharply reflexed along throat of corolla, conspicuously bearded at base with flat, simple, yellow hairs 2 mm long; corolla 30–35 mm long, 8–10 mm broad (pressed), lower lip 10 mm long, upper somewhat longer. Anther locules opening from free tips about 4/5 of distance to common bases, divergent, glabrous; suture margins with conspicuous small sharp teeth (more than usual for *P. barbatus*). Staminate node dilated distally and glabrous. Capsule ovoid-acuminate, to 15 mm long, glabrous.

Penstemon henricksonii is scattered on upper, mesic, moss-covered, north-facing slopes in a shaded oak-pine-fir forest between 2100 and 2750 m. The principal species in the forest include *Abies coahuilensis* I. M. Johnst., *Pseudotsuga menziesii* (Mirb.) Franco, *Pinus strobiformis* Engelm., *P. ponderosa* Laws. var. *arizonica* (Engelm.) Shaw, *Cupressus arizonica* Greene, and *Arbutus xalapensis* HBK., as well as several species of *Quercus* including *Q. hypoxantha* Trel., *Q. greggii* (A. DC.) Trel., and *Q. pringlei* Von Seemen. Principal shrub and herbaceous species in the forest include *Cornus stolonifera* Michx., *Holodiscus dumosa* (Nutt.) Heller, *Nolina caespitifera* Trel., *Swertia radiata* (Kell.) O. Kuntze, and species of *Stevia*, *Seymeria*, *Senecio*, and *Solanum*. The dense carpets of a goldish-green moss [*Rhytidium rugosum* (Hedw.) Kindb.] over the forest floor attest to the mesic nature of this portion of the east-west oriented Sierra de la Madera, which is frequently enshrouded by clouds during the late summer-fall rainy season.

This species differs from *P. barbatus* in having broad, ovate cauline leaves and purplish, rather than bright red, flowers. The leaves most nearly resemble those of *P. cardinalis* Woot. & Standl. of western Texas, the flowers of which differ in having very short lips and a constricted orifice.

The related *P. barbatus* ssp. *torreyi* Gray grows in the same canyon but has been collected only at elevations below 1800 m where it is infrequent along alluvial arroyo margins in a more open mesic oak-pine-madrone woodland composed of *Quercus gravesii* Sudw., *Q. glaucoïdes* Mart. & Gal., *Arbutus xalapensis* HBK., *Pinus ponderosa* var. *arizonica* (Engelm.) Shaw, *Fraxinus cuspidata* Torr., *Garrya ovata* ssp.



FIG. 1. *Penstemon henricksonii*, sp. n. a. habit; b, flower; c and d, anther.

lindheimeri (Torr.) Dahling, *Prunus serotina* Ehrh., *Leucania retusa* Gray, and *Dasyllirion*, as well as species of *Desmodium*, *Abelia*, *Choisya*, *Salvia*, *Aquilegia*, *Eupatorium*, and *Eriogonum*.

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