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AN *ERIGERON* FROM NEVADA AND A *PENSTEMON* FROM IDAHO

N. Duane Atwood¹ and Stanley L. Welsh²

ABSTRACT.—Described as new species are *Erigeron cavernensis* Welsh & Atwood from the Schell Creek Range and Currant Mountain, White Pine County, Nevada, and *Penstemon idahoensis* Atwood & Welsh from the Goose Creek drainage, Cassia County, Idaho.

Continued exploration of the American West yields new taxa almost on a yearly basis. The productive regions are those not explored previously due to difficulty of access or improper timing during previous exploration. Certain plants are difficult to discern other than when flowering, and many are not recognizably different except when flowers or fruit are present. The two species described herein were taken from poorly collected regions. They are small and not especially showy but distinctively attractive plants that grow in restricted habitat types. The *Erigeron* occurs at high elevations in limestone rubble and cliff crevices. The *Penstemon* is known only from peculiar white tuffaceous (?) outcrops along the Goose Creek drainage.

Erigeron cavernensis Welsh & Atwood, sp. nov.

A *Erigerone unciali* Blake sensu lato differt in caulibus pubescentia hirsutis involucri brevioribus et caudicibus longioribus.

Perennial herbs from a branching subterranean caudex, the caudex branches clothed at their summits with marcescent ashy to black leaf bases; herbage copiously hirsute with multicellular trichomes; stems slender, erect, 1.7–6 cm tall; basal leaves (0.3) 0.8–2 (2.8) cm long, 1.5–6.5 mm wide, spatulate to oblanceolate, petiolate, obtuse apically; cauline leaves reduced upwards; heads solitary; involucre 3.5–4.5 mm high, 5–10 mm wide, subglandular, hirsute with multicellular hairs; bracts involucre, somewhat thickened, purplish, the inner ones with scarious purplish margins; rays ca 16–23, purplish or white, 3.5–4.5 mm long; pappus double, the inner bristles ca 18–20, with shorter outer setae; achenes 2-nerved, hairy.

TYPE.—Nevada, White Pine County, Schell Creek Range, T15N, R66E, 25 air km SE of Ely, ca 2 km NE of summit of Cave Mountain, 3,172–3,233 m elev., limestone cliffs and rubble, *Pinus flexilis*–*P. longaeva* community, 18 July 1981, B. Welsh, S. Goodrich, and E. Neese 910 (Holotype BRY; Isotypes NY, RM, US, POM, UT, UNLV).

ADDITIONAL SPECIMENS.—Nevada, White Pine County, Schell Creek Range, T15N, R66E, 25 km due SE of Ely, near summit of Cave Mtn, at ca 3,264 m elev., crevices of limestone cliffs, bristlecone pine, limber pine, spruce community, 18 July 1981, E. Neese, S. Goodrich, B. Welsh 10778 (BRY); do, ca 3 km N of summit of Cave Mtn, at 3,233 m elev., limestone rubble and cliffs, limber pine, bristlecone, Engelmann spruce community, 18 July 1981, E. Neese, S. Goodrich, B. Welsh 10758 (BRY); Currant Mountain, on east slope below VABM 11513, T12N, R58E, Humboldt National Forest, between 3,050 and 3,355 m elev., in bristlecone pine community, 30 June 1987, N. D. Atwood and W. Swensen 13063 (BRY).

This is a handsome dwarf plant that is evidently allied to *E. simplex* Blake, from which it differs in its hirsute vesture, in its shorter-than-average involucre, and in the more elongate caudex branches. This latter feature might be an ecological response to the habitat in rubble and crevices. However, *E. simplex* Blake is also a plant of crevices in limestone, but the caudices are seldom well developed. The plant is named for its locality on Cave Mountain in the Schell Creek Range of Nevada. Naming of the plant at this time was stimulated by recognition of a second locality for the species on Currant Mountain, at the

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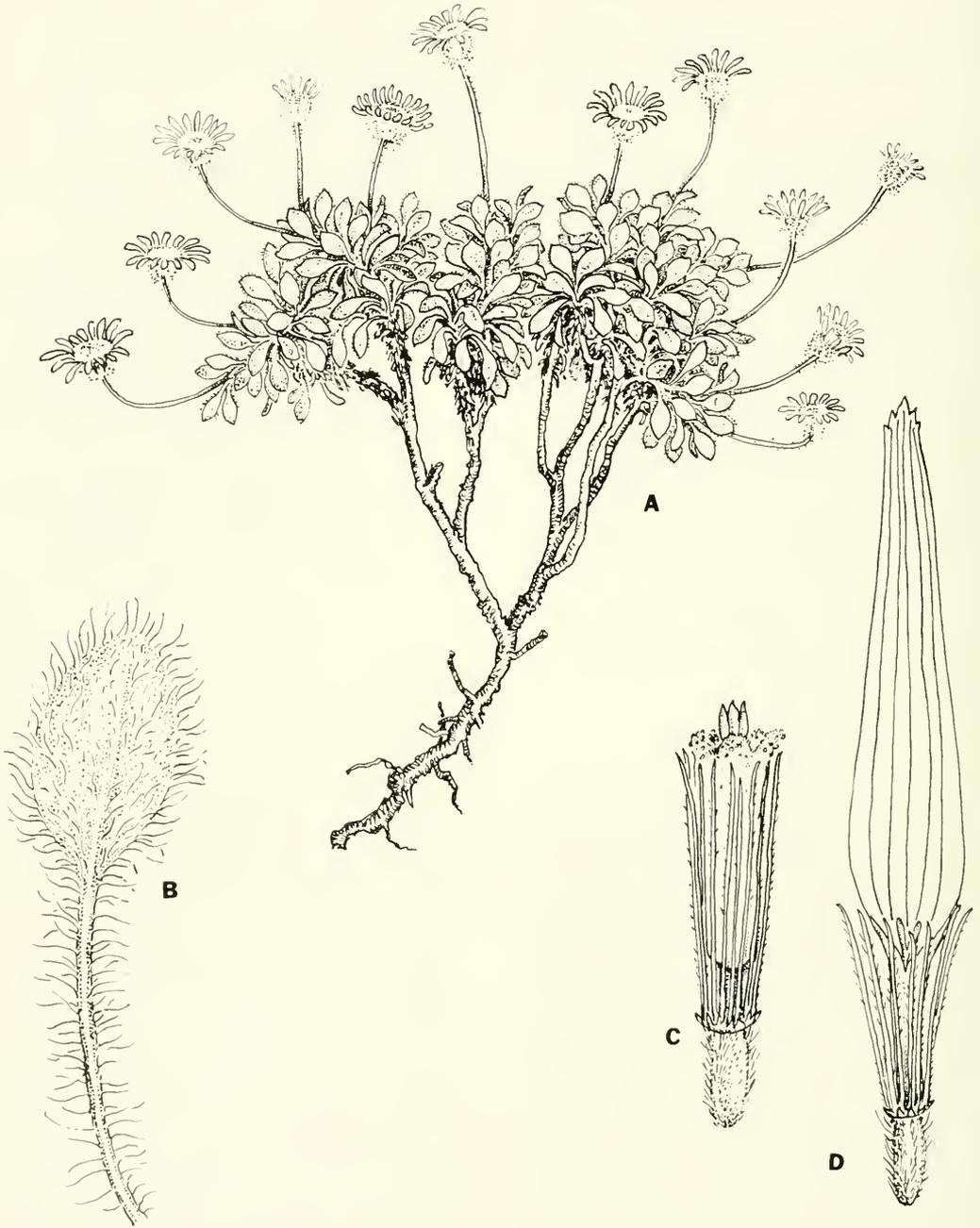


Fig. 1. A, *Erigeron cavernensis* Welsh & Atwood; B, leaf; C, disk flower; D, ray flower.

western margin of White Pine County. The voucher material for the second known locality was taken by N. D. Atwood and W. Swensen (see above).

Penstemon idahoensis
Atwood & Welsh, sp. nov.

Similis *Penstemon scarioso* Pennell section *Glabri* (Rydb.) Pennell sed glanduliferis

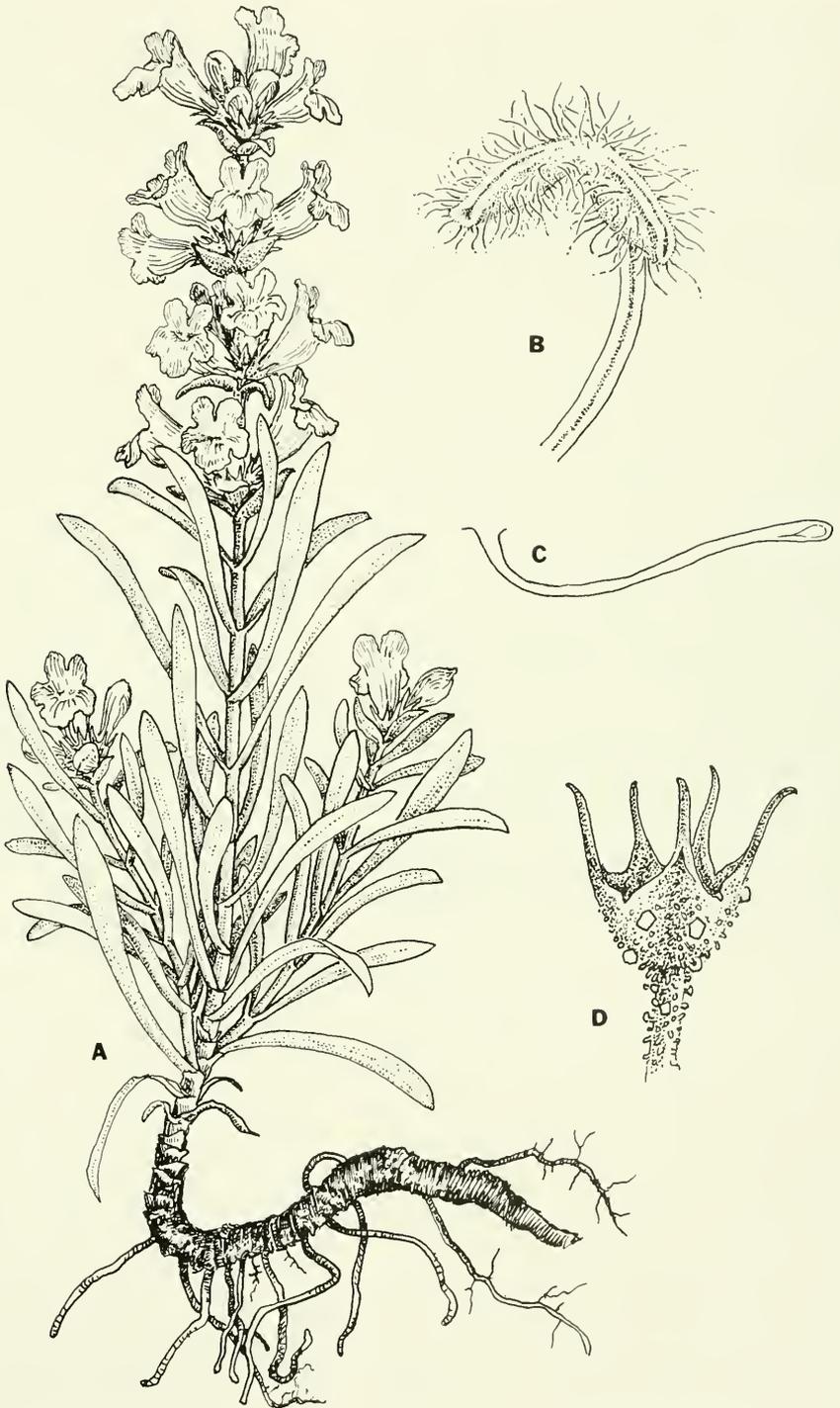


Fig. 2. A, *Penstemon idahoensis* Atwood & Welsh; B, stamen; C, staminode; D, calyx with sand grains adhering to the glandular surface.

omnino et detritis obtectis staminodia glabro et folia marginibus crassioribus differt.

Perennial herbs, 8–20 cm tall; stems several from a semiwoody caudex, ascending to erect, glandular; leaves entire, surficially glandular, glistening, bearing adherent soil particles, the margins revolute, thickened, sessile, the basal and lower cauline ones oblanceolate, 3.5–7 cm long, 1.4–4.2 (8) mm wide, the upper cauline ones linear to elliptical, 3.4–5.5 cm long, 2.4–5.3 mm wide; inflorescence glandular, congested, 3–9 cm long, secund, the cymes 1- to 5-flowered; calyx 5.4–8.5 mm long, glandular, the lobes 3–5 mm long, acuminate, inconspicuously scarious margined; corolla 1.7–2.1 cm long, ventricose-ampliate, blue to blue purple, glabrous externally, the palate glabrous, the lobes rounded, 2.6–4.5 mm long, undulate; fertile stamens included to slightly exerted, the anthers purplish, the sacs 1.5–2 mm long, divaricate, moderately white-bearded with slender flexuous hairs about equal to or surpassing the sac width, opening across the distal ends but not across the connective; staminode glabrous, included, bluish.

TYPE.—Idaho, Cassia County, T16S, R21E, S35 NW, 17 air mi SW of Oakley, 1 mi N of Idaho/Utah line, Goose Creek drainage, near Shoe Spring, in scattered juniper, 22 June 1982, D. Atwood (with S. Goodrich) 8958 (Holotype BRY; 13 isotypes distributed previously as *Penstemon*).

ADDITIONAL SPECIMENS.—Idaho, Cassia County T16S, R21E, S28 SW/SW, white tuffaceous outcrops, at 5,100 ft elev., 10 June 1985, D. Atwood [with R. Rosentrater 11163 (BRY)]; do, T16S, R221E, S2 SW, 14 air mi S of Oakley, Goose Creek, near Devine Canyon, 22 June 1982, D. Atwood [with S. Goodrich 8954 (BRY)].

This attractive species of penstemon is evidently confined to siliceous tuffaceous outcrops in Cassia County, Idaho, not far from the state boundary juncture of Utah, Nevada, and Idaho. The tuffaceous outcrop is evidently a portion of the Tertiary Salt Lake Formation. Fragments of the tuffaceous material, evidently siliceous in nature, cling to the glandular surface of the herbage but do not obscure the surface.

Relationship of this plant is apparently with members of section *Glabri*. The anthers are clothed with hairs that approximate the width of the sacs in length. Dehiscence is in the proximal portion of each sac only. In the protologue the species is compared to *P. scariosus*, which occurs along the high plateaus of Utah. The Idaho penstemon differs from that species as outlined in the protologue. It is named in recognition of the state of origin.

Illustrations of the two species are provided by Kaye Hugie Thorne, to whom our gratitude is expressed.