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UTAH PLANT NOVELTIES IN CYMOPTERUS AND PENSTEMON

Stanley L. Welsh

Abstract—Cymopterus higginsii and Penstemon atwoodii are named and described from materials collected in the Kaiparowits Plateau vicinity of eastern Kane County, Utah. Habitat, distribution, and probable affinities are outlined.

Examination of specimens obtained from the Kaiparowits Plateau region of eastern Garfield and Kane counties in southern Utah has revealed the existence of two previously undescribed entities, one each in Cymopterus (Apiaceae) and Penstemon (Scrophulariaceae). Existence of these taxa is not surprising when one considers the historic remoteness of much of that great region. The discovery and the extent of the range of each taxon must be credited to the extensive fieldwork allowed under the baseline studies of the Navajo-Kaiparowits environmental project directed by personnel from Brigham Young University (Welsh, Murdock, and Wood 1975).

The Cymopterus species is known from saline soils of the Tropic Shale formation and associated pedimental gravels on fans and bajadas below the Straight Cliffs formation in that portion of Kane County from the Paria River eastward to the Last Chance Creek vicinity. Apparent relationships of C. higginsii seem to lie with C. fendleri from which it differs inter alia in the rose to purple flowers with evident pedicels and wider wings on the fruit. The pseudoscape is poorly developed.

The corollas in the Penstemon species are glandular hairy externally, and the taxon seems to belong with those species treated by Pennell (1920) as Section Cristati and by Keck (1938) illegitimately as Section Aurator. The nearest ally appears to be P. jainesii from which P. atwoodii differs as noted in the diagnosis. P. atwoodii is known only from middle elevations of the Kaiparowits region, where it grows on the Cretaceous formations in juniper-pinyon woodland.

Both species, the Cymopterus and the Penstemon, are plants of very restricted range. They are in areas which are now subject to commercial exploitation, and both should be considered as threatened species.

Cymopterus higginsii Welsh sp. nov.

Plantae acaulescentes non caespitosae pseudoscapis non vel non nisi evolutis infermis, pubescentes parse pili complanti: folia ovata vel subelliptica in circumscriptam, laminis 1.8-7.7 cm longis 1.5-6.0 cm latis bi- vel tripinnatis viridibus foliolois longior quam latissimis ad bipinnata, lob undatos vel acutos raro, petiolis 1.8-14 cm longis; pedunculi folia longior ad extremum 2-12 cm longi, purpurascentes; involucrum vaginans margine scariosa; involucellum bracteolarum brevior quam floras, lobis aliquot dentatis acutis vel acuminatis; umbellae compactae, radiis 3-5, 1-10 mm longis, umbellula centrali sessili; pedicelli 1.6 mm longi; flores rosei ad purpurascens; fructus ovalis ad ellipticum 7-10 mm longus 5-8 mm latus, alis corpus subaequalis incrassatis spongosis.

C. fendleri affinis sed floribus roseis ad purpurascens pedicellis evidentibus et alis corpus subaequalis.

Habitat and Distribution.—Tropic shale and pedimental covering derived from Straight Cliffs and other formations, on saline soils, from East Clark Bench eastward to Last Chance Canyon, at least 30 miles east of Glen Canyon City, eastern Kane County, Utah.

Type: Utah: Kane Co., Shadscale dominated bajada, on gravelly pedimental fan, east of None Butte, ca 17 miles east of Glen Canyon City, S. L. Welsh 12740, 31 May 1975 (Holotype BRY; Isotypes to be distributed). Paratypes: Utah: Kane Co., Site 9, Navajo-Kaiparowits Project, base of Smoky Mt., 2 miles from Ahtrom Point junction, Atriplex-Kochia-
Artemisia community, N. D. Atwood 3439, March 1972 (BRY); ca 2 miles north of Church Wells, on bench between Coyote Creek and Wahweap Creek, N. D. Atwood et al. 3493, 23 March 1972 (BRY); ca 30 miles east of Glen Canyon City, on Tropic Shale formation, N. D. Atwood 4349, 23 April 1973 (BRY).

The species is named to honor Larry Charles Higgins, student of Boraginaceae, especially of Cryptantha, and specialist in western botany generally.

*Penstemon atwoodii* Welsh sp. nov.

Herbae perennes 1.4-5.3 cm altae; caules pauci vel multi e caudicibus ramificatis glanduliferis super; folia glabra, basalia ob lanceolata ad spatulata vel ovata ad elliptica raro integra 2.8-9.0 cm longa (0.2) 0.4-0.8 (1.4) cm lata, caulina lanceolaria ad oblonga vel spatulata, ± auriculata super integra vel serrata remotararararararo, 3.0-7.0 cm longa 0.3-0.8 (1.4) cm lata; inflorescentia verticillastorum distinctarum plurium; bracteae foliaceae; calyces 6.5-8.5 mm longi lobis lanceolatis herbaeis purpureis pilis glanduliferis; corollae pilis glanduliferis externis cyanae vel cyano-caesiae 13-16 mm longae expansae distales 5-6 mm latae glabrae intus praeter ad orificium labium inferum; antherarum thecae glabrae divaricatae vel explanatae; staminodium barbatum pilis luteo lineare; capsulae glabrae.

*P. jamesii* sensu lato affirmis sed floribus parvioribus et glabris intus praeter ad orificium labium inferum.

**Habitat and Distribution.**— Kaiparowits, Wahweap, and Straight Cliffs for-