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THE TAXONOMIC STATUS OF  
**PENSTEMON WHERRYI** PENNELL

Aileen L. McWilliam<sup>1</sup>

In the large genus **Penstemon** (Scrophulariaceae) there occur several complexes in which the taxonomy is obscure. One of these complexes is the group known as the Graciles Section (Pennell), Subsection (Keck), or Series (Crosswhite), sometimes referred to as the "Eastern" Penstemons, most species of the genus outside of this group being western in range.

In working on the taxonomy of the Oklahoma representatives of the group, and in particular on the Graciles Series, I found it necessary to examine in detail several species in which taxonomy and nomenclature were in considerable confusion. Notable among these was **Penstemon wherryi** Pennell.

A part of this nomenclatural and taxonomic confusion seems to arise from the splitting tendencies of certain taxonomists who have worked in the genus. However, much of the taxonomic difficulty was found to stem from the fact that certain key characters are destroyed in the preparation of herbarium specimens, most especially in that pressing a specimen produces a lateral flattening of a corolla that is naturally flattened dorsi-ventrally, and that the natural closing of an orifice by an uparching of corolla lobes is distorted or obliterated in the pressing.

During the 1920's Dr. Francis W. Pennell, who later published the definitive monograph of the Scrophulariaceae (1935), made collecting trips to Oklahoma, Arkansas, and Missouri, and as a result of these trips named and described a number of new species of **Penstemon** in the Graciles Section.

Pennell (1922) described the type specimens of **P. arkansanus** and **P. multicaulis** from collections in central Arkansas. **P. multicaulis** was described as differing from **P. arkansanus** in having clumps of many stems rather than from one to several in **P. arkansanus**.

In 1934 Dr. Edgar T. Wherry, of the University of Pennsylvania, on a field trip in Arkansas with Dr. Dwight M. Moore, of the University of Arkansas, collected at Havana, Yell County, a **Penstemon** seemingly different from **P. arkansanus**. This was described by Dr. Pennell in

<sup>1</sup>Research at the University of Oklahoma Biological Station supported by National Science Foundation Grant GW 526 for Research Participation for High School Teachers, directed by Dr. Carl D. Riggs; research suggested and supervised by Dr. George J. Goodman and Dr. Harriet G. Barclay.

his 1935 monograph and named, in honor of its discoverer, *P. wherryi* Pennell.

In his subsequent extensive field trips in Arkansas and eastern Oklahoma Dr. Moore failed to find plants that could be distinguished from *P. arkansanus* as *P. wherryi* or *P. multicaulis*. In 1949 Dr. Moore communicated by letter to Dr. Pennell his feeling that *P. wherryi*, *P. multicaulis*, and *P. arkansanus* are one and the same thing. Dr. Moore sent a number of specimens of his collection to substantiate this idea<sup>2</sup>. Dr. Pennell's reply is filed in the University of Arkansas Herbarium as No. 7508. It states, in part,

"I have gone over the specimens you send, and agree with you that both *Penstemon multicaulis* and *P. wherryi* should be put in synonymy of *P. arkansanus*. I have been gradually reaching this conclusion, although when I gathered the plant in 1920 I was thoroughly convinced that *P. multicaulis* was a separate entity. It does make a simpler treatment to put the three together, and I think that they must be so considered."

Unfortunately this information, as regards *P. wherryi*, was not published, and the species epithet *wherryi* continued to have some use, especially in popular literature. It was seen as recently as Spring, 1967, in Lola Byars Johnson's column, "Wildwood Trails", in the Arkansas Gazette. Most taxonomic works seem to have abandoned *P. wherryi*, however. Waterfall (1966) and Crosswhite (1965) include *P. wherryi* in *P. arkansanus*.

Bennett (1963), President of the American Penstemon Society, placed *P. wherryi* in synonymy under *P. laxiflorus*, with *P. laxiflorus* reduced to a subspecies of *P. australis* Small. This is evidently an error stemming from the use of herbarium material only. *P. laxiflorus* has the distinguishing character of a corolla tube to throat length ratio of 1:2, while the tube and throat of *P. arkansanus*, which includes *P. wherryi*, are subequal, or in a 1:1 ratio. *P. laxiflorus* has the orifice of the throat almost closed by the uparching lower lip of the corolla, while *P. arkansanus*, including *P. wherryi*, has a wide-open orifice and throat, with spreading, fan-shaped lower lip. The range of *P. arkansanus*, including *P. wherryi*, is the Ouachita Mountains and the Ozarks of eastern Oklahoma, western and northcentral Arkansas, and extreme southwestern Missouri, where the preferred habitat is shaley banks and roadside cuts. The range of *P. laxiflorus* is the coastal plain of Louisiana, south Arkansas, east Texas, and southeastern Oklahoma. It ranges north to the Oklahoma City area, but does not enter the mountains. It is confined to sandy soil.

My first-hand information for *P. arkansanus*, including *P. wherryi*, was determined by a study of 20 Arkansas and Oklahoma specimens of

<sup>2</sup>Information obtained in personal conversations with Dr. Dwight M. Moore, 1964, 1965, 1966.

*P. arkansanus*, three of these determined by Pennell, in the Bebb Herbarium at the University of Oklahoma; 39 Arkansas and Missouri specimens, including an isotype of *P. wherryi* and five others determined by Pennell, from the University of Arkansas Herbarium; and 22 Arkansas and Oklahoma specimens of *P. arkansanus* collected by me from 10 Oklahoma and 12 Arkansas stations (these now on deposit in the Bebb Herbarium and the University of Arkansas Herbarium), plus examination of living flowering and fruiting material from these stations.

Careful examination of the specimens of *P. arkansanus* determined by Pennell and comparison with the isotype of *P. wherryi* and a specimen determined by Pennell (Hopkins 2942 OKL) failed to reveal any characters of *P. wherryi* as truly distinct from *P. arkansanus*. Likewise, a careful comparison of Pennell's original descriptions failed to disclose any significant differences. On the other hand, examination of 67 herbarium specimens of *P. laxiflorus* from Oklahoma and Arkansas and of a number of living plants in habitat indicates definitely that *P. wherryi* could not be synonymous with *P. laxiflorus*. Several of my collections and observations have been made in some of Dr. Pennell's original collecting areas. Field study of corolla characters has made the problem quite clear.

In the light of the available evidence there seems to be no reasonable doubt that the taxonomic placement of *P. wherryi* must be in synonymy with *P. arkansanus*.

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