

## DELPHINIUM SIMPLEX AND ITS IMMEDIATE ALLIES.

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*Delphinium simplex* Dougl. and a few related species are distinguished among American larkspurs by the following combination of characters: Roots grumose or tuberiform; flowers short-pediceled and the inflorescence therefore narrow and strict; sepals erect or but little spreading; seeds smooth and produced into thin margins on the angles. Four species have been described as belonging to this group, namely *D. simplex* Dougl., *D. distichum* Geyer, *D. strictum* A. Nels., and *D. burkei* Greene, the last-named to me unknown.

In the original description of *Delphinium simplex* Dougl., Hooker<sup>1</sup> gives the locality as follows: "On the subalpine range west of the Rocky Mountains near the Columbia, plentiful." In the Herbarium at Kew are two sheets collected by Douglas labeled *Delphinium simplex*. One of these bears the legend "On the subalpine range of the Rocky Mountains near springs, plentiful." Some one has written "type" on this sheet, a conclusion which seemingly admits of no doubt. The other Douglas sheet is from "Grassy points of land on the banks of the Wallawallah." On this sheet is written in Doctor Gray's handwriting "The type of *D. simplex*. A. G." In the British Museum is a sheet of the "Wallawallah" collection, but none of the first mentioned. As the two collections represent the same species no error could have originated by choosing either as the type, but nevertheless the plant described by Doctor Gray in the Synoptical Flora is a different species from Douglas's original. Apparently Doctor Gray understood the species aright when he examined the material at Kew, but later was misled by a Douglasian specimen in the Gray Herbarium which he supposed was true *Delphinium simplex*. Based on a knowledge of three species in the field and the material in the U. S. National Herbarium the following revision of the group is offered.

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<sup>1</sup> Fl. Bor. Amer. 1: 25. 1829.

## KEY TO SPECIES.

- Flowers usually 10 to 20; leaves rather few; puberulence, at least of the inflorescence, villous in character and somewhat viscid ----- 1. *D. cyanoreios*.
- Flowers more numerous; leaves rather many; puberulence not villous, more or less appressed.
- Leaves puberulent, usually densely so, all with narrow divisions; puberulence of inflorescence usually viscid --- 2. *D. simplex*.
- Leaves glabrous or mostly so, the lower with broad divisions; puberulence of inflorescence usually not viscid -- 3. *D. distichum*.

1. *Delphinium cyanoreios* sp. nov.

Stems strict, erect, usually simple, 40 to 99 cm. high from a thick tuberiform root, at least the inflorescence densely velutinous and somewhat viscid, the lower portion of the plant puberulent or glabrate; leaves few, the basal usually glabrous, parted into 3 cuneate divisions, these again cleft into linear, obtuse lobes; upper leaves reduced and more deeply cleft into narrower segments; raceme 10 to 30-flowered, 10 to 30 cm. long, the pedicels decidedly shorter than the spurs; bracts linear-lanceolate; calyx dark blue, sparsely villous without, the straight spur 12 to 14 mm. long, much longer than the sepals; upper petals whitish, veined, tinged with blue at the tips; carpels 3, 12 to 20 mm. long without the beak, villous, straight or slightly spreading at maturity; seeds dark, smooth, the angles produced into narrow white margins.

This is the plant Dr. Gray described as *D. simplex* Dougl.,<sup>1</sup> but it is not the plant of Douglas. It occurs mainly in the Blue Mountains of Oregon.

Type in the U. S. National Herbarium, no. 529341, collected near Sled Creek Ranger Station, Wallowa County, Oregon, June 25, 1907, by Frederick V. Coville (no. 2444).

Among the specimens in the U. S. National Herbarium are, in addition, the following:

OREGON: Blue Mountains, *Sheldon* 8399; Billy Meadows, Blue Mountains, 1,500 meters alt., *J. T. Jardine* 312; head of Anthony Creek, Blue Mountains, 2,100 meters alt., *Cusick* 2339; Silver Creek, Harney County, *Cusick* 2609; eastern Oregon, *Cusick* 2181, 2204; Steens Mountain, *Cusick* 1982; Two Color Creek, Blue Mountains, *Cusick* 3305a; Cliff Creek, Blue Mountains, *Cusick* 3325; source of Rock Creek, Blue Mountains, *Cusick* 3175.

IDAHO: Craig Mountains, June 23, 1894, *Henderson*; South Clearwater, June 26, 1894, *Henderson*; near Sawtooth, *Everman* 603; Long Valley, *Henderson* 3140.

*Delphinium depauperatum* Nutt. is distinguished from the present species almost wholly by the more elongated lower pedicels, but some specimens like *Cusick's* nos. 3325 and 3175 are ambiguous in this respect. The pubescence of the two species is identical.

2. *Delphinium simplex* Dougl.; Hook. Fl. Bor. Amer. 1: 25. 1829.

In its original locality this species grows in stream bottoms and moist meadows and has uniformly pale, dull blue flowers. Douglas's types represent this form. Elsewhere in eastern Washington the flowers are a deeper, brighter blue, but the other characters remain the same. This brighter flowered plant matches the type of *Delphinium strictum* A. Nels., but it is scarcely worthy of nomenclatorial recognition.

<sup>1</sup> Syn. Fl. 1<sup>1</sup>: 49. 1895.

Representative examples of this species in the U. S. National Herbarium are the following:

WASHINGTON: Pullman, July 21, 1894, *Piper*; *Elmer* 3; July 30, 1895, *Hardwick*; without definite locality, *Vasey* 160, 161; Wenache, *Whited* 1277; Tieton Basin *Cotton* 449; Ellensburg, *Whited* 523; Spokane County, *Suksdorf* 720; Falcon Valley, July 17, August, 1881, *Suksdorf*.

OREGON: Pine Valley, *Cusick* 2440; John Day River, *H. E. Brown* 72; Camas Prairie, *Griffiths & Hunter* 86.

BRITISH COLUMBIA: Mouth of Kootenai River, July, 1890, *Macoun*.

3. *Delphinium distichum* Geyer; A. Gray, Syn. Fl. 1<sup>1</sup>: 49. 1895.

This is very closely allied to *D. simplex* Dougl. and seems to intergrade fully. Typically it is distinguished by the broader lobed, nearly glabrous basal leaves. The true *D. simplex* Dougl. and *D. distichum* Geyer make up together the *Delphinium distichum* of the Synoptical Flora. On the whole Hooker's original treatment of the plant as a variety of *Delphinium simplex* (*D. simplex distichiflorum* Hook.)<sup>1</sup> is perhaps the wisest disposition.

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<sup>1</sup> Hook. Lond. Journ. Bot. 6: 67. 1847.