

**Changed from California Rare Plant Rank 1B.2 to 3.2 in the CNPS Inventory on
October 10, 2017**

**Rare Plant Status Review: *Lupinus latifolius* var. *barbatus*
Proposed change from California Rare Plant Rank 1B.2 to 3.2, G5T1T2 / S1 to
G5T2Q / S2**

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Changes made to the original document are in blue text.

Background

Lupinus latifolius J. Agardh var. *barbatus* (L.F. Hend.) Munz is a perennial herb in the Fabaceae known from Lassen and Modoc counties, in California, and from Douglas County, Oregon. It is not included in *The Jepson Manual* (Sholars 1993), but is included in *The Jepson Manual, Second Edition* (Sholars 2012); the Fabaceae treatment in *The Flora of North America* is not yet published. *Lupinus latifolius* var. *barbatus* occurs in mesic areas of upper montane coniferous forests at an approximate elevation of 1,500 to 2,500 meters, and flowers between June and July. It has been included in the *CNPS Inventory* since the *Sixth Edition* (RPSAC and Tibor 2001).

Lupinus latifolius var. *barbatus* was originally described as *L. ligulatus* var. *barbatus* (Henderson 1900), and has since gone by many different names. When originally describing the taxon, Henderson hesitated to label the type specimen as *L. ligulatus*, but felt that it was close enough in location and characteristics to qualify as a variety. The name was changed in 1912 when Heller (1912) felt the type characteristics for *L. ligulatus* var. *barbatus* were “certainly distinct from *L. ligulatus*”, and moved it to its own species as *Lupinus barbatus*. In 1927, Smith describes it under the name *L. latifolius* var. *ligulatus*, moving it back to a variety. Munz then changed it to its most recent accepted name, *L. latifolius* var. *barbatus*, in 1958. “The original description is somewhat awkwardly worded, and the type specimen has been incorrectly cited as Applegate 1699 Klamath County Oregon ... The type locality is Glendale, Douglas County (but essentially right on the Klamath bioregion portion of the CFP boundary). This is germane only because the Oregon Flora project draft is to treat var. *barbatus* as a synonym of var. *viridifolius*, which is not particularly widespread in [northern California] but is not rare per se” (D. Taylor pers. comm. 2017).

It is clear from the many changes in nomenclature that *L. latifolius* var. *barbatus* presents an interesting situation in defining characteristics, and ultimately presents a question on the validity of this variety. *Lupinus latifolius* var. *barbatus* is very similar to *L. latifolius* var. *viridifolius*, a common plant in northern California. In 1977, Vaughn and Dunn even published a name change for *L. latifolius* var. *barbatus* to *L. latifolius* subsp. *viridifolius* var. *barbatus*. The key break between the two plants in the *Jepson eFlora* distinguishes var. *barbatus* as being glabrous to strigose and found on the Modoc Plateau, and var. *viridifolius* as being strigose and found in a hand full of ranges including the Modoc Plateau (see Table 1 for additional characteristic comparison). This presents an overlap of all characters and makes it difficult, if not impossible, to determine what taxon is actually present during field surveys and specimen

identification. In the field, the populations that have been determined to most likely actually be *L. latifolius* var. *barbatus* are thinly strigose, making accurate identification difficult, and raising the question of integration with other varieties (Gauna pers. comm. 2012). In the type specimens and protologues, it is equally difficult to determine the difference between the two variations (Sholars pers. comm. 2017), bringing the question of *L. latifolius* var. *barbatus*' validity to the front.

Lupinus latifolius var. *barbatus* is currently known from only five occurrences in California, four of which are considered historical (occurrences not seen in over 20 years are considered historical by the CNDDDB). Forest Gauna (pers. comm. 2012) believes he was able to relocate two of the historical occurrences in Modoc County, but was only able to find *Lupinus latifolius* plants that were thinly strigose. Since the only morphological character that separates var. *barbatus* from var. *viridifolius* is stem pubescence (with stems of var. *barbatus* being glabrous to strigose and stems of var. *viridifolius* being strigose), it is impossible to discern whether the historical populations contain var. *barbatus*, var. *viridifolius*, or both taxa. Forest also visited the historical occurrence reported from the shore of Blue Lake (EO 1) and did not find any plants; Blue Lake has burned in the past and the population could be extirpated (F. Gauna pers. comm. 2012).

For *The Jepson Manual, Second Edition* treatment, T. Sholars (pers. comm. 2017) followed many previous authors on taxa that she had only collected a few times (including *L. latifolius* var. *barbatus*), and in not being able to currently get an understanding of the differences, is probably going to treat var. *barbatus* as a synonym of var. *viridifolius* in the upcoming Fabaceae treatment in *The Flora of North America*. Until that time, we recommend maintaining *L. latifolius* var. *barbatus* in the CNPS Inventory as a California Rare Plant Rank 3.2 taxon instead of 1B.2. If knowledge on the validity, distribution, threats, or rarity status of *L. latifolius* var. *barbatus* changes in the future, we will re-evaluate its status at that time.

Recommended Actions

CNPS: Change *Lupinus latifolius* var. *barbatus* from CRPR 1B.2 to 3.2

CNDDDB: Change *Lupinus latifolius* var. *barbatus* from G5T1T2 / S1 to G5T2Q / S2

Current CNPS Inventory Record

Lupinus latifolius J. Agardh var. *barbatus* (Henders.) Munz

bearded lupine

Fabaceae

CRPR 1B.2

Lassen, Modoc

Jess Valley (674A) 4112023, Davis Creek (708A) 4112063, Surprise (708C) 4112054, Payne Peak (708D) 4112053

Upper montane coniferous forest (mesic); elevation 1500 - 2500 meters.

Perennial herb. Blooms in June to July.

Threatened by grazing. See *Bulletin of the Torrey Botanical Club* 27(6):345 (1900) for original description, and *Aliso* 4(1):93 (1958) for revised nomenclature.

Revised CNPS Inventory Record

Lupinus latifolius J. Agardh var. *barbatus* (L.F. Hend.) Munz

bearded lupine

Fabaceae

CRPR 3.2

Oregon

Lassen, Modoc

Jess Valley (674A) 4112023, Davis Creek (708A) 4112063, Surprise (708C) 4112054, Payne Peak (708D) 4112053

Upper montane coniferous forest (mesic); elevation 1500 - 2500 meters.

Perennial herb. Blooms in June to July.

Changed from 1B.2 to 3.2 on [YYYY-MM-DD]

Similar to, and possibly a synonym of, var. *viridifolius*; a common taxon. The only character differentiating var. *barbatus* from var. *viridifolius* is stem pubescence, with stems of var. *barbatus* being glabrous to strigose and stems of var. *viridifolius* being strigose. Overlapping characters make them impossible to differentiate from one another; needs further study. Threatened by grazing. See *Bulletin of the Torrey Botanical Club* 27(6):345 (1900) for original description, and *Aliso* 4(1):93 (1958) for revised nomenclature.

Literature Cited

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Heller, A. A. 1912. The North American Lupines. *Muhlenbergia* 8(6): 61.

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Sent to: MP, T. Sholars on 08/30/2017

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Appendix I - Tables

Character	Variety	Jepson eFlora 2017	Munz 1959	Abrams 1944 (<i>Lupinus latifolius</i> var. <i>ligulatus</i>)
	var. <i>barbatus</i>	Glabrous to strigose	Stout more or less fistulous, glabrous to more or less villous	Simple or branched, often stout and fistulous, glabrate or sparsely villous
	var. <i>viridifolius</i>	Strigose	Strigose	Branched above, slender or more or less fistulous below, glabrata or sparsely villous
	var. <i>barbatus</i>	8-10 mm	Pale, blooms June-July	Pedicels 2-4 mm long glabrate
	var. <i>viridifolius</i>	8-10 mm	Blooms June-August	Pedicels 2-4 mm long appressed-pubescent
	var. <i>barbatus</i>	Wet places	Wet places, coniferous forest	Moist soil
	var. <i>viridifolius</i>	Moist areas	Yellow pine forest, mixed evergreen forest	Open woods
	var. <i>barbatus</i>	1500-2500 m	5000-7000 ft. [1524-2134 m]	-
	var. <i>viridifolius</i>	1000-2000 m	3000-5000 ft. [914-1524 m]	-
	var. <i>barbatus</i>	Modoc Plateau	Lassen and Modoc cos. To se. Oregon	Douglas, Klamath, Lake Counties, Oregon; Modoc County, CA
	var. <i>viridifolius</i>	Klamath Ranges, Cascade Range, Modoc Plateau	Shasta, Siskiyou and Humboldt cos. To sw. Oregon	Josephine County, Oregon to Shasta County, CA

Table 1. Comparison of key differences between *Lupinus latifolius* var. *barbatus* and var. *viridifolius* across three different floras.