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A New Subspecies of *Lupinus lyallii*

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the teeth as much as 0.1 mm. long, the lobes of the upper 6.0-6.4 mm. long, united 3.0-4.3 mm. the bracteoles 0.8-1.5 mm. long; banner oval, 10.5 mm. long, 13.2 mm. wide (ratio 0.80), the reflexed part 4.5 mm. long, the appressed part 5.3 mm. long (ratio 0.85), the angle 135° ; wings 10.2-11.0 mm. long, 7.3 mm. wide; keel sparsely and minutely ciliate on the distal half, 3.3-3.5 mm. wide at the middle, the upper limb 6.4-7.4 mm. long, the lower 7.3-7.6 mm. long, the angle 90° - 97° ; pods 3.9 cm. long, 8.3 mm. wide, thinly pubescent; seeds 4-5, 5.7 mm. long, 5.2 mm. wide, light tan with marginal stippling.

Any exact relationship of this species to the rest of the *Micranthi* is completely obscure as long as breeding experiments are not possible.

DISTRIBUTION (Map 3).

MEXICO. Guadalupe Island, *Franceschi*. High on the cliffs, middle of the Island, March 25, 1875, E. Palmer 25. Sandy canyon, south end of the Island, March 25, 1889, E. Palmer 861.

A new Subspecies of *Lupinus lyallii*

DAVID B. DUNN¹

While preparing the manuscript for *Lupinus* for the Flora of Nevada it was discovered that the following taxon had only an herbarium name. I wish to thank Dr. P. A. Munz for assistance in correcting the Latin and to express my appreciation for the use of the facilities at the Rancho Santa Ana Botanic Garden.

The type specimen is A. H. Holmgren, June 28, 1938, collected 10 miles N.W. of Elko, Elko Co., Nevada (UTC), (Isotypes at NA & Nev. Agr. Exp. both are numbered 00134). The name *subpandens* was applied to the herbarium sheets in a varietal status by C. P. Smith.

LUPINUS LYALLII Gray ssp. *subpandens* C. P. Smith ex. Dunn ssp. nov.

Herbae dense caespitoses, ex caudice lignoso; foliis 3-6 cm. altis; herba tota pilis crassis densis subadpressis, et pilis anulosis scaberulosis vel uncinatulis; petiolis 1-3.5 cm. longis, aliquando 6.5 cm. longis; foliolis 5-6, maximis 10-13 mm. longis, 2-2.5 mm. latis, ellipticis; pedunculis 3-7 cm. longis, supra foliis 2 cm. extensis; racemis 1-6 cm. longis, dense verticillatis; bracteis persistentibus; pedicellis 1 mm. longis; calycibus bilabiatis, labio superiore 4-4.7 mm. longo, 2-2.5 mm. inciso, labio inferiore 5 mm. longo, bracteolis 0.2-0.6 mm. longis; vexillo anguste oblongo; carina supra prope a acumine lanato-ciliolata; seminibus 3.

Plants densely caespitose, from a woody caudex; foliage 3-6 cm. tall; densely subappressed coarse-hairy throughout, the hairs scaberulous, ringed or barbed; petioles 1-3.5 cm. long, occasionally 6.5 cm. long; leaflets 5-6, 10-13 mm. long, elliptic, the hairs of the upper surface less scaberulous; peduncles ascending, 3-7 cm. long, exceeding the foliage by 2 cm. or more; racemes 1-6 cm. long, densely verticillate; bracts persistent; pedicels 1 mm. long; upper-lip of the calyx 4-4.7 mm. long, incised 2-2.5 mm., lower-lip 5 mm. long, entire, bracteoles 0.2-0.6 mm. long; banner narrowly oblong, yellow with a tinge of blue; keel lanate-ciliate above near the acumen, the acumen deep purple; ovules 3.

The taxon combines some of the characters of *L. aridus* with those of *L. lyallii*. The coarse barbed hairs are typical of *L. aridus* but are found in a diminutive form throughout most of the Lepidi group. The habitat, in flatlands of Artemisia at 5500

1. Visiting Botanist, at the Rancho Santa Ana Botanic Garden, Claremont, California.

to 6500 feet elevation, suggests that a considerable amount of the physiological adaptations of *L. aridus* have been acquired, as contrasted with the typical high montane habitat of *L. lyallii*. The morphological affinity, however, is with *L. lyallii*. The peduncles exceeding the basal cluster of leaves is characteristic, and in fact, the material from Idaho and some specimens from Nevada are difficult to separate from typical *L. lyallii*, except for the coarser scaberulose to barbellate hairs. It is here suggested as a subspecies because it occupies a geographically distinct area which has distinctive physiological requirements as compared with the typical *L. lyallii*. The typical *L. lyallii* is polymorphic and will undoubtedly prove to be more than one taxon when breeding studies are made.

DISTRIBUTION

IDAHO. OWYHEE CO. 3 miles S. of Mud Flat on Road to Juniper Mt., *B. Maguire* and *A. H. Holmgren* 26305 (UTC) (approaches typical *L. lyallii*). NEVADA. ELKO CO. 20 miles S.W. of Contact, June 10, 1939, *J. Gustafson* (UTC); 10 miles N.W. of Elko, in *Artemisia*, Sec. 15, T. 45 N., R. 51 E., Mer. MD., June 28, 1938, *A. H. Holmgren* (Type at UTC, Isotypes at NA & Nev. Ag. Ex.); 10 miles S. of O'Neil Cr., *Holmgren, Cooper* and *Cain* 181 (UTC); 42 miles N. of Wells, *B. Maguire* 16878 (UTC).