

described under that name, for a careful reading of his description shows lack of agreement in several particulars.

Last summer while examining the lupines in the Gray Herbarium, I came upon one of the originals, collected by Douglas, upon which Agardh based his description, and saw at once that it was a specimen of *L. nanus*. Later Miss Eastwood wrote from Kew Gardens, England, saying that she had not only noted the specimen in the Gray Herbarium, but had seen the type of *L. affinis*, and that it is the same as *L. nanus*.

LUPINUS ONUSTUS Wats. Proc. Am. Acad. 11: 127. 1876.

*Lupinus pinetorum* Jones, Cont. West. Bot. 8: 25. 1898.

A growing suspicion that the above names represent but a single species was confirmed during the past summer, when the type of Watson's species was seen at the Gray Herbarium, and that of Jones at the National Herbarium. At the latter place there is also a co-type of *L. onustus*, giving ample opportunity for comparison. The type of *onustus* was collected in Indian valley, Plumas county, California, that of *pinetorum* near Susanville, Lassen county, northeast of Indian valley, but on the east slope of the Sierra Nevada.

#### ***Lupinus oreganus* n. sp.**

Erect perennial about 5 dm. high: stem exclusive of the inflorescence barely 5 dm., leafy throughout, silky with white appressed hairs, but showing purple underneath: petioles on the lower part of the stem about 1 dm. long, those above 6 or 7 cm.: stipules short, the lowermost barely over 1 mm. long, acuminate from a triangular base, the others subulate, 2 mm. long: leaflets about 10, rather firm, yellow-green and glabrous above, somewhat appressed silky beneath, mucronulate, those of the lowermost leaves oblanceolate, rounded at the apex, 4 cm. long or less, 12 mm. wide, the others acute at apex, longer, except the uppermost: peduncles 7 or 8 cm. long: inflorescence 2.5 dm. long, overtopping the leaves: flowers scattered, or somewhat whorled above, numerous but not appearing crowded, pale violet purple: bracts lanceolate, 5 mm. long, 2 mm. wide near the middle, early deciduous: pedicels 7 mm. long, very silky serice-

ous as is also the calyx, the lower lip of which is 7 mm. long, 5 mm. wide when spread out, the apex barely acutish, apparently minutely 3-toothed; upper lip nearly orbicular when spread out, 5 mm. across, with a broad notch at the apex; both lips concave in nature, especially the upper, which is saccate at the base; a small bractlet less than 2 mm. long on the calyx below the sinus; corollas 1 cm. long, 8 mm. deep, distance between apices of banner and wings 2 mm. or less; banner appearing as if a little shorter than the wings, face narrow, less than 2 mm., deeply grooved, 5 mm. long, edges turned back and meeting, somewhat inrolled, a short keel-like point on the back at the apex; the base deeply concave within but not spurred; wings 7 mm. deep across the middle, thence obliquely sloping to both base and apex, the latter blunt and rounded, 3 mm. across, edges closed dorsally, the keel exposed only at its apex, ventral edges also apparently meeting; keel glabrous, falcate, rather stout at the apex, 5 mm. deep across the middle: pods and seeds unknown.

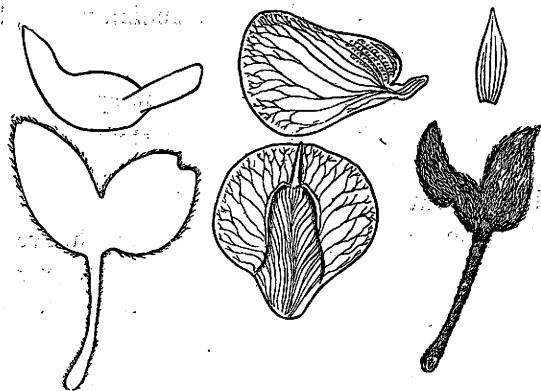


Figure 14. Floral parts of *Lupinus oregonus*, enlarged

The type, in the herbarium of the Nevada Agricultural Experiment Station, is *Heller 10044*, collected May 18, 1910, at Eugene, Lane county, Oregon. The exact station is on the railroad a short distance south of the town near a switch or junction, where the species was growing abundantly on an embankment. It was at first referred to *L. mucronulatus* Howell,

and specimens distributed under that name, but further study has shown it to be distinct. That species is locally known only from the mountains of southwestern Oregon.

While *L. oreganus* is related to *L. mucronulatus* and resembles it considerably in leaf form, it is a plant of entirely different habit, being erect instead of decumbent, has longer stems, a much longer raceme, has a notched instead of entire upper calyx lip, and the keel is glabrous instead of ciliate above the middle.

### ***Lupinus pallidipes* n. sp.**

Perennial (§ *Polyphylli*): stems about 8 dm. high, rather stout, 5 to 7 mm. in diameter, purplish, sparsely hirsute with clear white hairs: leaves rather few, the lower petioles 2.5 dm. long, leaflets about 12, elliptical-lanceolate, acute or short acuminate, 1 dm. long, 18 mm. wide, somewhat appressed hirsute on both faces, dull green above, paler below; stipules 1 cm. long the free portion lanceolate-acuminate, 7 mm. long, hirsute with long white hairs: peduncles short, 5 or 6 cm. long: inflorescence elongated, 2.5 dm., very dense: bracts narrowly lanceolate, acuminate, 1 cm. long, 1.5 mm. wide, early deciduous, slightly exerted beyond the flower buds: pedicels rather slender, 8 mm. long, densely silky sericeous with drab hairs as is also the calyx: calyx lips nearly equal, the upper 8 mm. long, 5 mm. wide when spread out, the apex 2 mm. across, notched; lower lip lanceolate, 9 mm. long, 5 mm. wide at the base, apex entire, narrow and keel-like in nature: flowers brown-red, 13 mm. long, 21 mm. deep, distance between apices of banner and wings 6 mm.; banner with sides turned back, meeting and inrolled, the whole broadly obovate when spread out, 11 mm. across, the face narrow, not over 2 mm. with a shallow and narrow groove 6 mm. long, the base deeply concave ventrally; wings oblong, broadest above the middle, 9 mm., thence gradually curved to the broad rounded apex, 6 mm. wide at base, the dorsal edges closed only near the apex, exposing the keel for nearly its whole length; keel glabrous, strongly falcate, the acute purple tip exerted about 1 mm., 6 mm. deep at the middle: pods and seeds not seen.

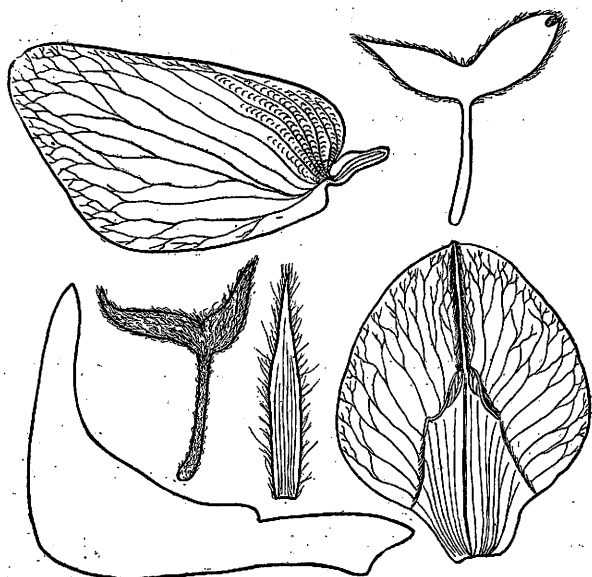


Figure 15. Floral parts of *Lupinus pallidipes*, enlarged.

The type, in the herbarium of the Nevada Agricultural Experiment Station, is *Heller 10041*, collected May 18, 1910, at Eugene, Lane county, Oregon, in moist grassy places along the railroad just south of the town, and only a short distance from the bank where *L. oreganus* was obtained.

This peculiarly colored species was noticed from the car window at several places south of Eugene, always in wet or damp situations. The color of the flowers is most unusual, and may perhaps best be designated as livid red, if such an expression is permissible. When dry, at least in my specimens, this color changes to light brown.

While the species is perhaps local, it may have found its way into some collections under the name of *L. polyphyllus*. It differs first of all from that species in the color of the flowers (*L. polyphyllus* having violet-blue flowers) which are closer, less inclined to be whorled, in the stouter, very sericeous pedicels, the larger calyx with a narrower lower lip and less deeply notched upper one; a banner longer than broad; narrower wings,

and a larger, glabrous, more falcate keel, with a longer, more acuminate apex. Several of the plants collected show larger leaves than the type, being 13 cm. long and 3 cm. wide.

**Lupinus Pipersmithii** n. sp.

Annual (§ *Micranthi*) somewhat pubescent below with white hairs, densely so above, especially in the inflorescence: branches several from the base, 4 dm. high, straw colored, rather prominently ridged: petioles slender, about 5 cm. long or the uppermost somewhat shorter; leaflets about 8, 2 cm. long, 2 mm. wide above, gradually tapering to the base, the apex slightly narrowed and acutish, sparingly appressed pubescent above, more so beneath, light green in color: stipules subulate, green, 6 or 7 mm. long: peduncles 5 cm. long or less, the inflorescence about the same length: flowers in three or four whorls, the internodes except the uppermost longer than the flowers: bracts subulate,

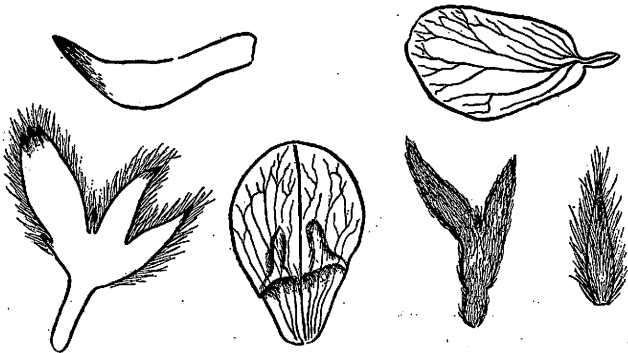


Figure 16. Floral parts of *Lupinus Pipersmithii*, enlarged 4 mm. long, caducous: mature pedicels 4 mm. long, slender, villous with short white hairs: calyx white villous but the green showing underneath; upper lip 4 mm. long, parted for nearly 3 mm., the lobes lanceolate with a broad V-shaped sinus, the whole broadly ovate when spread out, 4 mm. wide at base; the lower lip oblong, 5 mm. long, 2 mm. wide, 3-toothed at the apex: corollas bright violet blue, 7 mm. long, 5 mm. deep, distance between apices of banner and wings less than 2 mm.; banner appearing as if shorter than the wings, the edges turned