

*Lupinus sparsiflorus* Benth., COULTER'S LUPINE. Annual, taprooted, rosetted, several-stemmed at base, with spreading to ascending lateral branches, erect, 20–60 cm tall; shoots strigose to short-strigose and hirsute or pilose, the hirsute hairs  $\pm$  spreading, swollen and becoming reddish at base (pustulate); taproot strongly nodulated; cotyledons petiolate and sometimes evident. **Stems:**  $\pm$  cylindrical, to 4.5 mm diameter, green to reddish; solid. **Leaves:** helically alternate, palmately compound with 6–10(–11) leaflets, petiolate without pulvinus, with stipules; stipules 2, attached to petiole near base, ascending, linear to narrowly triangular, 3.5–8  $\times$  0.5–1 mm, reddish, with long hairs; petiole cylindrical and shallowly channel at base, 20–90 mm long,  $>$  blade, strigose and hirsute; petiolules 0.5–1.3 mm long, pale green; blades of leaflets linear to oblanceolate, 5–30  $\times$  1.5–5.6 mm, central leaflet not noticeably larger than adjacent leaflets, somewhat folded upward from midrib, tapered at base, entire, acute at tip, midrib only distinct on lower surface, dull, hirsute. **Inflorescence:** raceme, terminal on primary shoots, 30–300 mm long, 30–70-flowered, with flowers in clusters of 4–6 but not strongly pseudowhorled, bracteate, pubescent; peduncle cylindrical, 15–80 mm long, solid; bractlet subtending pedicel narrowly linear, 6–7.5 mm long, green becoming purplish red, abscising from persistent base, base becoming part of swollen pedicel in developing fruit; pedicel 2–4.5 mm long increasing in fruit. **Flower:** bisexual, bilateral, pealike (papilionaceous), 6–12.5 mm across; **nectary** nectar-producing receptacle below ovary, diffuse,  $\pm$  circular region between base of filaments and pistil; **calyx** 2-lipped, 3-lobed, 4.5–6.5 mm long, purple and green, strigose; tube bell-shaped, 1.5–1.7  $\times$  2.2 mm; upper lip 2-lobed, lobes triangular, 1.5–5 mm long; lower lip triangular, 3–6 mm long, minutely 3-toothed or sometimes with middle tooth the largest; sometimes with a pair of purplish, lateral appendages near base and below sinus, to 0.3 mm long, tipped purplish red; **petals** 5; banner broadly obovate to  $\pm$  heart-shaped, 8.5–12.5 mm,  $\pm$  lacking claw, initially folded but at anthesis bent upward ca. 45° at midpoint and with upwardly curved, back-inrolled margins forming a pair of longitudinal ridges along midfurrow, strong purple at margins grading to light purple or reddish purple and then whitish centrally (whitish center often not exposed), spotted with deep maroon-purple between central and peripheral area; wings 2, weakly fused on outer margin (hiding part of keel) aging free, asymmetrically short-clawed, claws 1.5–2.4 mm long, white, limbs obovate to  $\pm$  oblong, 9–11.5  $\times$  4–6.5 mm (claw not included), strong purple or violet, paler approaching base, conspicuously veined; keel of 2 petals partially fused on lower edge, clawed, 9.3–10.5 mm long (including whitish claws 2.2–2.5 mm long), limbs deep purple along lower fused edge to tip, deep reddish purple in middle, white on inner edge of tip and base above claw, densely ciliate with short, crisped hairs on upper margin above claw and along lower margin above claw; **stamens** 10, monadelphous (10 filaments fused into column), fused to base of banner; filament column  $\pm$  5.5 mm long, white, tapering, filament free portions alternatively long and short, 2.5–6.5 mm long increasing 2 $\times$  after anthesis (long stamens), white; anthers basifixed, dithecal,  $\pm$  0.5 mm long (long stamens) and 0.8–1 mm long (short stamens), dark orange-yellow, longitudinally dehiscent first with short stamens while in bud; pollen orange-yellow, copious, sticky; **pistil** 1, to 14 mm long; ovary superior, oblong compressed side-to-side, ca. 5  $\times$  1 mm, green, pubescent to strigose with whitish to light green, upward-pointing hairs, 1-chambered with ca. 10 ovules attached to upper side; style strongly curved, whitish, with hairs just below stigma

asymmetrically longer on 1 side; stigma dome-shaped, minutely papillate. **Fruit:** pod (legume), dehiscent by 2 valves separating lengthwise and twisting, typically 3–7-seeded, linear-oblong, 15–20 × 4.6–5.2 mm, long-hairy. **Seed:** ovoid, ca. 3 × 2 mm, dull, mottled brown and tan. Late January–late April.

Native. Annual in open areas of coastal sage scrub and chaparral in the western half of the range. *Lupinus sparsiflorus* has been treated as having varieties or subspecies, but if recognized our materials mostly fit subsp. *sparsiflorus*. This species is long-hairy, and the central leaflet is not different in size from the adjacent ones.

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