

*Lupinus* L. LUPINE

*Lupinus latifolius* J. Agardh, BROAD-LEAVED LUPINE. Perennial herb, taprooted with caudex, 1–several-stemmed at base, principal axes mostly erect, in range with inflorescences 90–150(–180) cm tall; shoots with only cauline leaves, short-strigose, especially with dense hairs on very young growth; caudex ca. 20 mm below ground, to 25 mm across; taproot to 15 mm diameter and tough, young roots nodulated. **Stems:** cylindric, in range to 10 mm diameter (ground level), stiff and not fleshy, surface somewhat glossy and short-strigose; in range hollow. **Leaves:** helically alternate, palmately compound with (6–)7–9(–10) subsessile leaflets, to 250 mm wide, long-petiolate, with stipules; stipules 2, attached to petiole at base, acuminate to linear, 1.2–9 × 0.5–0.8 mm, becoming reddish, conspicuously hairy, free portion eventually abscising completely or partially; petiole cylindric above stipules, 100–200 mm long (scaling with leaf size), pilose to glabrous but short-pubescent at base; petiolules erect in a ring, short, thick, green, sparsely strigose; blades of leaflets oblanceolate (elliptic-oblong), (23–)36–130 × (8–)11–28 mm, ± equal but basal pair of leaflets smaller, thin and easily wilting, long-tapered and channeled at base, entire, obtuse and short-notched to broadly acute with short point (apiculate) at tip, pinnately veined with midrib slightly sunken on upper surface and raised on lower surface, upper surface dark green, becoming glabrate on mature leaf, lower surface sparsely short-strigose with hairs pointing toward tip. **Inflorescence:** raceme, terminal on major shoots, with rachis to 580 mm long, many-flowered with flowers alternate to having pseudowhorls, pseudowhorls mostly with 4–5 flowers, bracteate, short-strigose; peduncle 120–220 mm long, ≤ rachis, rachis ridged, each ridge descending from bractlet, in range densely short-strigose; bractlet subtending petiole keeled, awl-shaped to linear, free portion 6–8 mm long, > pedicel, green, strigose, abscising prior to anthesis and base fused to petiole; pedicel spreading to ascending, 1.5–7 mm long not increasing in fruit, purplish or green. **Flower:** bisexual, bilateral and pealike (papilionaceous), ca. 10 mm across, in range (10–)12–14 mm long; **calyx** 2-lipped, 6.5–10.2 mm long, densely short-strigose externally and internally, green or lips tinged purple above midpoint; tube cup-shaped compressed side-to-side, 2.2–2.5 mm long; upper lip appressed to humped center of banner, acute to 2-toothed and strongly cupped, 4.5–5.2 mm long, with 2 principal veins, folded at tip, notch ca. 0.7 mm long; lower lip initially appressed to corolla later often reflexed, acute to 3-toothed, 5.5–8 mm long, somewhat keeled; appendages 2, ascending at sinuses, lanceolate, to 0.4 mm long, purplish and hairy, often persistent; **petals** 5, not appearing inflated and keel observed beneath wings; banner lacking claw, initially spreading and horizontal but older flower becoming ascending with thinner halves flexed backward, roundish, 10–16 × 9–15.5 mm, pale violet centrally and generally with a few dark violet dashes on each side of midvein, glabrous; wings 2, clawed, hatchet-shaped, 13–15 × 7.5–8.2 mm, claw ca. 2 mm long, whitish and greenish, limbs fused along outer margin thereby hiding tip of keel, with a short lobe from upper edge; keel of 2 partially fused petals on lower edge from midpoint to tip and at tip on upper side forming fingerlike tip, ca. 11 mm long, clawed, claw relatively narrow, ca. 2 mm long, white to pale green, limb 4.5 mm wide, curved upward and backward to 130°, lavender and red with yellow tip, ciliate on upper margins from base to midpoint and glabrous above; **stamens** 10, monadelphous (10 filaments fused); filament column ± 6 mm long, pale

orange aging greenish, free filament portions alternating long and shorter, 3–6 mm long, glabrous; anthers basifixed, dithecal, ca.  $0.8 \times 0.6$  mm (long stamens) and 2.2–2.5 mm long and dehiscent in bud (short stamens), orange, longitudinally dehiscent; pollen orange; **pistil** 1, ca. 15 mm long; ovary superior, lanceoloid compressed side-to-side, ca. 4 mm long, green, pubescent with colorless, upward-pointing hairs, 1-chambered with 6–10 ovules attached to upper side; style arched, ca. 11 mm long, green, with an asymmetric ring of stiff hairs just below stigma; stigma  $\pm$  conic, papillate. **Fruit:** pod (legume), dehiscent by 2 valves twisting ca.  $480^\circ$ ,  $\pm$  oblong, (3–)6–8-seeded, (20–)30–45  $\times$  8–11  $\times$  4–5 mm + with glabrous, obtuse to acute at tip having a persistent beak to 3 mm long and sometimes remainder of upward-curved style, brown, bulging at mature seeds, densely hairy. **Seed:** broad-elliptic compressed side-to-side with projection beside a deep hilum, 4.2–5  $\times$  3.2–4  $\times$  2.2–3 mm, dull to patchy-glossy brown mottled dark brown often a face with a dark diagonal line of dots. Early March–late July.

Native. Perennial herb found in canyons mostly adjacent to southern oak woodland. *Lupinus latifolius* is a highly variable species within California, and numerous varieties have been recognized. Vaughn and Dunn (1977) listed only var. *parishii* from within range and var. *latifolius* from western Ventura County outside the range. Other records suggest that both varieties could occur within SMM. However, specimens examined within range do not cleanly fit either variety, and our populations have some characteristics of var. *parishii* (mostly vegetative and inflorescence features) and other characteristics of var. *latifolius* (mostly floral features). Therefore, no varietal distinction is recognized in this treatment.

B. A. Prigge & A. C. Gibson