

Lupinus longifolius (S. Watson) Abrams, BUSH LUPINE, LONGLEAF BUSH LUPINE, WATSON'S BUSH LUPINE. Shrub or subshrub (becoming woody after several years), with spreading to ascending herbaceous branches, during flowering forming new axillary shoots with tufts of leaves at each node, producing long, arching inflorescences, with inflorescences 50–215 cm tall; shoots with leaflets folded when initially expanding or water stressed, silvery and velveteen sericeous or foliage aging ± green with scattered ascending to spreading hairs; roots nodulated. **Stems:** initially faintly ridged becoming cylindrical, with ridges descending from each leaf, new growth moderately white-sericeous to grayish; hollow. **Leaves:** helically alternate, palmately-compound with (5–)7–9(–11) leaflets, petiolate without pulvinus, with stipules; stipules 2, partially attached to base of petiole and clasping internode, stiff winglike, basal portion (2.5–)4–7 mm long, thick, free portion narrowly triangular to acuminate, 4–7 mm long, moderately white-sericeous; petiole ± hemi-cylindric above stipule wings to cylindrical approaching blade, 10–115 mm long, > blade and scaling with leaflets, pale green to ± silvery, sparsely to densely sericeous; petiolules pulvinuslike, 1.2–2 mm long, greenish white: blades of leaflets oblanceolate to narrowly obovate or elliptic, (15–)20–77 × (4–)5–23 mm, terminal leaflet the longest and basal leaflet pair the shortest, long-tapered and strongly folded upward at base, entire, rounded to obtuse or acute at tip with midrib terminating in a short point, pinnately veined with midrib conspicuously sunken on upper surface and strongly raised and pale green on lower surface, soft-hairy with appressed hairs denser on lower surface. **Inflorescence:** raceme, terminal on spring shoots, > 60-flowered, flowers often in pseudowhorls of 4–7 or sometimes unevenly alternate, bracteate, sericeous; peduncle 25–440 mm long, greenish, sericeous and with some long, spreading hairs; rachis 70–480 mm long, mostly with upper pseudowhorls spaced 5–10 mm apart and with flowers more nearly whorled, lower pseudowhorls more openly spaced (to 50 mm apart) and with flowers helically arranged or variously spaced, low-ridged, with a ridge descending from each bractlet, green but ridges sometimes reddish, hairy like peduncle but hairs shorter and slightly more spreading; bractlet subtending flower lanceolate to awl-shaped, 5–6.7 mm long, keeled, densely sericeous and silvery white, early-deciduous leaving a persistent, truncated, shelflike base; pedicel 3–6.2 mm long increasing in fruit, purple-tinged, densely short-hirsute to short-villous with widely ascending hairs. **Flower:** bisexual, bilateral, papilionaceous, 6–13 mm wide, 12–20 mm tall, strongly fragrant; **nectary** diffuse at base of filaments and pistil; **calyx** 2-lipped, greenish with purplish red tinge at base and along veins, with a deciduous appendage on each side between lips; tube cup-shaped slightly compressed side-to-side, ca. 2 mm long, 2.5–3.7 mm wide, ± pubescent like pedicel, appendaged at sinuses of lips; upper lip appressed to banner, broadly ovate to obovate and cupped, 4–7.5 mm long, 3–3.5 mm high, sericeous, 2-toothed or not at tip, the teeth 0.6–2 mm long; lower lip triangular to triangular-ovate or lanceolate, 5–9 × 4 mm, sericeous, acute at tip, 3-veined with midvein ± raised; appendages ascending, lanceolate, 0.7–2.5 mm long, greenish, hairy, easily detached in bud or during flowering; **petals** 5, sometimes appearing inflated with cupped wings mostly concealing keel and sometimes banner loosely enveloping wings; banner broadly ovate to roundish (when flattened), 12–15 × 9.5–16 mm, from midpoint ascending with sides reflexed upward or curved downward (loosely enveloping wings), purplish pink to purplish red or light to dark purple or violet (rarely white), glabrous but sometimes with several hairs on lower (back) surface

near tip, having a narrow midfurrow base-to-tip or nearly so (deeper basally) and white to light yellow or bright yellow and sometimes with purplish dots in center, short-toothed at rounded tip; wings 2, partially fused on lower margin or sometimes splitting apart with limbs curving up and spreading, clawed, semi-ovate, 13.3–16 × 6–6.5 mm, claws ca. 2 mm long, limbs rounded at base below claw and round-angled ($\pm 80^\circ$) above claw, pale to deep purple or violet and fading toward base, convexly curved on lower margin, rounded at tip, \pm straight on upper margin, 11–12-veined, glabrous; keel of 2 petals fused on lower edge from midpoint to tip, clawed, 12–16 mm long (base of claw to tip, claws ca. 3 mm long), mostly pale yellow but dark red to light or dark reddish purple near tip and light yellow at very tip (terminal 0.3 mm) and sometimes light yellow on narrow upper margin, rounded to \pm tapered on lower edge at base, tapered or round-angled ca. 90° on upper edge at base, narrowly acute at tip, ca. 8-veins/wing, ciliate on upper margin from angle to within 2 mm of tip, with longer hairs above midpoint and shorter ones below midpoint; **stamens** 10, monadelphous (10 filaments fused); filament tube 5–7 mm long, free portions 6–9 mm long alternately long and short, light green to whitish or light orange; anthers basifixed, dithecal, ca. 0.2–0.45 mm long (long filaments) and ca. 1 mm long (short filaments), orange, longitudinally dehiscent; pollen orange-yellow; **pistil** 1, 14–16 mm long; ovary superior, lanceoloid compressed side-to-side, 7–9 × 1.8–2 mm, green, densely short-sericeous, 1-chambered with 6–7(–8) ovules attached to upper side; style 8–10 mm long, arched upward 90° , green, glabrous, with a slightly oblique ring of hairs just below stigma, hairs whitish, 0.1–0.35 mm long with the longest hairs on inner side; stigma slightly domed or \pm conic, yellowish green, minutely papillate, barely exerted beyond tip of keel. **Fruit:** pod (legume), 5–6(–8)-seeded \pm oblong to ovoid or lanceoloid to oblanceoloid, (15–)25–50 × 8.5–11 × 6–6.5 mm, obtuse to acute with persistent beak (style) at tip, bulged outward on sides by maturing seeds, sericeous with hairs mostly pointing toward fruit tip; beak to 3 mm long or sometimes longer with remainder of upward-curved style, glabrous. **Seed:** broadly elliptic to ovoid or kidney-shaped to \pm bricklike, 4–5.5 × 3–4.5 × 2.2–3 mm, rounded on angles and edges, convex to \pm broadly conic on sides, \pm pointed at base (from radicle tip) and beside sunken hilum, yellowish tan, yellowish tan with brown mottling, olive green with black mottling, dark brown with whitish mottling, or black, sometimes with a dark, arching-diagonal line of dots from base (near hilum but on opposite side of point) toward edge with radicle. Late February–late July.

Native. Shrub occurring in typical chaparral and coastal sage scrub, where can become more than two meters tall while flowering, and well-established plants have thick woody branches. *Lupinus longifolius* is the name often used for any perennial growing in range, because the technical differences are not easily understood, and *L. longifolius* in flower can be highly variable along a single hiking trail.

B. A. Prigge & A. C. Gibson