

Lathyrus latifolius L., PERENNIAL SWEET PEA. Perennial herbaceous vine, spring active and becoming dormant during summer drought, tendril-bearing, woody taprooted, many-stemmed at base, forming lateral branches from most nodes, sprawling and climbing over other plants; shoots with leaflike, green-winged axes, every leaf tendrilar, glabrous and typically lacking glandular hairs, glaucous; tendrils = modified leaflets, 1–7 per leaf, typically paired along leaf rachis (= lateral leaflets) or in 3's (= 2 lateral leaflets + terminal leaflet), cylindric, 25–65 mm long, at maturity to 1 mm diameter; taproot to 30 mm diameter, with thick bark, young roots nodulated. **Stems:** ridged-angled top and bottom and with 2 conspicuous, green (photosynthetic) wings per internode, somewhat zigzagged, internodes 40–90 mm long, glaucous, each wing 1–3 mm wide and decurrent from a stipule, winged stems to 11 mm wide, each ridge descending from leaf, stems emerging from soil lacking wings and only finely 2-ridged; large stems hollow. **Leaves:** helically alternate, odd-1-pinnately compound typically with only a basal pair of lateral leaflets (rarely 3 leaflets) and other leaflets replaced by tendrils, petiolate without pulvinus, with stipules; stipules 2, attached to base of petiole at node, asymmetric with 1(–2) shorter lobe diverging backwards or to the side (on small, lower leaves sometimes with a third, minor, linear lobe at its base to 3 mm long), ascending lobe acuminate-lanceolate, 10–36 mm long, green; petiole flattened and winglike with raised midvein on lower side, 19–52 × 4–10 mm, with scattered minute teeth on margins, glaucous; petiolule = pulvinus, arising from upper side of petiole, 1–3 mm long and wide; blades of leaflets oblanceolate to elliptic, 30–90 × 9–31 mm, tapered at base and often cupped from stout pulvinus, appearing entire but with minute teeth on margins, rounded to truncate with fine point at tip, palmately veined with 5, 7, or 9 veins arising at base and principal veins somewhat raised on upper surface and raised on lower surface, dull, not conspicuously glaucous; rachis above leaflets ± cylindric and narrow, giving rise to tendrils, to 65 mm long, the first internode the longest and decreasing upward, lateral tendrils arising on upper side of rachis, not glaucous. **Inflorescence:** raceme, axillary typically from successive nodes once flowering begins, (4–)9–13-flowered, flowers helically alternate, bracteate, glabrous; peduncle to 150 mm long, > tendril-bearing leaf, low 6-ridged especially above midpoint, green or tinged red-purple; rachis ± cylindric, to 70 mm long; bractlet subtending pedicel with flaring base, linear, 2.5–4.2 mm long; pedicel ascending, not straight and often sigmoidal, cylindric, at anthesis and in fruit 9–13 mm long, often tinged red-purple, glaucous, abscising without raised base. **Flower:** bisexual, bilateral, pealike (papilionaceous), 21–34 mm across, lacking fragrance; **nectary** nectar-producing receptacle below ovary; **calyx** 5-lobed, glossy green and tinged red-purple; tube bell-shaped, 5–6 mm long, spreading to slightly recurved, inconspicuously 10-veined with veins to lobes and sinuses but lacking raised ribs, glabrous; lobes heteromorphic, upper 2 lobes (next to banner) acute-triangular, 2–2.5 mm long, other lobes acuminate and ca. 5 mm long (lateral lobes) and ca. 6 mm long (lower lobe), with minute glandular hairs on margins and internally; **petals** 5, corolla basically 1-colored with wings somewhat darker, in range typically dark to intermediate reddish purple (all white), strongly veined on banner; banner often spreading and at some stage arched backward, broadly obovate with a stiff, flaring, thick base and kidney-shaped limb, base ca. 7 mm long and greenish white, limb 21–25 × ca. 15 and mostly red-purple with dark purple veins radiating from whitish central patch; wings 2, obovate with uneven surface, clawed, claw flat, 4–4.5 mm long,

greenish, somewhat glossy, with a \pm conspicuous midvein, limbs to 23 mm long, similar color as banner (somewhat darker), paler above claw, at base with a backward-pointing and infolded (invaginated) lobe 3.5–4 mm long; keel of 2 petals fused from top of claw to tip along lower edge, deeply hatchet-shaped, \pm 15 mm long, claws ca. 4.5 mm long, limbs of keel at base with a pair of backward-pointing, light reddish purple with white approaching tip lobes 2.5–3 mm long locked with wings, upper margins papillate; **stamens** 10, diadelphous (9 filaments fused and 1 free); filament sheet \pm 10 mm long, whitish, filament free portions arched conforming to shape of keel, 7.5–8.7 mm long alternating long and shorter, pale orange, glabrous; anthers basifixed, dithecal, dimorphic, alternating 1.1–1.4 mm long (longer stamens) and 0.9–1.1 mm long (short stamens), orange, longitudinally dehiscent; pollen light orange, sticky and clumping; **pistil** 1, with stigma touching anthers; ovary superior, oblong, ca. 10 \times 1.2 mm long, green, glabrous, 1-chambered with \pm 20 ovules attached to upper side; style bent sharply upward from ovary, paler green, glabrous at base, vertical portion compressed front-to-back and narrowly club-shaped approaching tip, 7.5–9 mm long, twisted slightly so the upper, flattish, and short-villous face and the lower glabrous face are turned sideways; stigmatic on villous surface. **Fruit:** legume, dehiscent by 2 twisting valves, linear, 70–90 \times 6–7 mm, tannish, slightly curved on upper edge, glabrous and when immature with scattered, inconspicuous glandular hairs; valves spreading 45–95°, with 1 1/2–3 coils, when coiled 55–85 mm long. **Seed:** subspheroid to barrel-shaped, 3.5–5 \times 3.5–4 mm, dull light brown to grayish green with or without scattered dark purple specks, low-wrinkled; hilum linear, 3–4 mm long along raphe. Early May–mid-August.

Naturalized. Perennial vine known along one hiking trail at SMMNRA Paramount Ranch growing as a dense patch in grassland near chaparral and oak woodland. *Lathyrus latifolius* is a glabrous plant that overall resembles *L. odoratus*, but *L. latifolius* is perennial generally with smaller leaflets and fewer and shorter tendrils. In flower there is no mistaking the perennial *L. latifolius* because its racemes have about a dozen dark reddish purple flowers that have no fragrance, whereas the annual never has more than four, strongly scented flowers per raceme.
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