

Vascular Plants of Williamson County

Lathyrus hirsutus – ROUGH PEA, SINGLETON PEA [Fabaceae]

Lathyrus hirsutus L., ROUGH PEA, SINGLETON PEA. Annual vine, tendril-bearing, taprooted, several-stemmed at base, forming lateral branches from most nodes, sprawling to ascending and climbing over other plants; shoots with leaflike, green-winged axes, every leaf tendrillar, in range appearing glabrous with sparse, inconspicuous fine hairs having swollen base (pustulate), lacking glandular hairs; tendrils = modified leaflets, 1 or 3 per leaf, if 3 paired = 2 lateral leaflets + terminal leaflet, cylindrical, < 20–30 mm long, at maturity to 0.6 mm diameter, when unbranched to 22 mm long, when 3-forked lower and upper portions to 15 mm long; young roots nodulated. **Stems:** ridged-angled top and bottom and with 2 green (photosynthetic) wings per internode, somewhat zigzagged, internodes < 20–70 mm long, each wing 2–3.5 mm wide and decurrent from a stipule, leafy tissue sometimes glaucous, winged stems to 5–9 mm wide, each ridge descending from leaf, stems emerging from soil lacking wings and only finely 2-ridged. **Leaves:** helically alternate, odd-1-pinnately compound, appearing pinnately bifoliolate typically with only a basal pair of lateral leaflets and other leaflet or leaflets replaced by tendrils, petiolate without pulvinus, with stipules; stipules 2, attached to base of petiole at node, asymmetric with 1 slender lobe backward-pointing at base, principal blade ascending lanceolate, 4–8 × 1.2–2 mm, green, with inconspicuous hairs, 3-veined raised on lower surface, basal lobe acuminate, 1.5–3 mm long; petiole channeled without wings, 5–15 mm long; petiolule = pulvinus, arising from upper side of petiole, 1 mm long and < 1 mm wide, greenish, mostly glabrous; blades of leaflets oblong to narrowly elliptic, 40–90 × 7–10 mm, tapered at base and slightly cupped from stout pulvinus, entire, acute at tip, palmately veined with 3 or 5 veins arising at base and principal veins somewhat raised on lower surface, dull, not glaucous; rachis above leaflets = tendrils. **Inflorescence:** raceme, axillary typically from successive nodes once flowering begins, 1–3-flowered, flowers helically alternate, bracteate, sparsely pubescent with slender hairs having enlarged bases; peduncle ascending, straight, 4-sided, at anthesis to 28 × 0.6–0.65 mm and < leaf increasing to 90 mm long and often > tendril-bearing leaf in fruit, tough, green, glabrous; rachis cylindrical; bractlet subtending pedicel somewhat sheathing pedicel base, awl-shaped, ca. 1 mm long, green, with several long hairs, opposite the bractlet a linear bracteole to 1 mm long; pedicel cylindrical, at anthesis ca. 5 × 0.4–0.45 mm increasing 2× in fruit, pale green sometimes minutely speckled reddish, with several long hairs. **Flower:** bisexual, bilateral, pealike (papilionaceous), 8.5–10 mm across, lacking fragrance; **nectary** nectar-producing receptacle below ovary, nectar copious collected within petals; **calyx** 5-lobed, 7.5–8 mm long, green and somewhat glaucous, sparsely hairy; tube funnel-shaped, 3.5–4 mm long, 10-veined with raised ridges to lobes and sinuses; lobes subequal, acuminate-ovate, 3.5–4 × 1.8–2.5 mm, inner surface with subsessile glandular hairs and some long nonglandular hairs; **petals** 5, glabrous; banner folded forward along midline and somewhat spreading, broadly obovate, ca. 13 × 11 mm, with a stiff, flaring, thick base and roundish limb, green at base with white to midpoint, above midpoint blue to bluish purple with dark purple nectar line radiating from whitish central patch; wings 2, ± 9 mm long, clawed, claw flat and curving, 2 × 0.8 mm, colorless with a greenish midvein, limb obovate, ca. 7 × 3.5 mm, color similar to or paler than banner and without conspicuous veins, at base with

backward-pointing lobe 0.5 mm long; keel of 2 petals fused from top of claw to tip along lower edge, deeply hatchet-shaped, ± 7 mm long, white, claws ca. 3 mm long, with greenish vein, limbs of keel ca. 4×3.5 mm, at base with a pair of backward-pointing lobes 0.5 mm long adherent to and locked with wings; **stamens** 10, diadelphous (9 filaments fused and 1 free); filament sheet ± 4.5 mm long, white, free filament flattened, filament free portions cylindric and arched conforming to shape of keel, subequal, 3.5–4 mm long, white, glabrous; anthers basifixed, dithecal, monomorphic, 0.5–0.6 mm long, dull orangish yellow, longitudinally dehiscent; pollen pale orange, sticky and clumping, released in bud; **pistil** 1, with stigma touching anthers, sessile; ovary superior, oblong, ca. 4×1.5 mm long, green, sericeous with pustulate hairs upward-pointing, 1-chambered with to 6 ovules attached to upper side; style bent sharply upward from ovary, white, vertical portion cobraheadlike, lower portion cylindric and green, upper portion obovate, 2×1.2 mm, white with green central axis, twisted slightly so the upper surface short-strigose and the lower surface glabrous turned sideways; stigmatic on surface with hairs. **Fruit:** legume, dehiscent by 2 twisting valves, 2–6-seeded, oblanceolate bulging at seeds, $25\text{--}40 \times 6.5\text{--}8.5 \times 5.5$ mm, tannish brown, straight on upper edge, conspicuously hirsute having uniformly spaced pustulate hairs with scattered subsessile glandular hairs. **Seed:** spheroid to subspheroid, in range $3.8\text{--}4.5 \times 3.7\text{--}4$ mm, dull dark brown, textured and \pm cobblestonelike; hilum slitlike in elliptic scar.

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