

Trifolium ciliolatum Benth., TREE CLOVER. Annual, taprooted, several-stemmed at base, branching at each node along principal shoot, ascending to erect, in range to 45 cm tall; shoots with only cauline leaves, glabrous; cotyledons 1-foliolate, long-petiolate; roots sometimes nodulated. **Stems:** cylindric, to 3 mm diameter, ± tough, often reddish. **Leaves:** helically alternate, palmately 3-foliolate, petiolate without pulvinus, with stipules; stipules 2, slightly sheathing stem at node and fused to petiole base wings for 3–14 mm, stipules in range 7–25 mm long, entire and narrowly membranous on margins, long-acuminate elliptic and bristlelike at tip, conspicuously veined; petiole 7–75 mm long; petiolules 0.5–1 mm long; blades of leaflets obovate to oblanceolate or elliptic, 10–37 × 4.7–11 mm, flat, tapered at base, short-serrate on margins with a short-ciliate-like tooth ending each lateral vein, rounded to slightly notched at tip, pinnately veined with midrib raised on lower surface, dull green, upper surface commonly with a conspicuous, reddish purple mark along midrib (including bases of lateral veins) and sometimes with a whitish to pale green Λ-mark (chevron) above midpoint. **Inflorescence:** headlike raceme, terminal, ± erect, ovoid to spheric, at anthesis 7–15(–20) mm across, 12–24-flowered typically in 3–4 whorls of (3–)7–8 flowers, with a sterile extension of the rachis beyond the terminal pedicels; peduncle 50–140 mm long in fruit; **involucre** subtending raceme absent, diminutive bractlets fused and resembling minute white teeth; bractlet subtending pedicel present, the bractlets in each whorl fused forming a cuplike sheath < 0.5 mm long, each bractlet truncate with 2–3 short teeth; pedicel at anthesis ascending to erect and 1–3 mm long soon reflexed and increasing 2× in fruit, upper side often purplish. **Flower:** bisexual, bilateral, pealike (papilionaceous), ± 2 mm across; **nectary** nectar-producing receptacle below ovary; **calyx** 5-lobed, 5–6.5 mm long, becoming purplish on upper side; tube bell-shaped compressed side-to-side, 1.2–1.5(–1.8) mm long, light green, 10-veined, glabrous; lobes unequal, long-acuminate with bristle tip, the sinus between upper 2 lobes 2.8–3.2 mm deep, other sinuses 3.5–4.5 mm deep, membranous and bristly short-ciliate on margins with broad-based flat hairs (appearing short-dentate when hairs break and only base remains), 1-veined or 2-veined; **petals** 5, whitish at base to pink to deep rose approaching tip; banner ascending, folded, spreading at anthesis, 6–8 mm long, with limb folded and slightly saclike at base; wings 2, claws 2.5–3.5 mm long, limbs 5–6.5 mm long, adherent to keel; keel of 2 petals partially fused on lower edge only near tip, 5.5–6 mm long, claws ca. 3 mm long; **stamens** 10, diadelphous (9 filaments fused and 1 free), 4.5–6 mm long; filament sheet 3.5–4.3 mm long, translucent-white, ± straight, filament free portions 1–1.5 mm long and upcurved approaching tip; anthers dorsifixed, dithecal, ± 0.3 mm long, yellow, longitudinally dehiscent; pollen yellow; **pistil** 1, 5–6 mm long, on a thick, green stalk (stipe) 0.5–0.7 mm long; ovary superior, oblong compressed side-to-side, 2–2.5 × 1–1.5 mm, green, glandular-hairy and sparsely nonglandular-hairy above midpoint, the glandular hairs club-shaped, 1-chambered with 1–2 ovules attached to upper side; style 3–3.5 mm long, translucent-white, flattened below stigma, hooked at tip; stigma terminal, ± 0.2 mm long and wide, yellowish green, 2-lobed, papillate. **Fruit:** pod (legume), indehiscent, included in persistent corolla, generally 1(–2)-seeded, glabrous. Late March–mid-May.

Native. Annual rarely observed in grassy patches of chaparral. *Trifolium ciliolatum* is a glabrous species with calyx lobes having short-ciliate margins, although there are also

hairs on the ovary above midpoint. Typically, the upper surface of the leaflet has a reddish purple streak along the midrib. Of the clover species in range, this is the only one in which the bractlets are fused subtending each inner whorl of pedicels, and the rachis of the raceme has a sterile extension above the terminal pedicels. Flowers are arranged in three or four distinct whorls. Probably because there is no involucre, the fruits often are somewhat reflexed.

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