

Orobanche L. BROOMRAPE

Orobanche vallicola (Jepson) Heckard, HILLSIDE BROOMRAPE, VALLEY BROOMRAPE. Parasitic perennial herb, lacking chlorophyllous, fleshy, either 1-stemmed or typically branched belowground to form several erect stems, in range 8–20 cm tall (aboveground); shoots to 30 cm long (partially or mostly subterranean), being essentially an inflorescence with cauline bracts (\approx leaves) and bractlets, densely glandular-hairy, the hairs with colorless stalks and yellowish amber heads; roots embedded in host root (haustorial) of perennial plants. **Stems:** cylindric, belowground \pm 25 mm diameter, brownish on subterranean portion, pale yellow or reddish tinged (reddish) on aerial portion. **Leaves:** helically alternate, simple and sessile = cauline bracts, appressed, scalelike and broadly triangular, 7–12 \times 7–17 mm, narrower approaching inflorescence, fleshy, brownish, obtuse at tip. **Inflorescence:** raceme, terminal, of 5–15+ helically alternate flowers, bracteate, densely glandular-hairy; bract subtending peduncle triangular, fleshy; peduncle 10–15 mm long, 3–5 mm diameter at base, with 1–3 narrowly triangular bracts; bractlet subtending pedicel narrowly triangular, 5–17 mm long, light yellow to purplish, entire (with several short teeth on margins), conspicuously glandular-hairy; pedicel erect, cylindric, in range 2–5 mm long, to 2 mm basal diameter, flesh-colored to light yellow or reddish, glandular-hairy; bracteoles subtending flower 2, opposite, linear, \pm 9 mm long, glandular-hairy. **Flower:** bisexual, bilateral, 7–9 mm across; receptacle inversely conic, \pm 2 mm long; **calyx** 2-lipped, 5-lobed, slightly bilateral with a deeper sinuses between upper and lower lips than between lobes, in range 8–15 mm long, yellowish to flesh-colored or yellowish rose, glandular-hairy; tube cup-shaped (continuous with receptacle), in range 2.5–3 \times 3.5–4 mm; lobes commonly spreading at anthesis, long-tapered awl-shaped or narrowly acute to truncate or 2-toothed at tip, 10–12 mm long, aging inrolled (revolute), venation obscure; **corolla** 2-lipped, to 25 mm long; tube + throat in range 17–19 mm long, slightly arched outward, slightly compressed side-to-side most of length but circular to compressed top-to-bottom at orifice, at ovary \pm 5 mm wide but narrower above ovary, at orifice \pm 3 mm wide, whitish to pale rose with reddish rose to purplish veins, longitudinally 2-ridged (palatal folds) on inside lower surface by inward folds of the tube, the ridges prominent and intruding throat to 1.5 mm, extending length of throat from above stamens to mouth of throat, \pm irregularly papillate; sinuses between lips 5–10 mm deep; lobes yellow, 3-veined, the veins darker pink or purplish (also throat), glandular-hairy, internally glabrous; upper lip 2-lobed, lobes erect to spreading, narrowly oblong or tongue-shaped to triangular or triangular-ovate, 3–4.5 wide, rounded to acute at tip, sinus between lobes \pm 2 mm deep; lower lip 3-lobed, lobes equal to subequal, oblong to lanceolate or narrowly triangular, in range 6.5–7 \times 3 mm, acute at tip; **stamens** 4, 2 fused to upper and 2 to lower side at base of corolla throat, lacking staminodes; filaments 8–10 mm long, the lower pair to 2 mm longer and arising at same level as or \pm 0.5 mm lower on tube than upper pair; anthers dorsifixed, dithecal, 1.3–1.7 mm long and wide, pale yellow, each sac \pm ovoid to obovoid, \pm straight on inner margin, asymmetrically and broadly acuminate at base, villous-tomentose on margins of dehiscence line, longitudinally dehiscent; pollen pale yellow; **pistil** 1, in range 12–14 mm long; ovary superior, ellipsoid-ovoid slightly compressed side-to-side, 5.5–6 \times 2.8–3.7 mm, 1-chambered with hundreds of ovules on 4 placentae; style in range 8–9 mm long, white or pale yellowish green except reddish at tip, glabrous; stigma

2-lipped and sometimes funnel-shaped or with sunken center, each lobe ovate to somewhat flattened becoming deltate as margins curve downward or become inrolled, 0.7–1.5 × 1.1–1.5 mm, minutely dentate or irregularly crenate on margins, short-acuminate at tip, papillate on surface. **Fruit:** capsule, loculicidal, 2-valved (weakly 4-valved), many-seeded (often > 300), ovoid-ellipsoid, in range 6.5–9.5 × 3.8–7 mm, light brown, slightly compressed ⊥ septum; calyx purplish in developing fruit aging brown, with 5 conspicuous, low ribs alternating with lesser ones on expanded tube, the lobes erect, to 4 mm long. **Seed:** ± ovoid, 0.4–0.7 × 0.3 mm, golden tan to golden brown, conspicuously netlike.

Native. Parasitic perennial herb growing on roots (root parasite) of *Sambucus nigra* var. *caerulea*, *Quercus agrifolia*, and *Baccharis douglasii*. *Orobanche vallicola* has been found in range only a few times, most recently at The Grotto on SMMNRA Circle X Ranch (SMM), does not emerge every year, and appears during summer when it is unlikely to be noticed.

B. A. Prigge & A. C. Gibson