

## *Quercus* L. OAK

*Quercus lobata* Née, VALLEY OAK, ROBLE. Tree, winter-deciduous, with 1 thick trunk, canopy rounded, somewhat open, breadth  $\geq$  height, main branches often spreading and crooked, in range 9–25+ m tall; monoecious; shoots with pliable but tough leaves, tomentose with short stellate hairs; bark of trunk to small branches deeply furrowed, dark gray, firmly attached. **Stems:** cylindric and densely stellate-tomentose on young growth, becoming glabrate with development of reddish brown to grayish periderm. **Leaves:** helically alternate, moderately to deeply pinnately lobed, lobes alternate or opposite and  $< 7$  per side, short-petiolate, with stipules; stipules 2, attached to base of petiole, spatulate or oblanceolate to acuminate-triangular or linear,  $2-5(-7) \times 0.7-2.3$  mm, tannish, membranous on margins near tip, villous, early-deciduous; petiole subcylindric, 5–12(–15) mm long, tomentose on young and old leaves; blade obovate or oblong (broadly elliptic),  $45-110(-140) \times 25-90(-110)$  mm, flat, becoming firm but not sclerophyllous, broadly tapered to truncate and sometimes oblique at base, lobes typically blunt to rounded at tips, principal sinuses rounded and incised  $1/3$  to  $2/3$  distance to midrib (3–20 mm), pinnately veined with principal veins raised on lower surface, short stellate-tomentose, lower surface dull pale green with silvery to tannish hairs, sometimes velveteen. **Staminate inflorescence:** catkin, several or more arising from winter buds in the lowest axils of new growth, interrupted = noticeable gaps between some flowers, pendent or spreading from axis where densely crowded, typically  $25-67 \times 4.5-6$  mm, (10–)13–18(–20)-flowered, flowers helically arranged, bracteate; bracts subtending peduncle cupped and broadly ovate to lanceolate,  $2-4 \times 1.3-3$  mm, stiff, chestnut to brownish orange, ciliate on margin near tip, strigose on lower surface, deciduous; peduncle 3–27 mm long; rachis flexible, silvery becoming tan stellate-tomentose. **Staminate flower:** radial but not clearly so, 3–3.5 mm across; **calyx** 4–6-lobed, fused at base; lobes spreading, acute-tapered to long-tapered triangular to lanceolate, oblanceolate, or linear,  $1.5-2(-2.5)$  mm long, greenish at base, light reddish brown at tip, with green midvein, hairy; **petals** absent; **stamens** 5–11, free; filaments ascending, 0.8–1.5 mm long, whitish; anthers basifixed, dithecal,  $1.1-1.5(-1.8) \times 1$  mm, bright yellow green to light yellow, curved toward center, longitudinally dehiscent; pollen light yellow, dry, windborne in clouds; **pistil** absent. **Pistillate inflorescence:** spike, axillary on leafy spring shoots several nodes above staminate catkins, 1–7-flowered, bracteate, densely tomentose; axis 10–30 mm long; each flower partially enclosed in an involucre (cupule) composed of numerous helically alternate and overlapping bracts, bracts lanceolate to ovate-deltate, 1–2 mm long, densely pubescent, green with reddish margins. **Pistillate flower:** 1.2–2 mm long,  $1/3-1/2$  surrounded by cupule, densely pubescent; **calyx** 6(–7)-lobed,  $< 1$  mm long, green or becoming reddish on margins; lobes unequal, rounded at tip; **petals** absent; **stamens** absent; **pistil** 1, = length of flower; ovary inferior, spheric, 3–4-chambered, each chamber with 2 ovules; styles 3(–4), ascending to slightly spreading, fused at base,  $\pm 2/3$  length of pistil, green; stigmas terminal,  $\pm$  kidney-shaped to 2-lobed, yellowish green aging dark red. **Fruit:** acorn (glans), maturing and deciduous in late summer; involucre covering basal  $1/3$  of fruit (= the widest fruit diameter), hemispheric, in range 18–27 mm wide, width  $>$  depth, rigid, pale brown, scales helically alternate, scales clearly bumpy (tuberculate) but with persistent, appressed scale tips, densely short-hairy on outer and inner surfaces; nut narrowly ovoid to lanceoloid, in

range 37–61 × 13–22 mm, dark brown (free on ground), acute to rounded and with point at tip, the basal scar circular, (7.5–)9–11 mm diameter, whitish, convex; shell glabrous inside. Late January–late April.

Native. A characteristic tree of native or disturbed grasslands, especially in or adjacent to the Simi Hills, e.g., at SMMNRA Cheeseboro-Palo Comado, where individuals are widely spaced, so that their canopies generally do not overlap. *Quercus lobata* is a type of deciduous white oak that has pinnately lobed leaves with rounded lobes and sinuses, so it is easily distinguished from other species of oaks in range. When valley oak is in bloom, its young leaves are velveteen. The distinctive, deeply furrowed bark is often punctuated by vertical series of holes, drilled by acorn woodpeckers to cache the acorns. The acorns are much longer and heavier than all other oaks in range.

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