

Vascular Plants of Williamson County

Quercus buckleyi – TEXAS RED OAK, SPANISH OAK, BUCKLEY'S OAK [Fagaceae]

Quercus buckleyi Nixon & Dorr., TEXAS RED OAK, SPANISH OAK, BUCKLEY'S OAK. Tree, winter-deciduous, 1-trunked, in range to 15 m tall; monoecious; shoots with only cauline leaves; bud scales tannish, densely short-ciliate, with appressed short hairs. **Stems:** with scattered small stellate hairs and minute glandular hairs; buds angular, bud scales with appressed hairs and densely short-ciliate on margins. **Leaves:** helically alternate, deeply pinnately lobed, petiolate, with stipules; stipules 2, scarious and slender, linear, 5–7 mm long, widely flared at base, 1-veined, pubescent, early-deciduous while leaf still growing; petiole subcylindric to hemicylindric (not channeled), (8–)20–48 mm long, initially purplish red and stellate-pubescent, aging glabrescent; blade broadly elliptic to obovate in outline, 55–120(–160+) × 50–125(–145) mm, lateral lobes subopposite, mostly 4–8 with rounded to U-shaped sinuses (to 5 mm from midrib), lateral lobe having 2–4 acute sublobes and teeth with bristlelike tips to 5 mm long, subtruncate at base, pinnately veined with principal veins raised on lower surface, initially densely stellate-tomentose, when fully mature young surfaces satiny, mature foliage with upper surface without hairs (reddish when formed), lower surface with tufts of whitish hairs in angles of principal veins with midrib. **Staminate inflorescence:** catkin (ament), spikelike (sometimes branched with short laterals), pendent and lax, < 40–65+ × 5–6 mm, 35+-flowered, flowers alternate but irregularly spaced, bracteate, soft-hairy; bract subtending peduncle awl-shaped, 1–1.5 mm long, light green, densely soft-hairy, early-deciduous; bract subtending peduncle before anthesis to 14 mm long, peduncle 7–12 mm long, light green, stellate-hairy; rachis ca. 0.5 mm diameter, flexible, stellate-hairy; pedicel ± 0.2 mm long, light green, with hairs. **Staminate flower:** radial, ca. 2 mm across; **calyx** shallowly 4–6-lobed, papery, and cup-shaped, ± 1.5 mm across, splitting downward, short-hairy above midpoint; **petals** absent; **stamens** (3–)4–6, free; filaments ascending, slender, 1–2.3 mm long, white aging pinkish; anthers dorsifixed, dithecal, exserted, 1.2–1.7 mm long, light yellow to greenish yellow + pigmented domed cells or blushed reddish, glabrous, longitudinally dehiscent; pollen greenish yellow; **nectary** absent; **pistil** absent. **Pistillate inflorescence:** spike, axillary on leafy spring shoots on successive nodes above staminate catkins, (1–)2(–3)-flowered, at anthesis each flower subtended by several bracts + numerous bract primordial, flowers sessile, bracteate; bract subtending peduncle slender; peduncle short, hairy; rachis absent (1-flowered) or very short and stout; **involucre** (cupule) bracts helically alternate, overlapping, deltate, 1.2–1.5 mm, short-ciliate, outer bracts deciduous and short-hairy. **Pistillate flower:** ± radial, ca. 1 mm across; **calyx** 5–6-lobed, free from ovary; tube ca. 1 mm long; lobes ovate to obovate, 0.4–0.7 mm long, greenish often reddish, short-ciliate margins and short-hairy; **petals** absent; **stamens** absent; **pistil** 1, 3–3.5 mm long; ovary inferior, ovoid, 3–4-chambered, each chamber with 2 ovules; styles 3–4, ascending, 1.7–1.9 mm long (partially hidden by calyx), green to yellow-green with flared reddish stigma. **Fruit:** acorn (glans), maturing and deciduous in second year; involucre (cup) covering ca. basal 1/3 of fruit (near the widest fruit diameter), shallow bowl-like, in range 5–10.5 × 10–21 mm, width > depth, rigid, brown and tan (hairs), scales tightly appressed, helically alternate, ± triangular, 2–4 mm long, ± flat (not bumpy or tuberculate), densely short-ciliate, with blunt acute tips sometimes damaged, outer surface

short-strigose with tan, upward-pointing hairs within glabrous brown boundary, inner surface of involucre with appressed straight hairs within 2.5 mm of nut scar; nut broadly elliptic (ovoid), in range (12–)15–21.5 × (10–)14–18.5 mm, brown, rounded with conic point at tip, the conic point sometimes pitted, the basal scar circular, in range mostly 7–8 mm, whitish, convex, appearing ciliate around edge (hairs from inner surface of involucre); shell of nut initially soft stellate-pubescent aging glabrescent, glabrous where hidden by involucre, inner surface of shell in range densely appressed-tomentose, shell 0.7–0.9 mm thick.

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