

Acer macrophyllum Pursh, BIG-LEAF MAPLE, BIGTOOTH MAPLE, CANYON MAPLE. Tree, winter-deciduous, in range to 20 m tall; appearing andromonoecious; shoots with milky sap when young; bark pale gray to reddish brown, rough with hard, scaly ridges. **Stems:** young stems stiff, straight with long internodes, green and often with bronze and red on sun-exposed surfaces; leaf scars narrow and V-shaped with pairs touching at nodes; dormant buds protected by ovate scales, inner bud scales hairy and narrowly spatulate to 3-lobed or 5-lobed with flattened petioles, when abscised leaving a condensed zone of circular scars on stem. **Leaves:** opposite decussate, palmately lobed, petiolate, without stipules; petiole cylindrical with crescent-shaped base, 45–170 mm long, pubescent or mostly glabrous except finely pubescent on edges at base and sparsely and linearly pilose below blade on upper side; blade mostly 5-lobed, 100–210 × 100–265 mm, cordate at base, ± sinusoidal to remotely toothed or sublobed on lobes, ciliate-pubescent on margins, palmately (3)5(7)-veined with principal veins slightly raised on upper surface and raised on lower surface, soft-pubescent but more densely so on lower surface, becoming glabrescent, upper surface dark green and ± shiny, lower surface villous-tomentose in axils of veins on lower surface, densely tomentose at junction of veins at base, with some minute glandular hairs. **Inflorescence:** panicle, racemelike but typically with some lateral shoots having several flowers, terminal on first shoots emerging in spring, drooping to pendent, 80–160 mm long, many-flowered, on each inflorescence flowers staminate + functionally pistillate (appearing bisexual), the staminate flowers typically scattered on the upper 1/3 of inflorescence, bracteate; rachis glabrous except white-pubescent to villous immediately below bractlet; bractlet subtending pedicel ± deltate, minute–1.7 mm, white villous-ciliate, deciduous; pedicel 6.5–13 mm long not increasing in fruit. **Staminate flower:** radial, ca. 5 mm across; **sepals** 5, free or 2 or more weakly fused at base and remaining fused at abscission, arising on receptacle at edge of nectary, ovate to round, 3.8–5 × 2.5–4.5 mm, yellow-green to pale green with greenish venation, broadly based, lobed when fused; **petals** 1–6, broadly spatulate-oval, 3.5–4.7 × 1.7–2.7 mm, green-yellow to pale green with greenish venation; **nectary disc** ringlike, ± 3 mm diameter, dark green; **stamens** 7–9, free, arising from top inside edge of nectary disc, exerted; filaments 4–5 mm long, white, with long hairs below midpoint; anthers attached near base of connective, dithecal, 1.3–2 mm long, light yellow, longitudinally dehiscent; pollen yellow; **pistil** superior, diminutive, ca. 1 mm, with aborted ovary, densely hirsute, 2-chambered but sterile; style erect, 2-branched, greenish. **Functionally pistillate flower:** **sepals** 5, free or 2 or more weakly fused at base and remaining fused at abscission, arising on receptacle at edge of nectary, ovate to round, 3.8–5 × 2.5–4.5 mm, yellow-green to pale green with greenish venation, broadly based, lobed when fused; **petals** 1–6, broadly spatulate-oval, 3.5–4.7 × 1.7–2.7 mm, green-yellow to pale green with greenish venation; **nectary disc** ringlike, ± 3 mm diameter, dark green; **stamens** 8, free, included, sterile; filaments < 4 mm long; anthers dithecal, full-sized or aborted, not dehiscent even during early fruit development; **pistil** 1; ovary superior, 2-lobed with 2 conspicuous, wine-red wings, ovary proper and lower wings densely covered with colorless, ascending to erect hairs, ovary 2-chambered, each chamber with 1 ovule; style ascending to spreading or coiled, included or exerted, 1.5–3.5 mm long, 2-branched at midpoint, the branches stigmatic on inner face, yellowish green becoming tinged with maroon, with dense glandular hairs. **Fruit:** schizocarp, of 2 dry, 1-seeded, winged, samaralike fruitlets (mericarps) attached at seed

chambers, brown to tannish, with scarious wings oriented downward and the pair appearing inverted V-shaped on pendent axes; mericarps 35–40 mm long; seed body roundish, 4.3–6.5 mm wide, densely hirsute with long, stiff, tannish to tawny brown hairs; wing semi-oblongate, 23–32 × 11–14 mm, glabrous except hirsute on straight edge near seed chamber, tannish, scarious, conspicuously veined on with veins diverging from thick vein along straight edge. Early March–late April.

Native. Deciduous tree locally common along streams in riparian woodland in steep-sided moist canyons (SMM). There is no voucher for *Acer macrophyllum* from SH. *Acer macrophyllum* has opposite decussate, palmately lobed leaves, and this tree cannot be confused with any other tree species in range, especially when the winged “samaras” are present. Big-leaved maple has staminate and functionally pistillate flowers (appearing bisexual) that can be wind pollinated, but presence of the nectary indicates that insect pollination also occurs.

B. A. Prigge & A. C. Gibson