

Phoradendron serotinum (Raf.) M. C. Johnst. subsp. *macrophyllum* (Engelm.) Kuijt, BIG-LEAF MISTLETOE, SYCAMORE MISTLETOE. Parasitic woody perennial, evergreen, forming attachment on host branch, with ascending to spreading and pendent shoots, to 200 cm long from woody base, canopy somewhat spheroid; dioecious; shoots with leathery green leaves, \pm short velvety pubescent with whitish hairs. **Stems:** cylindric, flexible when herbaceous, more rigid and not easily breaking at nodes when woody, internodes (20–)30–60 (–120) mm long, velvety pubescent or sometimes aging glabrescent. **Leaves:** opposite decussate, simple, petiolate, without stipules; petiole slightly flattened, oblong to elliptic in \times -section, 4–40 mm long, grading into blade, velvety pubescent; blade broadly elliptic to obovate or round, 30–75 \times 20–45 mm, not fleshy, ca. 0.5 mm thick, often \pm saddle-shaped (longitudinally concave and transversely convex), broadly tapered at base, entire, obtuse to rounded at tip, palmately veined with 3–7 principal veins slightly raised on lower surface, dull, soft velvety pubescent. **Inflorescences:** interrupted, unisexual “spikes,” spikes 1–2(–3) per leaf axil, ascending (central spike) or \perp stem (lateral spikes), of 3–6 internodes (segments) with the lowest segment sterile, segments green, tapered only at base where hidden by nodal bracts, densely short-hairy on all exposed parts, with flowers sunken in pits \pm 0.6 mm deep having a crownlike rim; bracts (cataphylls) opposite decussate at each node, reduced, fused into a collar around base of each segment, truncate (staminate) or broadly obtuse (pistillate). **Staminate inflorescence:** spike to 50 mm long, typically with 4–6 internodes (segments), each fertile portion barrel-shaped and at base of internode, mostly 6–8 \times 3.5–4.5 mm, with 20–35+ flowers. **Staminate flower:** polygonal in bud, sometimes 2 flowers fused, 0.9–1.5 mm wide (–1.8 mm for double flowers); **perianth** 3–4 segments (–6 in double flowers), pointed inward and not overlapping (valvate) in bud, slightly open at anthesis, broadly triangular, 0.5–0.7 \times 0.8–1 mm, fleshy, green, erect pubescent mostly on angles of outer surface; **stamens** 3–4 (–6 in double flowers), opposite and fused to base of perianth segment; filament absent (anther sessile); anther dithecal, \pm 0.3 mm long, light yellow, dehiscing by a terminal slit; pollen pale yellow; **pistil** 1, abortive; ovary inferior, broadly triangular- to quadrangular inversely conic, shallowly 3–4-ridged, dark green; style short, colorless. **Pistillate inflorescence:** spike to 35 mm long, increasing slightly in fruit, typically with 3–5 internodes (segments), with fertile portions subspheroid and in middle of internode, 2.5–3.5 \times 3.5–4.5 mm, mostly with 6–12 flowers. **Pistillate flower:** circular in bud, 1–1.3 mm wide at anthesis; **perianth** 3–4 segments, segments attached to rim of ovary, valvate in bud, \pm erect and slightly open at anthesis, broadly triangular, 0.4–0.5 \times 0.7–1.1 mm, fleshy, greenish yellow aging orangish and blushed red, mostly glabrous on outer surface but with a line of short hairs on angle formed by fusion with ovary; **stamens** absent; **pistil** 1; ovary inferior, broadly inversely conic, ca. 0.7 mm long at anthesis, 3-lobed, with lobes alternate with perianth segments, green, nectar-producing on top but not minutely cobblestonelike, 1-chambered with chamber filled with a fleshy, green, placentallike mass, with 2 undifferentiated, minute ovules at base; style conic, short, aging with red stigmatic surface. **Fruit:** berry, 1-seeded, subspheroid to broadly ellipsoid, 6–8 \times 5–6 mm, whitish or sometimes aging yellowish, glabrous; fruit wall (exocarp) \pm leathery; pulp gelatinous, very sticky when drying, colorless to pinkish and semitranslucent. **Seed:** compressed-ellipsoid to compressed-obovoid, 3.5–5 \times 2.5–3.5 mm + a pair of teeth at tip, bright green with slender, longitudinal, white strands extending from the base of the seed to 1 tooth or with white

membranous coat concealing most of the green seed; tooth narrowly acute, 0.7–1 mm long, whitish. Late December–mid-March.

Native. Perennial parasitic mistletoe common throughout the range, especially on western sycamore (*Platanus racemosa*) but also occurring on white alder (*Alnus rhombifolia*), western cottonwood (*Populus fremontii*), and red willow (*Salix laevigata*). When *P. racemosa* is leafless during winter, this parasite is especially easy to observe as a green, ball-like growth in the upper canopy. In California, *Phoradendron serotinum* subsp. *macrophyllum*, also known as *P. macrophyllum* or earlier as *P. tomentosum* subsp. *macrophyllum*, is also reported on other winter-deciduous trees and in the range should be anticipated on walnut (*Juglans*) and cottonwood (*Populus*). The sticky, gelatinous pulp adheres to the seed, which aids in bird transport and later adhesion of the seed to a host stem.

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