

Fraxinus uhdei (Wenzig) Lingelsh., SHAMEL ASH, EVERGREEN ASH. Tree, winter-deciduous, in range to 10 m tall (cultivated trees often 8–20+ m tall); dioecious; shoots initially with short hairs, some on leaves for a short time functioning as extrafloral nectaries; vegetative buds densely covered by scurfy, reddish brown, scaly hairs; bark thick, deeply furrowed, firmly attached (not flaking), dull gray with flat, scaly ridges. **Stems:** cylindric, internodes short–95 mm long, becoming glabrescent; twigs with scattered tan-gray, vertically aligned, \pm lens-shaped lenticels, leaf scars crescent-shaped to semicircular. **Leaves:** opposite decussate, odd-1-pinnately compound with 3–5 lateral pairs of leaflets spaced 20–60 mm apart, petiolate, without stipules; petiole channeled, to 90 mm long, pulvinuslike at base; rachis channeled, (40–)70–150 mm long, swollen at or just above each pair of petiolules, petiole and rachis puberulent; petiolules of lateral leaflets 3–10 mm long, winged-channeled, of terminal leaflet to 25 mm long, puberulent; blades of leaflets ovate or broadly ovate to elliptic, 45–185 \times 20–71 mm, lateral leaflets of pair often unequal but without any discernable pattern, tapered or \pm broadly tapered to rounded at base, low-serrate on margins, acute to acuminate at tip, pinnately veined with principal veins slightly sunken on upper surface and raised on lower surface, dull, with conspicuous minor vein network and principal veins not ending in teeth, when very young scurfy soon becoming glabrate, lower surface short-hirsute along midrib and often secondary veins. **Inflorescences:** dense panicle of racemelike cymes of unisexual flowers (pistillate flowers sometimes having stamens), axillary and branchlets paired at node, produced from dormant buds before or with new leaves near tips of winter twigs, with mostly opposite decussate (subopposite) lateral branching, at anthesis 30–70 mm long, many-flowered, staminate inflorescence abscising after pollination completed, pistillate inflorescence often increasing to 230 mm long in fruit, bracteate, glabrate with fragile short hairs and aging glabrescent; bracts at the lowest 1 or 2 nodes in pairs, expanded bud scales (cataphylls), cupped-oblong or cupped-obovate, 6–14 mm long, with reddish brown, scaly, fan-shaped to fingerlike hairs on lower surface, persisting during flowering; peduncle 0–9 mm long; axes cylindric, flexible, internodes initially < 5 mm long increasing 3–10 \times in fruit; bract subtending each lateral branch and branchlet (2 per node), lanceolate to acuminate, decreasing and narrower upward, light greenish yellow, with long hairs on margins above midpoint, early-deciduous; bractlet subtending pedicel diminutive and short-lived or absent; pedicel at anthesis 1–2.5 mm long, increasing in fruit, on pistillate flower with scattered, fragile, colorless hairs. **Staminate flower:** to 6 mm across when discharging pollen; without fragrance; **calyx** cuplike with 2–4 unequal teeth, 0.35–0.8 mm long, green, teeth triangular, with several hairs on margin or tips of teeth; **petals** absent; **stamens** 2–3, free; filaments ascending, 0–0.5 mm long, green or purplish red to rose; anthers basifixed, dithecal, plump-oblong to ovoid, 3–5.8 mm long, when immature green and rose having sacs aging yellowish, acuminate at tip, longitudinally dehiscent; pollen light yellow, dry, copious. **Pistillate flower:** **calyx** irregularly several-toothed, appressed to ovary, bell-shaped to urn-shaped, 0.6–1 mm long, green, jagged on margin and with several hairs; **petals** absent; **stamens** 0 or rarely 1–2 (if so, anthers commonly sterile), free; **pistil** 1, at anthesis 5–5.5 mm long; ovary superior, ovoid, \pm 1.5 mm long, green, 2-chambered, each chamber with 2 pendent ovules from top; style at anthesis 2.5–3.5 mm long, yellowish green, 2-branched approaching tip, the branches spreading, 0.5–0.7 mm long, short-papillate. **Fruit:** 1-seeded samara (“winged achene”),

pendent or arching downward on wiry axes that become brittle; samara narrowly oblanceolate, $30-42 \times 4-7.5$ mm (fertile), tapered at base; seed body not twisted, narrowly fusiform, = 1/3 samara, 2-winged at least above midpoint; wing stiff-papery, light brown, entire, typically notched but sometimes rounded at tip, entire, with principal veins diverging from base. **Seed:** narrowly fusiform, $10-12 \times 1.4-2$ mm (fertile), irregularly longitudinally wrinkled, dull golden brown, hilum at upper end and having a linear groove along seed length in which the funiculus rests. Mid-January–mid-February.

Naturalized. Deciduous tree occasionally escaped from cultivation, where the wind-dispersed fruits originate from tall pistillate individuals, and also where the seeds receive adequate moisture to germinate. Often it is difficult to determine whether an ash tree was planted or became established on its own. *Fraxinus uhdei* has leaves that tend to have glabrescent leaflet blades, except for short, stiff hairs along the lower midrib. This species flowers a couple months before the native *F. velutina*. Because there are numerous cultivars of shamel ash, one will find considerable variability in planted trees, and therefore also in seedlings that volunteer in range.

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