

Alnus Miller ALDER

Alnus rhombifolia Nutt., WHITE ALDER. Tree, ± winter-deciduous, 1-trunked, in range to 20 m tall; monoecious, with some stage of pistillate inflorescences present year-round, flowering before leaves emerge from winter buds; shoots when young glutinous via exudation of raised, red secretory glands (hairs); bark dull light gray, with fine horizontal lines, cracked and dark gray on very old trunks. **Stems:** cylindrical, light green with numerous red glands on surface; leaf scars semicircular, stipular scars triangular to rhombic. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules 2, narrowly ovate, to 10 mm, yellowish, short-hairy on margins, glutinous, deciduous; petiole shallowly channeled, 10–20(–30) mm long, dotted with red glands; blade elliptic to ovate or roundish, 60–120(–210) × 40–75(–90) mm, tapered to rounded at base, shallowly serrate on margins with a tooth for each secondary vein, rounded to acute at tip, conspicuously pinnately veined with principal veins sunken on upper surface and raised on lower surface, upper surface glutinous, lower surface mostly glabrous but with hairs along principal and minor veins. **Inflorescences:** unisexual catkins, terminating summer growth, in a racemelike array of several staminate catkins formed above 1 or 2 lateral shoots of much smaller pistillate catkins; staminate shoots deciduous, pistillate shoots persistent. **Staminate inflorescence:** mature catkin of numerous, helically alternate, 3-flowered cymules, pendent, cylindrical, 25–140 × 5–7 mm, many-flowered, conspicuously bracteate, deciduous after releasing pollen; bract terminating cymule ± shieldlike-rhomboid (peltate), 1.2–1.4 × 1.3–1.7 mm, fleshy. **Staminate flower:** perianth (2–)4-lobed, whitish (appearing yellowish when covered by pollen); tube cuplike, ± 0.3 mm long; lobes linear to obovate, ± 1 × 0.3–0.5 mm, commonly 1 lobe narrower than others, sometimes with 1 or 2 long-pointed lobes at or below midpoint, rounded to obtuse at tip; **stamens** 2, exserted; filaments 0.8–1.7 mm long, flaring near tip, often aging reddish; anthers basifixed, dithecal, 1.1–1.5 mm long, sacs inflated, reddish to crimson at tip, longitudinally dehiscent along lateral margins; pollen light yellow, copious, dry, airborne and released in cloud when touched, shed before appearance of new leaves; **pistil** absent. **Pistillate inflorescence:** spike, conelike, at anthesis 5–7.5 × 1.5 mm, of helically alternate, fused bract complexes, with each complex cupped and subtending 2 flowers, glutinous; bract complex consisting of 1 bract subtending 4 bractlets, ± fan-shaped, 4 × 3.5 mm, in fruit becoming dry, woody, and dark brown. **Pistillate flower:** perianth absent; **stamens** absent; **pistil** 1, ca. 1.5 mm long; ovary superior, hemispheroid compressed front-to-back, small, greenish, 2-chambered with 1 ovule; styles 2, ascending, 1.1–1.3 mm long, light pink to strawberry-rose; stigmas exserted 0.5–0.7 mm from bracts. **Fruit:** samara (winged nutlet), somewhat flattened, inversely pear-shaped with narrow wings, 3 mm long, light brown, often retaining the pair of styles, falling in late summer from the parted, tonguelike, wooden bracts of the conelike inflorescence; woody inflorescence ovoid to barrel-shaped, 20–25 × 8–11 mm, persistent often for 1 year. Mid-December–late February.

Native. A codominant, deciduous tree growing along permanent streams of riparian woodland in SMM and SH, but also cultivated throughout range. *Alnus rhombifolia* has distinctive, pinnately veined leaves that are often glutinous due to exudate of glands.

White alder is mostly leafless during fall, but while temperatures are still near freezing during winter this is the first tree to flower, from exposed catkins that were formed during the previous growing season. From lax, pendent, staminate catkins emerge two anthers of each staminate flower; its anthers are loaded with pollen, which is carried by the wind to the exposed, strawberry-red stigmas exerted from the bracts.

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