

Vascular Plants of Williamson County
Salix nigra – BLACK WILLOW [Salicaceae]

Salix nigra Marsh., BLACK WILLOW. Tree, winter-deciduous, with 1–several trunks, in range to 20+ m tall; dioecious; shoots in spring with inflorescences appearing after new leaves formed on flexible stems, leaves same color bright green on both surfaces, when initiated soft short-hairy and glutinous before leaves and stems mature becoming glabrous, never glaucous, the hairs whitish; buds ascending-appressed, triangular in outline, ca. 3 mm long, acute at tip, swelling prior to flowering, with scale margins free and overlapped on side facing stem, glabrous (short-hairy); bark coarsely furrowed, brown to reddish brown. **Stems:** ridged on immature internodes aging cylindric, with 2 ridges descending from each leaf, light yellowish green, short-hairy when first formed soon appearing glabrous, the hairs aging red before disappearing; twigs with flaring leaf bases, green with new patches of light brown periderm; leaf scars wide V-shaped, stipules scars lateral to leaf scar, straight, 1+ mm long. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules 2, attached to stem node, \pm triangular truncate at base, 1–2.2 mm long, somewhat fleshy and acute to acuminate above midpoint, veins obscure at base, margins and upper surface (facing stem) with conspicuous green, stalked, balloonlike resin glands, not glaucous, early-deciduous; petiole shallowly channeled, 1–11.5(–15) mm long, whitish green, appearing glabrous, often with a pair of minute, reddish resin glands next to blade on upper surface; blade lanceolate-linear to linear, (20–)55–155 \times 5–12 mm, tapered at base, low-serrate on margins, on developing leaves with conic resin glands = glandular points on teeth next to sinus, acuminate at tip, pinnately veined with midrib raised on lower surface or both surfaces, having an elaborate vein network, at maturity glabrous and glands of teeth mostly abscised, glands remaining red. **Inflorescences:** unisexual catkins, terminal on leafy shoot emerging with 1–several short leaves from winter bud, many-flowered, flowers alternate, bracteate, with fine, soft hairs. **Staminate inflorescence:** catkin (ament) spreading to pendent, spikelike, cylindric, 35–50 \times 5–6 mm, \pm lax, flowers sessile, tomentose and short-tomentose, abscising soon after pollination; peduncle to 4 mm long; rachis short-tomentose; bract (bractlet) subtending flower (“floral bract”) cupped-ovate, \pm 2 \times 1 mm, pale green, acute or shallowly notched at tip, short-tomentose on lower surface, persistent. **Staminate flower:** **perianth** absent; **stamens** 4–6, free or essentially so, ascending to spreading; filaments unequal, 1–1.5 mm long, pale green, hairy at base; anther basifixed, dithecal, 0.65–0.8 mm long, golden yellow, longitudinally dehiscent; pollen golden yellow, copious; **nectaries** ca. 5, the largest on upper (adaxial) side of stamens secreting nectar, triangular or 2-lobed, 0.25–0.4 \times 0.3–0.4 mm, yellow-green, the other 4 (or treated as 1) typically on lower (abaxial) side of stamens aligned and touching at bases, segments cylindric, 0.2–0.35 mm long, yellowish or aging darker; **pistil** absent, tomentose in center. **Pistillate inflorescence:** catkin ascending, racemelike with 40+ pistillate flowers, cylindric, ca. 20 \times 4.5–5 mm, in range short soft-hairy; peduncle at anthesis ca. 3 mm long increasing 2 \times in fruit, sparsely short-hairy; axis (rachis) with short, silvery hairs; bract (bractlet) subtending flower (“floral bract”) ovate, \pm 1 mm long, light yellowish tan or whitish, half-sheathing, rounded or acute at tip, short-villous; pedicel = stalk of ovary (stipe). **Pistillate flower:** **perianth** absent; **stamens** absent; **nectary** 1, axillary and fused to base of pistil stalk, chimney-shaped to somewhat 3-lobed, 0.3–0.4 \times

0.3–0.5 mm, yellowish green, secreting nectar; **pistil** 1, ascending, stalked (stipe), stipe \pm 1 mm long, green, glabrous; ovary superior, ovary lanceoloid, $1.9\text{--}2.3 \times 0.5$ mm, green, glabrous, 1-chambered with < 10 ovules attached to placenta on outer side; style essentially absent with 2-branched stigma at top of ovary, stigmatic branches spreading coiled under, light green and papillate. **Fruit:** capsule, dehiscent by 2 valves, several-seeded, moustache-shaped, immature somewhat ovoid, 4–4.3 mm long, obtuse at tip with persistent, short, 2-branched style (beak), glabrous, dehiscing with spreading or recurved valve tips; pedicel (stipe) widely spreading, 0.7–1 mm long, glabrous; rachis sparsely short-hairy, with reddish nectary persistent on upper side of stipe. **Seed:** with many long, silky white hairs attached at 1 end (comose) via ring at seed base; seed body obovoid, $1\text{--}1.2 \times 0.5$ mm, brownish; seed hairs fine, 2.5–3 mm long.

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