

## Vascular Plants of Williamson County

*Ilex decidua* – POSSUMHAW, WINTER BERRY, DECIDUOUS HOLLY [Aquifoliaceae]

*Ilex decidua* Walter, POSSUMHAW, WINTER BERRY, DECIDUOUS HOLLY. Shrub, winter-deciduous, having long shoot-short shoot organization and spur shoots becoming lateral branches, short shoots mostly to 10 mm long, in range mostly < 400 cm tall; (polygamo-) dioecious with staminate flowers on plants (sometimes with some bisexual flowers); shoots with thin-bladed leaves, having new leaves mixed with pedicels of axillary flowers.

**Stems:** with horizontal ripples of special clear cells, soon cylindrical with periderm having projecting leaf base, glabrous; bark dull light brownish gray to gray. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules 2, attached to stem at node at base of petiole, inconspicuous, triangular, 0.2–1.3 mm long, aging purplish red; petiole shallowly channeled, 3–6 mm long, conspicuously puberulent; blade elliptic to obovate (spatulate), (5–)12–50 × (4–)8.5–21 mm, tapered at base, shallowly short-crenate each tooth with short-lived pinkish and purple glandular tip shriveling, roundish or obtuse to shallowly notched or notched with minute, downward-pointing point at purple tip, pinnately veined with midrib slightly sunken on upper surface and raised on lower surface, when very small soft short-hairy aging glabrous or glabrate but lower surface with some short hairs often along principal veins. **Inflorescence:** clusters (“fascicles”) of 1–10+ flowers (staminate plant) and 2–5 flowers (pistillate plant) on unexpanded lateral shoots, staminate plants blooming first, each flower axillary to bud scales, diminutive leaves, and new foliage leaves, having pedicels appearing mixed with new leaves, glabrous; pedicel of flower slender-cylindrical, at anthesis 6–9.5 mm long (staminate), light green, 3.5–5.5 mm long (pistillate) not increasing in fruit, dark green becoming purplish in fruit. **Staminate flower:** radial, 5.5–7 mm across, sweetly fragrant; **calyx** (3–)4(–5)-lobed, 2 mm across, light green, glabrous; tube platelike, ± 0.7 mm long; lobes deltate, 1–1.3 mm, with colorless narrow margins and purple point at tip, occasionally with several purplish, minute teeth; **corolla** (3–)4(–5)-lobed, in bud greenish white; tube broadly funnel-shaped, ca. 0.3 mm long, white, opening 0.4 mm; lobes cupped-obovate to cupped-broadly ovate, 3–3.3 × 1.9–2.2 mm, white with greenish center rounded at tip; **stamens** (3–)4, attached next to sinuses of corolla; filaments ascending to suberect, 1.5–1.9 mm long, white, stiff; anthers dorsifixed, dithecal, 1–1.2 mm long, pale yellow, longitudinally dehiscent; pollen cream to pale yellow; **nectary disc** indistinct around base of ovary, producing copious nectar around ovary; **pistil** 1, 1.2–1.5 mm long, green; ovary sterile, superior, ovoid, ca. 0.8 mm diameter, glabrous, lacking fertile ovules; styles 4, fingerlike, 0.3–0.35 mm long. **Bisexual flower:** radial, 5–6 mm across, sweetly fragrant, sometimes terminal 2 flowers on an ultimate branch fused; **calyx** 4(–5)-lobed, in bud lobes overlapping and light green, glabrous; tube bell-shaped, ± 1.5 mm long; lobes deltate, ca. 0.4 mm, with colorless narrow margins and purple point at tip; **corolla** 4(–5)-lobed, in bud greenish white; tube bell-shaped, 1 mm long, white; throat slightly flaring, ca. 1 mm long, creamy white; lobes usually subequal, acute-ovate, 2.5–3 mm long, creamy white, thickish, initially spreading aging arching, faintly 3-veined, if unequally 5-lobed 1 lobe may be wide and deeply notched; **stamens** 2(–3), fused to top of corolla tube alternate corolla lobes; filaments initially ca. 3 mm long and bent inward at tip increasing to 4 mm long and erect in old flower, white, tapered at tip; anthers dorsifixed, strongly dithecal, mostly hemispheroid

with sac narrowly kidney-shaped,  $2.8-3 \times 1.8-2$  mm, light yellow often with a wide connective initially green aging orange-red, longitudinally dehiscent; pollen pale yellow; **pistil** 1, ca. 2.5 mm long; ovary superior, ovoid to bottle-shaped, green, 4-chambered, each chamber with 1 ovule; style indistinct from ovary; stigma capitate, caplike to hemispheric and much wider than style-ovary top, 1.2 mm diameter; green with several indistinct lobes. **Pistillate flower:** radial, 5–6 mm across; **calyx** 4-lobed, pale green; tube platelike,  $\pm 0.7$  mm long; lobes deltate, 1–1.3 mm, with colorless narrow margins and purple point at tip, occasionally with several purplish, minute teeth; corolla 4-lobed, in bud greenish white; tube broadly funnel-shaped, ca. 0.3 mm long, white; lobes cupped-obovate to cupped-broadly ovate,  $3-3.3 \times 1.9-2.2$  mm, white with greenish center, rounded at tip; **stamens** 4, sterile, fused to top of corolla tube alternate corolla lobes; filaments initially appressed to ovary at anthesis spreading, 1.2–1.4 mm long, white; anthers with diminutive, sterile sacs,  $\pm 0.6$  mm long, light green and whitish; **nectary disc** indistinct around base of ovary, producing copious nectar around ovary; **pistil** 1, 2.2–2.5 mm long; ovary superior, ovoid, green, 4-chambered, each chamber with 1 ovule; style indistinct from ovary; stigma capitate, hemispheric and much wider than style-ovary top, ca.  $0.8 \times 1$  mm, green, with several indistinct lobes. **Fruit:** drupe, persistent through winter including the next flowering season appearing at bases of lateral shoots, with 1–4 stones, spheric, 5.8–8.6 mm, scarlet to orange-red, not glaucous; pulp (mesocarp) thin, orange-yellow, with persistent calyx and stigma; stone (endocarp) 3-sided,  $3.5-5.5 \times 2.5 \times 2.5$  mm, bony, flattish on 2 sides and back  $\pm$  tan with 3 longitudinal ribs, each ribs with white margins or stripes; calyx appressed to drupe.

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