

Vascular Plants of Williamson County

Ulmus crassifolia – CEDAR ELM, FALL ELM [Ulmaceae]

Ulmus crassifolia Nutt., CEDAR ELM, FALL ELM. Small tree or shrub, winter-deciduous, in range to 8 m tall; monoecious; shoots with only cauline leaves, mostly 2-dimensional (plagiotropic), foliage initially short-hirsute aging scabrous on upper surfaces; axillary buds obovoid, to 2 mm long, purplish brown. **Stems:** initially ridged and < 1 mm diameter, purplish, \pm zigzagged, knobby with prominent stipules scars extending from petiole scar, short-hairy with scattered, minute glandular hairs, on vigorous shoots most often expanding opposite ridges into wings, the wings of corky layers to 20 mm high. **Leaves:** helically alternate, simple, short-petiolate, with stipules; stipules 2, attached at node next to petiole (extending from petiole scar), membranous aging scarious, triangular-linear to narrowly triangular, 4–6 \times to 1 mm, transparent often purplish red below midpoint aging papery light brown, sparsely ciliate on margins, early-deciduous; petiole cylindrical, 1.8–3.2 mm long, purplish gray, puberulent; blade asymmetrically ovate, (11–)17–58 \times (7–)9–33 mm, oblique and subcordate to tapered at base, low-1–2-serrate on margins, broadly acute to obtuse (rounded) at tip, pinnately veined with principal veins \pm sunken on upper surface and conspicuously raised on lower surface, short-hairy, upper surface aging glossy with elaborate minor vein network and persistent bases of hairs and domed structures (lithocysts), lower surface pubescent. **Inflorescence:** racemelike cyme (fascicle), of several bisexual flowers, condensed on short shoot produced in late summer to fall from axillary buds, the inner bracts of axillary bud on short shoot scooplike and strongly cupped, 2 mm long, golden brown or tinged red or brownish red, short-ciliate on margins, early-deciduous; pedicel to 0.8 mm long, pinkish, puberulent. **Flower:** bisexual, somewhat bilateral and deformed, ca. 2 mm across; **calyx** 6–9-lobed, fused at base; lobes oblanceolate or narrowly elliptic to spatulate or narrowly fan-shaped, 0.8–1.5 \times 0.4–0.75 mm, orangish, eccentric to outside, glabrous; **petals** absent; **stamens** 5–6, free; filaments aging flattened, 0.5–1.5 mm long, pinkish, glabrous; anthers cupped by calyx lobes, dorsifixed, dithecal, \pm 1 mm long, pale yellow or tinged pink, longitudinally dehiscent; pollen pale yellow; **pistil** 1, ca. 1 mm long; ovary superior, elliptic, reddish, short-pubescent, 1-chambered with 1 ovule; stigmas 2, hairy, deeply 2-lobed forming a V-shaped notch on top of ovary, 0.2–0.25 mm long. **Fruit:** samara (winged 1-seeded dry, indehiscent fruit), papery, flattened and broadly elliptic and short-stalked, 8–10 \times 4–6 mm, initially light green drying brown (tan), veiny and short-hairy on surfaces, having short-hairy notch at top 1.5–2 mm deep, densely ciliate on margins; seed body 3–4.5 mm wide, bulging on 2 surfaces; wing opaque; stalk between pedicel and ovary (gynophore) ca. 1.5 mm long; calyx somewhat persistent, short-ciliate on margins. **Seed:** almond-shaped, ca. 4 \times 2.5 \times 1 mm, dark brown, mucilaginous when wetted.

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