## Vascular Plants of Williamson County Crataegus viridis - GREEN HAWTHORN, GREENHAW

Crataegus viridis L. (if recognized var. velutina), GREEN HAWTHORN, GREEN HAW. Shrub (small tree), somewhat spinescent or not, fall-deciduous, in range to 400 cm tall; shoots with only cauline leaves, in habitat somewhat 2-dimensional (plagiotropic); spine $=$ a modified axillary shoot with $3+$ nodes but lacking persistent leaves, straight and divergent from stem, cylindric evenly tapered to sharp point at tip, in range $<30 \mathrm{~mm}$ long, initially green drying brown, hard, with sharp point at tip, initially with $5+$ ephemeral leaves lanceolate to narrowly ovate OR 3-lobed (= leaf with 2 stipules), $1-3 \mathrm{~mm}$ long, with glands on margins, drying papery and abscising in several days leaving a leaf scar. Stems: green, somewhat zigzagged, internodes initially with 2 furrows descending from a node soon aging cylindric and to 35 mm long, initially pubescent with hairs to 0.6 mm long aging glabrescent; twigs with reddish brown periderm having pale brown, elliptic lenticels. Leaves: helically alternate, simple with teeth and some of the largest leaves having shallow lobes, petiolate, with stipules; stipules 2, attached to petiole close to its base, shortstalked with asymmetric blade, the blade often unequally 2-lobed, the green lobes when similar generally widely spreading and together to $11 \times 19 \mathrm{~mm}$, when having 1 dominant lobe asymmetric and often obovate to narrowly ovate, with glands on margins especially at top of each tooth; petiole $<3 \mathrm{~mm}$ long (lacking green blade tissue) indistinct from longtapered base of blade, short-hairy on upper side; blade ovate to $\pm$ rounded in outline sometimes lobed with shallow sinuses, $25-80 \times 20-59 \mathrm{~mm}$, long-tapered at base (appearing like a petiole) with glands on margins, serrate on margins, each tooth initially with a colorless gland and abscising before maturing, pinnately-veined with principal veins raised on lower surface, short-villous, upper surface with more pubescence than lower surface but lower surface with tufts of short-villous hairs along midrib to midblade.
Inflorescence: panicle of cyme branchlets, appearing terminal, flat-topped (corymb), mostly < 18-flowered, to 50 mm across, each cyme branchlet to 3 -flowered, bracteate, somewhat soft-pubescent; peduncle to 15 mm long, sparsely soft-hairy; pedicel cylindric, 2-12 mm long, green, soft-hairy; bracteoles 1-2 at top of pedicel and on lower hypanthium, linear, to 2.5 mm long, mostly colorless drying papery, with glands on margins. Flower: bisexual, radial, in range (10.5-)13-18 mm across, somewhat odorous; hypanthium broadly funnel-shaped, ca. 4 mm long with ovaries fused to lower portion, 3.5 mm across, thick-walled, light green on outer surface with soft hairs, free inner surface light green nectary with longitudinal panels; calyx (4-)5-lobed; tube on top of hypanthium, short, greenish; lobes at anthesis widely spreading later deflexed, acutetriangular, $2-3 \times 2-2.5 \mathrm{~mm}$, green but whitish at base, entire (or with minute tooth), with raised midvein on lower surface, short-ciliate on margins, upper surface short-villous; petals (4-)5, free, roundish to oblate and cupped upward with short base, 4.5-5.5 $\times$ (4.5-)5-6 mm, width $\geq$ length $\geq$ white, narrow at base, 5 -veined at base; stamens in range mostly 20 in 2 close series, formed on short ring on rim of hypanthium; filaments suberect bending inward, subequal, $2-3.5 \mathrm{~mm}$ long within a flower, white, gradually tapered base-to-top, glabrous; anthers medifixed, dithecal, 0.7-1.2 mm long, cream-colored, longitudinally dehiscent; pollen whitish; pistil (4-)5, tightly touching in ring; ovary inferior, outer face of each ovary fused to hypanthium, 3-sided, lateral faces free, ca. 1.5 mm long, light green, densely pubescent on top of ovaries to 1 mm long, pistil 1-
chambered, each chamber with 2 ovules; style 1 (rarely 2 ) per ovary $=(4-) 5$, erect, ca. 4 mm long, yellowish aging whitish at anthesis, touching adjacent styles often appearing fused or adherent, glabrous; stigma terminal, truncate, 0.5 mm across, darker than style. Fruit: pome, mostly with 5 "stones" (pyrenes), spheric to spheroid, mostly $7-7.5 \mathrm{~mm}$, light green maturing scarlet to orange-red, with sparse soft hairs approaching top and on hypanthium, at top of hypanthium constricted and with 5 widely spreading, triangular sepals to $4 \times 3 \mathrm{~mm}$, sepals short-ciliate on margins; pulp (mesocarp) in immature fruit ca. 0.5 mm thick; pyrenes extremely hard, 1 -2-seeded, 3 -sided round on back and with 2 flat lateral faces, $\pm 5.5 \mathrm{~mm}$ long, hairs on top of pyrenes; bracteole at base of fruit present or not, linear.
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