

Vascular Plants of Williamson County

Arbutus xalapensis – TEXAS MADRONE

Arbutus xalapensis Kunth, TEXAS MADRONE. Shrub to small tree, evergreen, 1-stemmed at base, in range < 500 cm tall; shoots with somewhat leathery leaves; bark flaking in patches, initially outer stem having a pair of decurrent fissures from each node later internode patch separating (exfoliating) from young inner bark, on older stems dark reddish brown, smooth. **Stems:** cylindric, \pm straight, yellowish green aging purplish red to brown, short-tomentose mixed with less conspicuous short glandular hairs, periderm forming year 1 and shedding hairy cover, reddish new surface below flake light brown (inner bark). **Leaves:** helically alternate, simple, petiolate, without stipules; petiole cylindric except indented next to axillary bud, to 45 mm long, mostly rose-red, slightly flared approaching blade; blade ovate (broadly lanceolate to elliptic), 55–105 \times 16–60 mm, subtruncate to broadly tapered at base, entire often narrowly reddish on margins, obtuse to broadly acute (roundish) with minute point at tip, pinnately veined with midrib slightly raised on upper surface and raised on lower surface, inconspicuously short-tomentose aging glabrescent on upper surface. **Inflorescence:** panicle of racemelike branches, terminal, branches 3+, each branch in range with 12–20 flowers, the long branches to 50 mm long and sometimes arching at anthesis, bracteate, not sticky; axes densely short-tomentose mixed with shorter glandular hairs; the lower 2–3 branches sometimes subtended by petiolate leaf or diminutive leaf; bract subtending upper racemelike branches half-sheathing, to 8 \times 4 mm decreasing upward, stiff and persistent, lower portion thickish, appressed to axis, yellowish, with upward-pointing hairs, upper portion thinner, reddish, and withering; bractlet subtending pedicel like bract, cupped-obovate to cupped-ovate, to 5 \times 2.5 mm, persistent, initially > pedicel but aging with upper pedicel exposed; pedicel ascending to spreading, to 6 mm long, pale yellowish green; bracteoles also subtending pedicel 2, opposite, concealed somewhat by bractlet, acute-cupped, to 2 mm long, tannish aging darker at tip, with short-stalked glandular hairs and some short nonglandular hairs on both surfaces. **Flower:** bisexual, radial, 4.5–5.5 mm across, with strong, sweet fragrance; **calyx** 5-lobed, appressed to corolla, ca. 2.5 mm long; tube disclike, greenish, short-hairy on outer (lower) surface; lobes equal, deltate, \pm 1.5 mm, white, with glandular and nonglandular short hairs on both surfaces; **corolla** 5-lobed, urn-shaped with narrow opening to 2.5 mm across, 7–7.5 \times 4.5–5.5 mm, in bud light green aging greenish and at anthesis cream-colored to white; tube \pm 6.5 mm long, nearly truncate at base and lower portion with 10 inconspicuously pockets for nectar, upper surface glabrous, inner surface with white short-pilose hairs at level of stamens and surrounding nectar pockets; lobes ascending to suberect, semi-circular to broadly kidney-shaped with each rounded basal lobe overlapped, \pm 0.8 \times 1.5 mm, white often with pinkish veins, obtuse to rounded or shallowly notched at tip; **stamens** 10, essentially free attached at base of corolla, included, ca. 2 mm tall, having anther inverted from top of filament flexed downward; filament appearing 1.6–2 mm long, white and conspicuously and densely white villous-pilose, lower portion bulbous, upper portion thinner and curved inward with midvein, at top of stamen (base of anther) having a pair of short, triangular appendages; anthers basifixed (appearing dorsifixed), dithecal, 1.25–1.35 mm long, cream-colored lightly blushed pinkish aging brownish, opening by a pair of elliptic pores on the inner side near filament attachment (structural base of anther), having several hairs near the filament; pollen

colorless; **nectary disc** surrounding ovary base, ringlike, 0.4 mm tall, dark green, 10-angled, producing nectar; **pistil** 1, 5 mm long, included; ovary superior, ovoid-spheroid weakly 5-lobed, ca. 1.5×1.5 mm, light yellow-green, sparsely short-pilose with white hairs, 10-chambered, each chamber with to 8 ovules; style straight and cylindrical, ± 3.5 mm long, in bud green becoming greenish; stigma terminal, minutely 5-lobed, green. **Fruit:** berry, drupelike with a \pm hard core consisting of a whorl of 5 or fewer pyrenes (separable, seedlike units), spheroid-broadly ovoid, the largest (= a fruit with 5 pyrenes) $7.5\text{--}8 \times 8.5\text{--}9.2$ mm, blackish red and somewhat glaucous, surface appearing cobblestonelike glabrate, with the persistent, lower portion of style in shallow depression at top; fleshy cover of densely packed, wedge-shaped segments ca. 1 mm long, in surface view polygonal and 0.4–1 mm across; whorl of pyrenes appearing stonelike and spheric, to 6 mm, pyrenes separated with difficulty until maturity, wall 0.3 mm thick; pyrene mostly 2-seeded and fleshy aborted ovules filling chamber. **Seed:** often 3-sided but irregular, ca. $3 \times 1.3 \times 1.5$ mm.

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