

Vascular Plants of Williamson County

Mirabilis albida – WHITESTEM FOUR O’CLOCK [Nyctaginaceae]

Mirabilis albida (Walter) Heimerl, WHITESTEM FOUR O’CLOCK. Perennial herb, not rosetted, several-stemmed at base, principal shoots unbranched below canopy (lower 2/3 of plant), having a forked, “leafless” flowering canopy, decumbent to erect or suberect, in range 30–90 cm tall; shoots with only paired cauline leaves, not 2-dimensional (orthotropic), paired leaves of slightly different sizes (anisophyllous, 1 blade ca. 25% larger), short-hairy with curved hairs, in range lacking glandular hairs on the entire plant. **Stems:** initially finely ridged and ± 4-sided aging cylindrical, nodes somewhat swollen to 6 mm and internodes to 5 mm diameter, with a pair of weak lines across node between petioles and with several low ridges descending from each leaf alternating with pubescent faces, green or often striped with rose, lower stem rose, internodes below inflorescence to 50 mm long, in range lower stem internodes on 2 faces = broad lines of curved short glandular hairs with tiny heads and somewhat bumpy with enlarged hair bases, the bases of the longest radiating hairs aging purplish rose and pimplelike, internode of lateral branch with a darker-colored, pulvinuslike swelling at base. **Leaves:** opposite decussate, simple, short-petiolate to sessile, without stipules; petiole ± hemicylindric or indistinct from narrowly tapered base of blade (channeled with raised edges), to 6 mm long, whitish or rose; blade in range lanceolate to ovate, 20–90 × 6–20 mm, at each node 1 blade > other blade, somewhat grayish, tapered at base, entire but somewhat wavy on margins, acute or obtuse to acuminate at tip, pinnately veined with principal veins somewhat sunken on upper surface and especially midrib raised on lower surface, puberulent to short-pubescent with scattered weak hairs, upper surface somewhat cobblestonelike, lower surface bumpy with some enlarged bases of the longest hairs. **Inflorescence:** compound, open, forked system of opposite decussate axes in to 4 orders of opposite branching, paniclelike with determinate cymes at successive nodes, at each node forming 1 branchlet later forming the other branchlet, each branchlet axis having a conspicuous involucre subtending (2–)3 sessile flowers (cyme), bracteate, conspicuously pubescent with glandular hairs; principal axis with visible internodes, internodes stemlike, cylindrical, in erect plants to 135 mm long, rose-colored, densely pubescent with glandular hairs of varied lengths and the longest hairs to 1 mm long, bracteate; bracts at principal nodes 2, slightly anisophyllous, obovate to ovate and sessile, mostly < 3(–6) mm long; 1-veined, having purplish margins, with a pair of pubescent lines connecting paired bracts; smaller units of cyme often having 4 or 8 involucres but highly condensed in bud; peduncle below involucre cylindrical, at anthesis ca. 8 × 0.6–0.7 mm, rose but glossy, darker, and pulvinuslike at base; **involucre** subtending flower 5-lobed, calyxlike, initially funnel-shaped aging spreading, tube at anthesis 3.5–4.5 mm long, lobes subequal, obtuse-broadly ovate, 3.3–5 × 3.2–4.1 mm, slightly > tube, pleated at sinuses later flatter, green often blushed rose or reddish purple along midvein and margins, conspicuously pinnately veined with 5 principal veins raised on lower surface to sinuses, especially midveins on lower surface with longer glandular hairs and green tissue short-pubescent of scattered glandular hairs and with short white streaks = inclusions (raphides) within cells. **Flower:** bisexual, radial, ca. 11–13 mm across (perianth spreading); opening late afternoon and closing next morning; **perianth (calyx)** 5-lobed appearing 10-lobed, corollalike, in range showy portion light pink-purple to rose, white only at base, lower portion green to above constriction including pale green on inner

surface and darker on outer surface; tube base enclosing and narrowly constricted above ovary, broadly obovoid to ellipsoid, $1.5\text{--}2 \times 1.2\text{--}1.6$ mm, green, conspicuously 5-ribbed with bumps (forming tubercles), with short white hairs most in tufts along and between raised ribs, the hairs to 0.4 mm long; constriction at top of lower portion for filaments and styles, ca. $0.4 \times 0.7\text{--}0.8$ mm, lacking ribs; throat + lobes bowl-shaped, 8–9.5 mm across, reinforced with 5 thick, raised veins (lower surface) to sinuses, vein and adjacent tissue pale light green and pinkish or purplish approaching sinuses, densely pubescent with curved short and straight glandular hairs and tissue having white raphides, delicate, corollalike upper portion of each lobe notched (cordate) and somewhat heart-shaped with rounded sublobes $3\text{--}3.5 \times 3\text{--}5$ mm, glabrous on both surfaces; upper perianth withered and collapsed on top of lower portion when flower closes; **stamens** 3–5, fused at base as a collar symmetrically surrounding ovary (enclosed in calyx), exerted portion with anthers; filament tube barrel-shaped, ca. 0.8×0.7 mm, white, thick-walled and fleshy, free filaments alternate with calyx lobes, crooked and somewhat coiled in bud becoming ascending at anthesis then crooked when flower closes, 11–13 mm long, white at base through calyx constriction nearly to midpoint and above midpoint pink-rose ca. 7 mm, glabrous; anthers dorsifixed, conspicuously dithecal, 1×1.5 mm, bright yellow, longitudinally dehiscent; pollen bright yellow to golden yellow; **pistil** 1; ovary superior but appearing inferior because surrounded by thick perianth base, obovoid-ellipsoid, $0.6\text{--}0.7 \times 0.35\text{--}0.45$ mm, glossy white to pale green with bright white inclusions (raphides) within tissue encircling base, 1-chambered with 1 ovule attached to base; style subterminal and offset on top of ovary, in bud coiled later exerted, 13–16 mm long, white only at base to light pink then light rose above with light pink at top; stigma broadly hemispheric-capitate, with thick spheroid hairs (vesicular), the hairs 2-forked or 3-forked, whitish to pink.

Fruit: nutlike, indehiscent, with an ellipsoidal, 1-seeded fruit enclosed in the hardened base of the calyx (diclesium, anthocarp) spaced from calyx; diclesium obovoid strongly 5-ribbed with prominent tubercles along ribs and warts in furrows, in range $(3.8\text{--})4.2\text{--}4.9 \times 2.2\text{--}2.8$ mm (if narrower = abortive seed), light brown with whitish streaks (raphides), base truncate with white scar $0.35\text{--}0.7$ mm across (receptacle), ribs ca. 0.5 mm broad, having a series of 6–8 asymmetric, roundish, ledgelike tubercles mostly increasing upward and the larger ones wider than rib, each tubercle with to 15 nonglandular short hairs in a crude line across and sometime several puberulent hairs and minute glandular hairs, the short hairs with brown walls between cells, warts in furrows radiating and mostly shorter than ribs with 1–3 short hairs at top, top chimneylike (= short tube of calyx for bases of free filaments); calyx inner wall glossy dark brown with several tan stripes, glabrous; involucre 5-lobed, papery, veiny, and if flattened 18–20 mm across, with 3 scars near center where fruits formerly attached, lower surface with hairs because heads missing. **Seed:** utriclelike with thin, ephemeral papery cover during development (seed coat, pericarp), ellipsoid, $2.5\text{--}2.8 \times 1.5\text{--}1.6$ mm, pale tan with orangish, parallel curves defining a low raphe base-to-top.

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