

Vascular Plants of Williamson County

Mirabilis jalapa var. *jalapa* – FOUR-O’CLOCK, MARVEL OF PERU [Nyctaginaceae]

Mirabilis jalapa L. var. *jalapa*, FOUR-O’CLOCK, MARVEL OF PERU. Subshrub, winter-dormant, swollen-taprooted, several–many-stemmed at base, branched throughout and unequally 2-forked with axes divergent at each node, erect, 50–100+ cm tall; shoots with paired leaves of slightly different sizes (anisophyllous, 1 blade 10–20% smaller), tomentose to short-tomentose sometimes becoming glabrescent; taproot often very large, fleshy-tuberous. **Stems:** 4-sided (cylindric) + swollen just above node, green, densely pubescent in broad vertical lines on 2 (opposite) sides, with a horizontal zone of shaggy reddish hairs across base of internode, internodes < 135 mm long, soft-hairy; appearing to have a pith with vascular (medullary) bundles. **Leaves:** opposite decussate, simple, petiolate, without stipules; petiole shallowly channeled, (2–)10–70 mm; blade deltate-ovate to ovate or lanceolate, 35–140 × 18–85 mm, slightly asymmetric with left and right halves different widths, truncate to rounded or subcordate at base, entire and slightly wavy on margins, acute to acuminate at tip, pinnately veined with the midrib raised slightly on upper surface and principal veins raised on lower surface, conspicuously soft-hairy when young with longer hairs persisting on margins and midrib. **Inflorescence:** leafy dichasial cyme, compact, mostly terminal but appearing axillary, secondarily also axillary, many-flowered, with opposite decussate branchlets, bracteate, tomentose; bract subtending each branchlet leaflike, short-petiolate to sessile, narrowly ovate to lanceolate or linear-oblongate, decreasing upward, not glandular; pedicel 1–4 mm long, with involucre of bracteoles at tip; **involucre** subtending flower, 5-lobed, calyxlike, bell-shaped, short-tomentose, not glandular; tube at anthesis 2–4.5 × 2–3.5 mm increasing 2× in fruit, with conspicuously raised midveins; lobes 5, overlapping, ± unequal, triangular-acuminate, at anthesis 4.5–7 × 2–3 mm increasing 2× in fruit, spreading in fruit, pinnately veined, with persistent hairs on margins. **Flower:** bisexual, radial, ± 15 mm across, opening late afternoon and closing next morning; **perianth (calyx)** 5-lobed, showy, resembling a tubular corolla, 30–50 mm long, in range magenta-pink, pleated; lower tube obovoid concealing ovary, ± 3 mm diameter, green with white flecks (raphides), 10-veined, becoming weakly 5-ribbed, glabrous or with hairs at constriction; upper tube narrowly funnel-shaped, ± 1.3 mm wide at constriction expanding gradually upward, green at base changing upward to pink or white, sparsely hairy to glabrous, internally glabrous except with some colorless hairs at base, expanded part (throat) showy, 5-ribbed, the ribs terminating at sinuses with small tufts of hairs, sparsely hairy along ribs; lobes white with spots and lines to yellow aging magenta-pink, after closing collapsing into a sticky, crumbled mass at top of tube; **stamens** 5–6, fused at base forming a crownlike collar surrounding ovary, exerted; collar at base 1 × 2 mm, white, 10-lobed with filament-bearing lobes alternating with rounded lobes, nectar-producing; filaments 20–35 mm long, below calyx constriction flat, whitish, exiting and just above constriction appressed and adhering to calyx tube, free filaments somewhat coiled, whitish aging pinkish, glabrous; anthers dorsifixed, plump dithecal with each sac kidney-shaped, 1.3–1.7 mm long, light yellow to strong reddish orange, or strawberry red within same flower, ± scalloped on margin of suture, longitudinally dehiscent; pollen light yellow to light yellow-orange; **pistil** 1; ovary superior but appearing inferior because surrounded by thick perianth base,

spheric, 1.5 mm, 1-chambered with 1 ovule attached to base; style long-exserted, 30–45 mm long, white and rose, highly coiled in bud; stigma broadly hemispheric-capitate, several-branched with ca. 100 stalked stigmatic spheres, initially pale yellow aging orange and becoming pinkish at tips. **Fruit:** nutlike, dry and leathery becoming hard, indehiscent, with a spheroidal, 1-seeded fruit enclosed in the hardened base of calyx (diclesium, anthocarp); diclesium slightly obovoid to ellipsoid, 7–9(–11) × 5.5–6 mm, dull dark brown to nearly black, ± depressed around point of attachment and truncate at base, constricted just above base, sometimes nipplelike at tip, glabrous, in ×-section 5-angled with 5 blunt ribs alternating with 5 veins, somewhat warty between ribs, with whitish streaks (raphides) above midpoint. **Seed:** covered with thin fruit wall, tight-fitting, spheroid, 4–6 mm, tannish orange-yellow to cream; storage tissue (perisperm) pure white; embryo folded, cream-colored, the 2 cotyledons large, asymmetric, cupped, stacked, the radicle conspicuous.

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