

Vascular Plants of Williamson County

Triodanis biflora – SMALL VENUS' LOOKING-GLASS [Campanulaceae]

Triodanis biflora Ruiz & Pavón (syn. *T. perfoliata* var. *biflora*), SMALL VENUS' LOOKING-GLASS. Annual, taprooted, not rosetted, 1(–2)-stemmed at base, often unbranched but sometimes having several ascending lower branches, erect to ascending, in range 10–45 cm tall; with bisexual flowers and “cleistogamous” flowers (essentially agamosperous); shoots with only ascending cauline leaves + leaflike bractlets evenly and widely spaced along axis, plant axis with to 25 nodes incl. vegetative only at 5(–8) nodes (lower plant).

Stems: often 5–6-ridged, to 1.5 mm diameter, with 2 lateral ridges decurrent (descending) from each leaf, green, internodes mostly to 22 (60) mm long, tough, glabrous, with short, downward-pointing teeth along ridges. **Leaves:** helically alternate, simple and sessile or petiolate (the lowermost leaves), without stipules; petiole ± flat, to 4 mm long, often stiff short-ciliate (minute teeth) along edges; blade of sessile leaves clasping to slightly clasping with short basal lobes, ovate to obovate (the lowermost leaves), < 7–21 × 5–12(–17) mm, length > width, broadly tapered to subtruncate or nearly clasping at base, broadly low serrate and short-serrate or low-crenate on margins having a minute glandular point on each tooth, acute to obtuse with short point at tip, pinnately veined with 3 principal veins from base somewhat sunken on upper surface and raised on lower surface, short-ciliate on margins, lower surface with puberulent hairs along principal veins, at the lowest nodes blade upper surface sparsely puberulent above midblade. **Inflorescence:** cyme, condensed, 1–4-flowered, axillary to a leaflike bract (bractlet), flowers sessile (subsessile), formed in a delayed series at each fertile node either having only nonshowy apomictic flowers (never experiencing fertilization to form seeds, agamosperous) or the later flowers or the last flower of a cyme chasmogamous, bracteate, cymes glabrous; bract subtending cyme (the oldest flower) leaflike and ascending; bractlet subtending other flowers at maturity lanceolate to elliptic, 5–7.5 × 1.2–2.7 mm, low-serrate to entire, if serrate with to 4 teeth below midpoint each tooth with a translucent, blunt-acute tip, acute at tip, having 1 principal vein, glabrous. **Apomictic flower:** “cleistogamous” flower of other authors; pistillate with microscopic anthers, ± bilateral, < 1 mm across, ca. 3 mm long (seed development beginning); **sepals** in range 2–4, ascending from top of ovary (calyx tissue = part of ovary wall), ovate, < 1–2 mm long, commonly unequal on each flower (1 shorter), green, 1-veined with midvein extending from rib (vein) on ovary, entire, with short, colorless point at tip, rarely notched (= 2 sepals fused), persistent and spreading on top of fruit; **corolla** vestigial = an inconspicuous mound of tissue in top of ovary; **stamens** several, obscure beneath corolla, anthers < 0.15 mm long, translucent; **nectary disc** absent; **pistil** 1; ovary inferior, bilateral with several low ribs and channeled on a pair of opposite (wider) faces (sometimes 3 channels), 1 rib to each sepal or sinus, channel shallow, approaching top of ovary having an elliptic depression (= valve, later forming a pore), valve ca. 1.2 × 0.5 × 0.7 mm varying with ovary size and age, 2(–3)-chambered, having to 100 glossy ovules attached to a central post; style appearing absent.

Chasmogamous flower: bisexual, radial, 12–17 mm across; **sepals** (4–)5 (“calyx lobes” of other authors), fused at base to ovary forming rim around top of ovary, widely spreading, acuminate-triangular, 4–5 × 1.2–1.5 mm, firm, green, faintly 7-veined from base with midvein raised on lower surface, having a short colorless point at tip and often

1–2 minute glands at each sinus, veins sometimes purplish, glabrous, persistent; **corolla** (4–)5-lobed, star-shaped; tube somewhat flared, 1.5–2 mm long, white to above midpoint to light violet approaching lobes; lobes widely spreading, ovate, 7–9 × ca. 3 mm, light violet or violet to violet-blue, midvein raised on lower surface, glabrous; **stamens** (4–)5, fused to base of corolla tube, a tight ring (whorl) touching nectary disc on top of ovary; filaments upright, flattened front-to-back and ± acuminate-ovate, 1.3–2 × 0.8–1 mm, whitish, lower portion short-villous or not on upper (inner) surface and sparsely short-ciliate on margins; anthers basifixed, dithecal, 1.5–3 mm long, white, longitudinally dehiscent; pollen colorless; **nectary disc** with style arising from its center, 1.2 mm across, a circular trough ± 0.35 mm diameter, glossy green; **pistil** 1; ovary inferior, bilateral, angular with to 12 low ribs and channeled on 3 wider faces, at anthesis 3.5–5.5 × 1.6–2.5 mm, light green, ribs to sepals and sinuses, channel shallow and broad, approaching top of ovary having an elliptic depression (= valve, later forming a pore), valve ca. 1.2 mm long; style before pollination and after pollination matchlike (appressed stigmas) and 3-branched, to 6 mm long, translucent or greenish at base to white by midpoint and above midpoint light violet to violet or pale violet, the branches for pollination fleshy, tongue-like and divergent coiled under, ca. 1.2 × 0.6 mm, scarcely pigmented, conspicuously papillate on inner (upper) side. **Fruit:** capsule, poricidal, many-seeded, ± oblong, 6–6.5 × 1.5 mm, tannish brown or blushed reddish to straw-colored, aging 1-chambered by separation of central post from septum, close to top of capsule having a pair of opposite pores (on apomictic fruits) or 3 pores (on fruits of sexual flowers), the valves dehiscent by rolling upward to expose seeds of each chamber, pores elliptic to subcircular, 1.2–1.6(–2) × 1 mm, channeled on wide faces with pores, minutely hairy, with persistent, spreading sepals. **Seed:** ellipsoid, 0.4–0.6 × 0.3–0.35 mm, glossy pale brown with fine, darker, inconspicuous lines.

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