**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 agamospermous); 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 clasp 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, agamospermous) 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, acuminated-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, tonguelike 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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