

Vascular Plants of Williamson County

Oenothera jamesii – TRUMPET EVENING PRIMROSE, RIVER PRIMROSE [Onagraceae]

Oenothera jamesii Torrey & A. Gray, TRUMPET EVENING PRIMROSE, RIVER PRIMROSE. Biennial herb to short-lived perennial (subshrub), robust, fleshy-taprooted, rosetted, 1-stemmed at base, spreading to suberect, in range < 100–250 cm tall; shoots with basal leaves (absent at flowering) and cauline leaves, ± velveteen (velutinous), densely pubescent and having long hairs without expanded, reddish, blisterlike bases and having many short, erect glandular hairs. **Stems:** ± cylindrical, to 20 mm diameter, light green, pubescent with short hairs arching upward; internode solid; older stem with peeling (to the base of inflorescence), hairy surface and including phloem fibers (exfoliating), periderm pale brown, lower stem with thin, flaking strips of periderm. **Leaves:** helically alternate, simple or basal leaves pinnately lobed, long-petiolate (basal leaves) and short-petiolate to sessile (cauline leaves), without stipules; petiole of basal leaves hemi-cylindric, with blade margins decurrent as 2 edges, petiole of cauline leaves with base somewhat appressed to stem, several mm long (of basal leaves to 60 mm long); blade of basal leaves elliptic to broadly lanceolate, to 200 × 40 mm, tapered at base, pinnately lobed to short-dentate, acute at tip, pinnately veined; blade of cauline leaves narrowly ovate or oblong to elliptic or lanceolate, 40–120 × < 10–25(–35) mm, tapered at base, short-dentate to subentire on margins, acute at tip, pinnately veined with conspicuous, whitish midrib raised on lower surface. **Inflorescence:** leafy spike, terminal, of helically alternate, axillary flowers, having 1 flower open per day in an ascending order along the rachis, pubescent like shoot; rachis stemlike lacking red hair bases; bractlet leaflike, to 45 × 10 mm, with short petiole fused to base of ovary. **Flower:** bisexual, radial, ca. 100 mm across; bud erect; hypanthium above ovary, forming a long floral tube, tube in range 90–105 mm long, 3–3.5 mm diameter base-to-top, light yellowish green, having 8 shallow ribs, villous and with stalked glandular hairs, internally with downward-pointing hairs below midpoint, wall 0.5 mm thick, **nectary** at base of hypanthium surrounding style base, 6–9 mm long, orangish, ca. 0.8 mm thick, producing copious thin nectar stored in lower hypanthium; **sepals** 4, partially fused as they split from pressure of expanding petals along suture lines, splitting mostly along middle suture lines base to tip, reflexed at base and spreading split nearly base-to-tip sometimes with other splits, individually narrowly lanceolate, 35–50 × 6–6.5 mm, green, with tips free for 3–4.5 mm in bud, externally villous and short-villous with stalked glandular hairs having colorless heads especially near sepal margins; **petals** 4, widely spreading, not clawed, broadly fan-shaped with an irregular outer margin, typically 40–50 × ca. 40–45 mm, bright yellow aging reddish orange, with many radiating veins from base, glabrous; **stamens** 8 in 1 set opposite sepals and petals, free, arising from hypanthium rim, exerted; filaments subequal, ca. 24–27 mm long, light yellow, ± bent and 1 mm diameter at base (positioning stamens to 1 side), 0.5 mm diameter at midpoint; anthers versatile (⊥ to filaments, erect and touching in bud), dithecal, ca. 17 × 1.2 mm, pale yellow, longitudinally and inwardly dehiscent; pollen pale yellow, pollen grains triangular (permanently united tetrads), connected with minute threads (viscin threads); **pistil** 1; ovary inferior, 4-sided, shallowly 4-lobed and straight, 12–14 × 3.5–4 mm, green, villous and short-villous, arching upward with radiating stalked glandular hairs, 4-chambered, each chamber with > 100 ovules attached to center; style

extending above anthers, to 135 mm long, within hypanthium 0.7–0.75 mm diameter, pale greenish, exerted ca. 0.9 mm diameter and pale yellow but flared approaching flower; stigma 4-lobed, lobes radiating, widely spreading to descending from short disc, 9–11 mm long, light yellow-green, ca. 1.5 mm wide at base and blunt at tip. **Fruit:** capsule, loculicidal, dehiscent by 4 valves along 4 grooves downward to midpoint, many-seeded, ascending, before dehiscing lanceoloid-cylindric with 4 shallow grooves, in range 35–40 × 7.5–9 mm but ca. 5 mm wide at top, valves thick-walled and flaring after dehiscing, valve with 3 nobs at top, pubescent and with scattered stalked glandular hairs, with 2 rows of seeds per chamber, persistent and base fused to short petiole of bractlet. **Seed:** ± wedge-shaped and prismatic, 1.2–1.8 × 0.5–0.8(–1) mm, dark brown, mostly ± truncate at base and top, several-sided with winglike edges, faces recessed and minutely textured (cell contours).

A. C. Gibson