

Vascular Plants of Williamson County

Ludwigia peploides subsp. *montevidensis* – WATER PRIMROSE, YELLOW WATER WEED, FLOATING PRIMROSE-WILLOW [Onagraceae]

Ludwigia peploides (Kunth) P. H. Raven subsp. *montevidensis* (Spreng.) P. H. Raven, WATER PRIMROSE, YELLOW WATER WEED, FLOATING PRIMROSE-WILLOW. Aquatic perennial herb, with stolonlike procumbent, fibrous-rooted, forming a branch from just above the base of pedicels, branches floating on water to creeping and ascending on shoreline, < 40 cm tall; shoots to 300 cm long, with only cauline leaves, with conspicuous, radiating, piloselike glandular hairs having minute droplets of exudates, on living plant surfaces viscous to sticky; adventitious roots many at each node of each horizontal axis; pneumatophores (aerating root) initially candle-shaped and spongy, eventually to 4 mm diameter, whitish, filamentous, aging splitting with many emerging lateral roots. **Stems:** cylindric, 3–6 mm diameter; the submerged stems light green or tinged pink or rose, with large air cavities (aerenchyma) in cortex. **Leaves:** helically alternate, simple, petiolate, with stipules; stipules 2, attached to base of petiole, acute-ovate to deltate, 1–1.5 mm long, green, glabrous, viscous, \pm persistent; petiole flattish on upper side, indistinct from blade (winged petiole), without wing 2.5–15 mm long, pale green, with scattered hairs; blade lanceolate or elliptic to oblanceolate, 15–100 \times 9–23 mm, tapered to narrowly tapered at base, entire and somewhat short-ciliate on margins, acute with minute glandular point at tip, conspicuously pinnately veined with midrib raised on lower surface, upper surface glabrous (not glossy), lower surface with scattered hairs and especially along pale green midrib. **Inflorescence:** flowers solitary, axillary, pubescent with radiating, piloselike glandular hairs on green surfaces; pedicel ascending to erect, cylindric, on emergent shoots at anthesis ca. 30 mm long increasing in fruit to 40 mm long, sometimes longer on floating shoots, with radiating hairs, at top with 2 bracteoles alternate (subopposite) at base of ovary, deltate to inversely heart-shaped (stipulelike) and cupped outward, 1–1.4 mm long, green aging reddish and strongly persistent in fruit. **Flower:** bisexual, radial, 22–31 mm across; hypanthium absent; **nectaries** 5, in a ring on top of ovary, each nectary at the base of each short stamen, arc-shaped, translucent, each rimmed with short-villous hairs arching over nectary; **sepals** (rarely 4)5, attaching on top rim of ovary, spreading, lanceolate, in range 7.5–9 \times 1.3–3 mm long, lower surface green or with reddish margins and scattered radiating hairs, upper surface yellow-green, with parallel veins at base (3 conspicuous), glabrous, persistent in fruit; **petals** (rarely 4)5, obovate somewhat roundish, 10–14 \times 10–13 mm long, bright yellow, rounded at tip, glabrous, pinnately veined, easily abscised; **stamens** (rarely 8)10 in 2 whorls, unequal, free arising from top of ovary; filaments alternating in length, erect, of outer whorl 4–4.5 mm long (opposite sepals) and ca. 3 mm long (opposite petals) cupped by nectary, yellow, glabrous; anthers dorsifixed, dithecal, 1.8–1.9 mm long (short stamens) and 2–2.3 mm long (long stamens), longitudinally dehiscent; pollen light yellow, permanently united in tetrads, sticky and held in a mass by minute threads (viscin threads); **pistil** 1, in range ca. 20 mm long; ovary inferior, straight and erect, cylindric at base to \pm 5-sided above midpoint and truncate at top, ca. 12 \times 1.5 mm, green, with radiating glandular hairs and viscous, 5-chambered, each chamber packed with a single stack of many ovules; style much thicker than filaments, 7–7.5 mm long, at midpoint 0.5 mm diameter flaring approaching stigma, light yellow to pale green,

glabrous, having an inconspicuous, 5-lobed rim around stigma, stigma capitate, domelike, ca. 1.6 mm across, yellow. **Fruit:** capsule, \pm indehiscent, many-seeded, cylindric, 25–35 \times 3–5 mm, straight to somewhat curved, top truncate with 5 hairy, arced ridges (= persistent nectaries), seeds embedded in fruit wall, glabrous to short-pilose, with a pair of bracteoles at base; sepals 5 ascending to suberect abscised when fruit dries. **Seed:** somewhat embedded in fruit wall and tightly packed in vertical files, rhomboid-polyhedron (parallelogramlike) mostly 6-sided, units 1.5–3 \times 1–1.2 mm, tan, with mostly flat rectangular faces but roundish ends where seeds touched, chambered on outer face.

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