

Vascular Plants of Williamson County

Ludwigia octovalvis subsp. *octovalvis* – NARROW-LEAF WATER PRIMROSE, SHRUBBY WATER PRIMROSE [Onagraceae]

Ludwigia octovalvis (Jacq.) P. H. Raven subsp. *octovalvis* P. H. Raven, NARROW-LEAF WATER PRIMROSE, SHRUBBY WATER PRIMROSE. Aquatic perennial herb of shoreline, taprooted, highly branched along erect principal axes, the lateral branches spreading at ca. 30° above horizontal from each node, 55–185 cm tall; shoots with only cauline leaves, cauline leaf late-deciduous subtending lateral branch, in canopy primary axis often late-forming an axillary bud or shoot between axis and lateral branch or above pedicel of a developing fruit, in range pubescent, not glutinous. **Stems:** strongly 5-ridged, < 9 mm diameter, with 2 ridges descending from stipules on internode, tough, ± short-hirsute with hairs ascending to appressed upward, surface aging dark red or red-brown and on lower stems with shallow splitting forming light brown periderm and becoming glabrescent. **Leaves:** helically alternate, simple, subsessile, with stipules; stipules 2, attached to base of petiole, ± deltate, 0.6–0.7 mm, fleshy, red at tip; petiole ± cylindric, to 1.6 mm long, with mostly scattered short hairs; blade oblanceolate to oblong-lanceolate or oblong, < 30–105 × < 8–27 mm, tapered at base, entire, acute to acuminate at tip, pinnately veined with principal veins sunken on upper surface (there raised) and raised on lower surface, surfaces not glossy, short-villous and villous having hairs shorter along margins. **Inflorescence:** flowers solitary and axillary (leafy raceme), bracteate; pedicel 3–4-ridged, at anthesis to 8 mm long increasing 2× in fruit, short-strigose with upward-pointing hairs, with 2 subopposite or alternate bracteoles at base of ovary, bracteoles short, acuminate with 2 fleshy, red-tipped stipules. **Flower:** bisexual, radial, 23–39 mm across; hypanthium essentially absent, on top of ovary wavy-lobed and short-hairy along rim, **nectary** at the base of each stamen, arc-shaped mound bracketing filament on inside and adjacent to other filaments, densely short-villous; **sepals** 4(–5), spreading, acuminate-ovate, 12–13 × 7 mm not increasing in fruit, dull green often with purplish red margins, with 5 parallel veins raised on lower surface, pubescent on lower surface and glabrous on upper surface; **petals** 4(–5), spreading, fan-shaped, 10–20 × 10–20 mm, light yellow to yellow, truncate to shallowly notched at top, pinnately veined with principal veins slightly sunken on upper surface and conspicuously raised on lower surface, lower surface with scattered long hairs along midvein at base; **stamens** 8(–10) in 2 sets; filaments spreading, 5–6 mm long, yellowish white, the widest at the base; anthers exerted, dorsifixed, dithecal, 2.5–3 mm long, anthers of outer whorl < inner whorl, pale yellow, longitudinally dehiscent; pollen white, permanently united in tetrads, sticky and held in a mass by minute threads (viscin threads); **pistil** 1, at anthesis to 28 mm long; ovary inferior, straight, 4-sided and low 8-ribbed, to 22 × 1.5 mm, green, often gently twisted; style ca. 3 mm long (from 0.5 mm above hairs of nectaries), hourglasslike to 1 mm at midpoint, green at base to whitish green above, abscising; stigma capitate, at same level as anthers, spheroidal, wet, 2.5–3 mm wide, pale greenish yellow. **Fruit:** capsule, dehiscent by 8 linear valves from top splitting at least to below midpoint, 500+-seeded, before dehiscing 4-sided, in range 38–45 × 4–5 mm, straight to somewhat curved, top with 4 short-villous, arc-shaped ridges (= persistent nectaries), valves = 8 ribs, short-hairy; sepals abscising before capsule mature, spreading ⊥, acuminate-ovate, 12–13 mm long, green with purplish red margin; style abscised.

Seed: unequally 2-lobed and roundish in outline, $0.6\text{--}0.85 \times 0.5\text{--}0.7 \times 0.35\text{--}0.4$ mm, brown to light brown (tan); surface with narrow, elongate cells in rows (visible at $30\times$).
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