

Vascular Plants of Williamson County

Juncus effusus var. *solutus* – SOFTSTEM RUSH, LAMP RUSH [Juncaceae]

Juncus effusus L. var. *solutus* Fern. & Wieg., SOFTSTEM RUSH, LAMP RUSH. Aquatic perennial herb, rhizomatous, fibrous-rooted, not rosetted, tufted, (several–)many-stemmed at base, initially erect from rhizome and not branched above base, fertile shoots suberect to sharply ascending, 50–135 cm tall; shoot with only sheathing basal leaves tightly appressed to stem, glabrous; rhizome shallow and densely branched, oval in \times -section, to 4 \times 3 mm, white or aging yellowish with reddish dots at leaf veins, internodes short, 1–1.5 mm long, cataphylls sheathing, acute, to 6 mm long, purple-veined aging blackish, surfaces smooth; adventitious roots arising at nodes along rhizomes and base of each shoot, highly branched. **Stem (culm):** cylindric to elliptic in \times -section (near rhizome, to 5.5 \times 4 mm, green or lower stem with red pigmentation, in fresh condition relatively smooth but drying with to 60 fine ridges, stomates 1–3 wide in strips between veins; elliptic core (to 4.5 \times 2 mm) appearing wool-like with netlike tissue (parenchyma, ground tissue) and having large air chambers (to 6 per 10 mm), white aging darker. **Leaves:** helically alternate, sessile with sheath, lacking lobes (auricles) at top; in range = encircling sheath and $> 360^\circ$ slightly overlapped at stem, $< 10/$ shoot grading from cataphyll upward, the lowest leaf triangular obtuse but with slender point at tip, maturing purple parallel-veined with colorless tissue aging brown tissue, outer (lower) surface coarsely textured, the uppermost basal leaf to 150 mm long, aging blackish. **Inflorescence:** compound cyme, terminal but appearing lateral, ball-like to fountainlike, 12–35 mm, 100+-flowered, highly condensed cymes (branchlets) and somewhat clasping axis, with many unequal primary rays and secondary rays, with 1 flower at each ultimate fork, bracteate, glabrous; bract subtending inflorescence, appearing like a continuation of the stem, vertical, cylindric to somewhat compressed and fully closed, with inflorescence arising through a lens-shaped gap at base, \gg inflorescence, to 150 mm long, tapered to a point; prophyll subtending each primary ray (the longest primary ray axis to 20 mm long), the longest prophyll closed, 2-keeled, to 6 mm long, aging scarious, sinus to 2 mm, notched between keels, prophyll subtending secondary ray open, 2-keeled, < 4 mm long; “bracts” at each fork alternate distichous; bracts subtending the lowest pedicel half-sheathing and to 5 mm long; bractlet subtending pedicel, acute-ovate, ca. 1 mm long, at anthesis \geq pedicel; pedicel cylindric, green, with 2 bracteoles at top (subtending flower), alternate distichous, sheathing appressed to flower, scarious, ovate, ca. 1 \times 0.5 mm, tannish, acute or notched at tip. **Flower:** bisexual, radial, 1 mm across, conspicuously 3-angled, nonshowy; **perianth (tepals)** 6 in 2 whorls, erect, acuminate-ovate, outer tepals 2.1–2.5 \times ca. 1 mm, inner tepals 1.8–2.1 \times 0.6–0.7 mm, outer tepals \geq inner tepals, 3–5-veined, green with wide colorless margins, outer tepals somewhat folded along midline (not keeled) and mostly green to tip, inner tepals flattish and not green to tip; **stamens** 3, free, cupped by outer tepals; filaments whitish, ± 0.8 mm long; anthers basifixed, dithecal, 0.4–0.5 mm long, pale yellow, longitudinally dehiscent; pollen yellowish; **pistil** 1, ca. 1.5 mm long; ovary superior, broadly ellipsoid somewhat 3-angled, 0.8 mm long, greenish, 3-chambered, each chamber with many colorless ovules; style 3-branched, lower portion 0.1–0.2 mm long, greenish, the stigmatic branches spreading, helically twisted, translucent, papillate most of length. **Fruit:** capsule, septicidal, 3-valved, many-seeded, \pm ellipsoid (obovoid) 3-ribbed, in range 1.5–2.6 \times

1.2–1.4 mm, glossy light orange-brown dark brown, valves dehiscent downward from top to midpoint. **Seed:** ± broadly ellipsoid, 0.4–0.5 × 0.1–1.5 mm, mostly light orange-yellow (amber) darker on ends, having ca. 13 longitudinal ribs, lacking an appendage; pedicel cylindric, to 2 mm long; perianth and alternate distichous bracteoles appressed to fruit, scarious and tannish.

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