

**Vascular Plants of Williamson County**  
*Cyperus rotundus* – PURPLE NUTSEDGE [Cyperaceae]

*Cyperus rotundus* L., PURPLE NUTSEDGE. Perennial herb with annual plants, clonal in clusters, stolon-bearing and tuber-forming (with ramets), lacking rhizomes, fibrous-rooted, ± rosetted, 1-stemmed at base, unbranched, erect, in range 18–30 cm tall; shoots with to 13 spreading to ascending basal leaves (older ones withered), most leaves green at flowering, leaflike inflorescence bracts forming a reproductive canopy at tip of stem, leaf sheaths covering stem base, glabrous; each basal leaf precociously forming a shallowly buried axillary bud potentially forming stolon, axillary buds ovoid, white and purple-striped; stolons horizontal and radiating from buried base of stem, unbranched and piercing leaf sheath, slender, white aging brown, ca. 1.5 mm diameter, in heavy soil < 45 mm long; tuber terminal on stolon (shoot tuber), subspheroid, at maturity in range mostly to 7 × 5 mm, hard, having condensed nodes at base with encircling, thin, closed sheaths of future basal leaves covering the spheroid solid stem, the outer, oldest leaf often split into segments, dead on surface of tuber, with or without adventitious roots while still attached to stolon. **Stem (culm):** 3-angled, in range to 250 mm long, to 3 mm diameter, white at base to green and with concave faces above leaf sheaths, tough, smooth; solid. **Leaves:** alternate tristichous, simple with sheath; sheath closed, closed portion to 53 mm long, whitish striped purple from tuber and green aboveground = parallel veins; ligule absent; blade spreading to ascending, linear and W-shaped or V-shaped folded upward along midrib, < 50–200 × 2–7 mm, the widest at base, tough, minutely toothed and scabrous on whitish margins, long-tapered to tip, parallel-veined with midrib slightly sunken on upper surface and raised on lower surface with minor veins somewhat raised, upper surface glossy, lower surface minutely scabrous along midrib. **Inflorescence:** spikelets, sessile, in terminal umbel-like arrays, array in range to 75 mm across, with 2–7 spreading, lateral primary rays + terminal rachis, each with to 5 spikelets, spikelets formed at top of primary ray, the longest axis the lowest, on the largest individual sometimes the lowest primary ray with a secondary ray to 2 mm long from the base of the rachilla and having a couple spikelets at tip, rachis having spikelets radiating at 75–90° (divaricate) with bulbous pulvinus base, each primary ray subtended by an inflorescence bract (terminal spikelet clusters bractless) and also a sheathing bract (prophyll), glabrous; inflorescence bracts alternate tristichous, mostly spreading, unequal, green, leaflike but sheathless and fused to axis, narrowly triangular, to 90 × 6 mm, the widest at base, successively shorter and narrower upward from base in array, sometimes the lowest inflorescence bracts >> reproductive canopy, green bracts leaflike, V-shaped, minutely scabrous on margins, reduced upward eventually to a scalelike, triangular, membranous with a green midvein; primary ray axis cylindric, to 45 mm long decreasing upward, green, bulbous pulvinus white; primary prophyll closed base-to-tip, 2-lobed to truncate, to 8 mm long, membranous and striped deep purple, not splitting; rachis 3-winged, < 1 mm diameter, minutely scabrous along wings, internodes short–2.5 mm long, pulvinus appearing at base of spikelet on upper side where spikelet spreading. **Spikelet:** typically = 2 order of inflorescence, (1–)7–18 florets, linear (lanceolate) compressed top-to-bottom, in range (3.5–)7–22 × 1.5–1.8 × 0.7 mm, with alternate distichous bractlets (floral scales) subtending sessile flowers; axis (rachilla) internodes strongly flattened and ca. 0.9 mm

long, 2-ridged, white with green edges; **glumes** (bracts subtending spikelet) 2, dimorphic, body folded over spikelet, 2–2.5 mm long, weakly pigmented with a green midstripe, obtuse at tip, upper glume with a green, ringlike basal pulvinus eccentric to upper side; bractlet ± appressed, overlapping to midpoint of next bractlet (to node), body ± ovate, in range 2.3–3 mm long, red to purplish red with colorless margins and green keel, 7-veined or 9-veined, having a pair of colorless wings decurrent on adjacent internode, keel with 3 green veins along keels minutely scabrous, often minutely notched at tip. **Flower:** bisexual; **perianth** absent; **stamens** 3, free, exerted from bractlet; filaments aging linear and flat, ca. 2 mm long, translucent; anthers basifixed, dithecal, 1.5–2 mm long (including colorless, sterile appendage at tip), light yellow, longitudinally dehiscent; pollen light yellow; **pistil** 1, ca. 6 mm long, conspicuously exerted from each fertile floret and persistent; ovary superior, 3-angled ellipsoid, 0.8–0.9 mm long, pale green, 1-chambered with 1 ovule; style greenish at base changing to translucent aging reddish, 3-branched at or just above midpoint, the branches fully exerted, ascending but later coiled, ± equal, threadlike. **Fruit:** achene, 3-sided ellipsoid, ca. 1.4–1.7 × 0.8–1 mm, black, slightly beaked at tip, finely textured (puncticulate).

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