

**Vascular Plants of Williamson County**  
*Opuntia macrorhiza* – WESTERN PRICKLY PEAR [Cactaceae]

*Opuntia macrorhiza* Engelm., WESTERN PRICKLY PEAR. Shrub, stem succulent, spinescent, mostly individual plants but also clonal via rooted stem segments of broken branches, initially taprooted but mostly fibrous-rooted along stems, green-stemmed, with horizontal branches radiating from base typically touching ground, in range 10– < 270 cm tall; shoot = a series of flattened, photosynthetic stem segments (cladodes, pads, joints), narrowly constricted between segments but not readily breaking apart, principal branches with often 3–4 green cladodes in series, cladodes with helically arranged short shoots (from axillary buds) bearing clusters of radiating leaf spines (areoles) on pads of all nodes on the stem surface, trunk absent; adventitious roots formed on buried portions of stem, never formed at nodes. **Stems:** cladodes in range obovate to roundish in outline, < 165 × 150 mm, typically 10–12 mm thick, with helically arranged tubercles (= modified leaf bases) and associated spine-bearing areoles in the axils; tubercles flat below with vertically raised areole, green, photosynthetic, glabrous, mounds distinctly glaucous; flesh (cortex and pith) watery and mucilaginous; areoles ca. 20–25 on cladode surface, to 35 mm apart in 5–8 diagonal rows, many and closely spaced along edge of cladode and sparse at base, areole vertically elliptic in outline, (3–)4–5 × 2–2.5 mm, covered with brown woolly hair. **Leaves:** helically alternate, simple, sessile, without stipules, polymorphic; photosynthetic cauline leaves short-lived on newly emerging shoots, lanceoloid, 5–5.5(–10) × ± 1.6 mm, fleshy, green, short-pointed at tip, abscising during shoot expansion and absent when cladode < 1/2 mature size; leaf spines on areoles (= modified leaf form) of 2 types, persistent, radial and central spines and deciduous fine spines (glochids), not photosynthetic; permanent spines in range (0)1–3, central (often only) spine < 25 mm long (1-spined) or < 50 mm long (2–3-spined), strongly bent at base often deflexed downward ± 45°, mostly cream-colored, radial spines < central spine; glochids barbed at tip, irritating in skin, formed in a dense, erect cluster at upper edge of areole, in range mostly 2.5–3 mm long, ± orange. **Inflorescence:** flowers solitary (areole dies after flowering), sessile, ovary covered with stem tissue hence having tubercles with areoles and short-lived lanceoloid cauline leaves, the leaves somewhat flattened on inner side, 4–9 × 3 mm. **Flower:** bisexual, radial, 70–90 mm across; bud to 80 mm long; **perianth** of ca. 25 segments, free, helically alternate, overlapping, unequal in a graded series, the outermost segment ovate and 12 × 4 mm, fleshy and glaucous green, in series to broadly ovate and rhombic (segment 8 ca. 28 × 20 mm) with somewhat raised midvein and narrow membranous margins, next series with wider margins and yellow pigment developing below midpoint but central portion and acuminate tip still green, inward to segments fan-shaped or broadly obovate and 32–51 × 30–36 mm yellow with rose-red below midpoint, somewhat toothed on outer margin; **stamens** > 200, free, formed on a sloped axis, at anthesis erect but when touched responding and quickly tilting toward style; filaments slender, linear, of the outermost stamens to 14 mm long gradually decreasing to 7.5 mm long (the innermost stamens), light green (outer stamens) to white (inner stamens), minutely short-papillate; anthers dorsifixed, dithecal, 3–4 mm long, greenish white, minutely papillate; pollen whitish to cream-colored; **pistil** 1; ovary inferior, narrowly oblanceoloid depressed truncate at top, at anthesis 35–41 × ca. 22 mm,

glaucous bluish green, with relatively few tubercles (< 15 visible), areoles circular with tuft of light brown hairs ca. 1 mm long and glochids to 3 mm long, 1-chambered with many ovules attached to sides, (parietal placentation) the chamber narrowly oblanceoloid and ca. 18 × 4 mm, the wall ca. 5.5 mm thick, white next to chamber, with mucilage cells; **nectary chamber** above ovary, 3 mm long with low ridges beneath filaments on sloped axis, producing copious nectar; style erect, inversely club-shaped, ca. 18 × 6 mm, white with ca. 7 stigma lobes, the lobes ± erect curving inward, fingerlike, 4–5 mm long, fleshy, green to yellow-green, wet. **Fruit:** berry, many-seeded, ± oblong club-shaped at seed chamber having parallel sides, in range 44–50 × 21–28 mm, red and glaucous, top somewhat depressed 10–11 mm deep, areoles to 26 including rim and present nearly to base, circular and not raised, lacking hard spines and glochids ± absent, with tufts of tannish hairs; fruit wall 4–5 mm thick, mucilaginous; pulp watery, purple-red. **Seed:** ± roundish in outline, 3.9–4.8 mm, ± 1.7 mm thick, bony, cream-tan, encircling girdle ± uniform around seed except at hilum, protruding ca. 0.5 mm.

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