

Vascular Plants of Williamson County
Echinocereus reichenbachii – LACE CACTUS [Cactaceae]

Echinocereus reichenbachii (Walp.) Britt. & Rose, LACE CACTUS. Perennial stem succulent, spinescent, having stem photosynthesis, taprooted, lacking rosette, cespitose in range with 2–10 living shoots in a clump often with spaces occurring where former shoots died, lacking lateral branches above soil level, \pm erect, in flower to 15 cm tall; shoots lacking green leaves, bearing clusters of permanent, hard, stiff spines (leaf spines, i.e., modified leaves) arising at growing tip of the shoot from axillary buds (areoles) on the stem surface atop an enlarged leaf base + stem tissue (tubercle). **Stems:** roughly cylindrical, in range 30–70 mm diameter with considerable variability in diameter from base to tip of each shoot due to unfavorable climate episodes (constrictions) and yearly differences in soil moisture, green; tubercles aligned and partially connected at bases as vertical rows (ribs) concealed by spines (partially overlapping), ribs \pm 18 (depending on stem diameter); tubercles concealed by spine clusters, evenly spaced 4–6 mm apart (center-to-center) on old stem, radiating from rib, somewhat conic but compressed side-to-side, 3–4.5 mm long; soft tissues mucilaginous. **Leaves:** = spines formed on areole, spines in range mostly 25–30 per areole and lacking obvious central spines, not appearing helically alternate but at shoot tip spines ascending in 2 lateral rows from areole, spine bases hidden by dense, white, cobwebby-tomentose hairs, the long hairs eventually disappearing; in subsequent years each spine row on an areole leaning sideways becoming planed (180° orientation) and appearing appressed without spines along a center line (pectinate), individual spine \pm straight or curved slightly toward the stem, cylindrical tapered to sharp tip, 2.5–6 mm long, the shortest at top and bottom of the areole and the longest at midpoint of each row.

Flower: bisexual or staminate, radial, 70–80 mm across, 60–80+ mm long; hypanthium funnel-shaped, 20–25 mm long, with decurrent tubercle bases, upper hypanthium tubercle \pm cylinder, with few, flattened, larger spines and awl-shaped blades, areoles deciduous on hypanthium, the hairs fine and to 16 mm long, the upper blade red to purplish red, tubercles at top of hypanthium having long white hairs and the longest spine, in bud teepeelike over perianth; **nectary chamber** at base of hypanthium on top of ovary, hemispheroid, 3–6 mm long, white, producing copious nectar; **perianth** segments helically alternate, < 25 –30, lacking areoles and spines, outer segments (sepal-like) at top of hypanthium, ovate, the outermost sepal 11×4 mm gradually increasing to 20 mm long and relatively narrow, with fleshy green axis and membranous wings, jagged approaching tip, showy “petals” ovate-elliptic, > 20 –30 mm long including narrow point 1 mm long at tip and teeth on margins, middle segments with green axis and magenta margins changing to the innermost segments magenta without green; **stamens** many, helically alternate in descending series on hypanthium toward ovary; filaments unequal, < 7 –15(–20) mm long within each flower, white; anthers dorsifixed, dithecal, 1.2–1.7 mm long, pale light yellow, longitudinally dehiscent; pollen light yellow; **pistil** 1, with dense ring of long woolly hairs around base of ovary below tubercles, the hairs 5–6.5 mm long; ovary inferior, top-shaped, ca. 17×11 –14 mm, having 70+ helically alternate tubercles, the tubercle with (9)12–20 spines but lacking central spine, the spines all white to purple above midpoint or mixed purple and white, the wall 2.5–5 mm thick, outer tissue green and mucilaginous, inner tissue white, 1-chambered with many ovules attached to wall (parietal), the chamber

shield-shaped in longisection, ca. 6 × 5 mm, in staminate flower with few ovules; style lacking in staminate flower, cylindric long-tapered to base, 32–40 mm long, hollow, branched with 9–15 spreading stigma lobes, cylinder cobblestonelike and white lightly pigmented approaching lobes; stigmas exserted, oblong and fingerlike, 4–9 mm long, white densely covered with thick, yellow-green papillate. **Fruit:** berry (not observed in range), many-seeded, with persistent, erect perianth, subspheroid, dark green, having areoles with pectinate spines; pulp white. **Seed:** not observed.

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