

## Vascular Plants of Williamson County

*Cylindropuntia leptocaulis* – DESERT CHRISTMAS CACTUS, PENCIL CHOLLA, TASAJILLO  
[Cactaceae]

*Cylindropuntia leptocaulis* (DC.) M. F. Knuth, DESERT CHRISTMAS CACTUS, PENCIL CHOLLA, TASAJILLO. Shrub, stem succulent, spinescent, cloning and thicket-forming, each individual several-stemmed at base, with photosynthetic green stems, principal branches ascending to spreading, long principal stems commonly bearing many lateral shoots mostly < 60 mm long arising at all or most nodes, clone in range to 120 cm tall; shoot = a series of cylindric stem segments (joints), lateral branches firmly attached and not easily dislodged; major stem woody, principal photosynthetic stems without conspicuous constrictions.

**Stems:** young stems cylindric, 5–7 mm diameter, with helically arranged tubercles (= modified leaf bases) and associated areoles (= spine-bearing short shoots) in the axils; tubercles on rapidly growing shoot tip moundlike, to 1 mm high but soon flattening and scarcely raised on mature stem, tubercle having a conspicuous constriction beneath leaf blade, internodes green aging grayish green with thick wax, < 10 mm long, glabrous, cortex and pith watery and mucilaginous; areoles broadly elliptic to roundish, initially 1–2 mm long, covered with tannish hair. **Leaves:** helically alternate, simple, sessile, without stipules, dimorphic; photosynthetic cauline leaves short-lived on newly emerging shoots, lanceoloid to narrowly ovoid, mostly < 3–6 × 1.3–1.6 mm, fleshy, green, with short point at tip, abscising during shoot expansion; leaf spines on areoles (= modified leaf forms) of two types, persistent spines + deciduous glochids, not photosynthetic; principal, needlelike central spine (0–)1 per areole (subtended by fleshy leaf) + 0–several short lateral spines, unequal, the central spine radiating and nearly ⊥ axis or pressed downward by outgrowth of a new shoot from the areole, slender, to 35 mm long and 0.4 mm diameter at base, round in x-section, tapered to sharp point, with surface layer separating as a somewhat persistent, scarious, spine sheath (removable with forceps), the sheath yellow or pinkish below midpoint, somewhat inflated so when intact spine appearing wider; deciduous spines (glochids) barbed at tip, irritating in skin, formed in a dense, erect cluster or crescent-shaped group on upper side of areole, mostly 1.3–1.8 mm long, orangish; **nectary** on areole 0–1, projecting from hair near midpoint of areole, conic, rose-pink, excreting viscid droplet of nectar. **Inflorescence:** flowers solitary (areole dies after flowering), sessile, with ovary covered by stem tissue hence having tubercles and spine-bearing areoles and short-lived, ovoid cauline leaves; flower initially solitary later with sterile fruits (proliferating) from areoles of fruit producing a second cohort of fruit from the uppermost areoles and often forming vegetative shoots from other areoles after fruit ripens. **Flower:** bisexual, radial, funnel-shaped, ca. 25 mm across; **perianth** of 15–17 segments; segments helically alternate, overlapping, unequal in a graded size and color series, the outermost 5 segment (without spines in axils) hemi-lanceoloid with membranous margins, 5.5–7 × ± 2.2 mm, green and fleshy, the next series flatter and 8–10 mm long, pale greenish yellow, the inner series of 6–7 segments, 10 mm long with the outermost obovate and ca. 6 mm wide to the innermost segments narrowly ovate and 4.5 mm wide, pale greenish yellow to pale yellow or tinged reddish; perianth abscising from immature fruit as a unit with stamens; **stamens** many, helically alternate in several series, free, ± monomorphic, formed on a steeply sloped axis 3.5 mm long, at anthesis erect but when touched responding and quickly tilting toward style; filaments ca. 4.5 mm long (outer stamens) to 5.5 mm long

(inner stamens), pale greenish yellow or white within depression; anthers dorsifixed, dithecal, 1.2–1.3 mm long, cream-colored, longitudinally dehiscent; pollen cream to pale yellow; **pistil** 1; ovary inferior, embedded in receptacle (stem tissue), truncate-obovate in outline, at anthesis ca. 13 × 7 mm, with ca. 13 low tubercles, each tubercles bearing an ephemeral ovoid leaf as on stems < 3 mm long; ovary areoles ± round, initially with 1– 3 minutely barbed spines visible (most areoles) and light brown short hair, 1-chambered with ca. 20 ovules attached to wall, chamber oval to broadly obovoid, 2 × 1.5 mm; ovary wall 2 mm thick and mucilaginous; style inversely club-shaped, 10–11 × 1.6–1.8 mm (below stigma), white or greenish white above bulge, surrounded by sunken nectary chamber, nectar scanty; stigmas 4, exerted above central anthers, tonguelike lobes 2 × 1.5 mm, cream-colored, papillate. **Fruit:** berry, formed with initial fruit and to 4 asexual fruits forming next to upper edge or young vegetative shoots from areoles, mostly lacking seeds but sometimes 20-seeded, subspheroid or broadly ellipsoid to obovoid, in range 13–21 × (7–)9–12.5 mm, red and fleshy, with glochids or sometimes with to 7 short spines to 4 mm long on an areole, top depressed ca. 2 mm. **Seed:** compressed and roundish to angular in outline, in range 3.8–4.7 mm, ca. 1 mm thick, dull pale yellow, with slight dimple or depression on each face, with narrow girdle along edge, often inconspicuously notched at hilum.

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