

Vascular Plants of Williamson County

Echinocactus texensis – HORSE CRIPPLER, HORSE-CRIPPLER CACTUS, DEVIL'S HEAD
[Cactaceae]

Echinocactus texensis Hopff., HORSE CRIPPLER, HORSE-CRIPPLER CACTUS, DEVIL'S HEAD. Perennial stem succulent, harshly spinescent, initially taprooted developing lateral roots, not rosetted, 1-stemmed (several-stemmed by injury), with a woody cylinder concealed by succulence, vertically buried in soil in range with aboveground dome < 30 mm; shoots with very thick, top-shaped photosynthetic stem and lacking photosynthetic leaves, with helically alternate short shoots (from axillary buds), bearing a set of radiating leaf spines (areoles); adventitious roots never formed. **Stem:** in range large specimens to 220 mm across, having areoles vertically aligned in ca. $21 \pm$ vertical ribs armed by extremely hard spines, ribs narrowly triangular in \times -section and not wavy along each rib, with tough "skin" (hypodermis); areole inverted shield-shaped, initially with white hairs turning tannish when spines appear and aging gray; flesh (cortex) mostly 60+ thick, firm (not watery), surrounding a cylinder of soft wood enclosing a wide, succulent pith. **Leaves:** principal spines permanent, stiff, with crossribbing to 1 mm apart; central spine widely spreading and radiating \perp from areole, in range to 30 mm long, initially tannish blushed rose aging gray, curving slightly downward at tip, rough on surfaces; radial spines 5–7, unequal, radiating mostly sideways close to green stem surface, in range to 20 mm long; thick hair of areole tan; deciduous spines (glochids) absent. **Inflorescence:** solitary flower on areole, arising through thick tomentum, areoles at 2–8 successive nodes, during flowering lacking spines or with spines still emerging from areole tomentum, forming close to the shoot growing tip, sessile, ovary covered with stem tissue hence having nodes and internodes, surrounding base of ovary having dense ring of white woolly hairs to 12 mm long. **Flower:** bisexual, radial, in range ca. 50 mm across, in range ca. 45 mm long; hypanthium funnel-shaped from top of ovary, in range 16–17 mm long, ca. 20 mm across at orifice, thick, to 4 mm thick at base, stiff, inner wall pink at base changing to strawberry-red = red center of flower; other surface of hypanthium concealed by long woolly hairs with partially exposed, appressed spinelike bracts, the surface pinkish to greenish, the primary bracts lower portion 2×2 mm and spinelike portion 6–8 mm long, \pm red, stiff, densely puberulent; **perianth** of 40+ segments; segments free, helically alternate in several overlapping series, graded from outer to inner series, petal-like, of the outer 2+ series each "tepala" linear-oblongate changing to oblongate, to ca. 28×4 mm, having a terminal, spinelike tip with a pair of apical lobes of petal tissue at base of spine, the base and axis to spine tip pink-rose rose-red, the spine \pm red, lower portion sparsely jagged on edges and upper portion densely puberulent but glabrous approaching blunt tip, of the outermost petal-like segment tip 8 mm long decreasing upward (inward), the petal-like tissue light pink to pink, conspicuously fringed above midpoint with fringes to 4 mm deep, the innermost series spreading and lacking spine tip, oblongate to broad-oblongate inward, to 24×7 mm, lacking a thickened central axis; **stamens** 150+, helically alternate, free, formed on a steeply sloped axis, at anthesis ascending to erect, not sensitive to touch; filaments slender gradually tapered to top, mostly 10+ mm long, rose to strawberry at base (from hypanthium) changing to light yellow to pale yellow and whitish at top; anthers dorsifixed, dithecal, ca. 1 mm long, pale yellow, longitudinally dehiscent; pollen pale yellow; **pistil** 1, ca. 40 mm long, top of style and stigma lobes exerted above flat level of

anthers; ovary inferior, embedded in receptacle (stem tissue), hemispheroid somewhat truncate at base, ca. 6×11 mm, white at base and light yellow-green not glaucous, lower portion lacking nodes and upper portion with helically alternate nodes but lacking tubercles and areoles, at each node with a bract subtending long-woolly, axillary hairs, the bract appressed, at base 3 mm long increasing upward, with lower portion flared and compressed front-to-back, green or tinged reddish, with short-jagged, narrowly winged edges, the upper portion = spinelike (not sharp) and pink with short-jagged edges, the hairs kinky, to 7 mm long and concealing ovary and hypanthium tissue, white; ovary wall 2.5 mm thick with green at surface and white around chamber, 1-chambered with 150+ white ovules attached to lining of chamber (parietal placentation), the chamber hemispheroid, ca. 3×5 mm; style mostly 9–10-lobed, cylindrical at base and above low-ribbed to top leading to stigma lobes, whitish to pale pink changing to pink-rose at top; stigma lobes ascending, fingerlike in a ring (1 often oriented toward center), white to ivory-colored aging pink-rose, densely short-papillate; **nectary chamber** ca. 4 mm long narrowly enclosing cylindrical base of style, pinkish. **Fruit:** berry, bursting initially at base then irregularly splitting upward and pushing out seeds with pulp, 100+-seeded, spheric to spheroid or obovoid, $17\text{--}32 \times 15\text{--}25$ mm, scarlet (exposed) to rose-red (concealed lower portion), having ± 20 areoles mostly with reclined spines < 6.5 mm long (5+ mm long surrounding fruit base), node with tuft of woolly white hairs; fruit wall rose-red; pulp rose-red; hypanthium with perianth and remains of stamens persistent at top of berry. **Seed:** irregularly ovoid-oblong having hilum notch close to top, ca. 2.5×2 mm, glossy black, faintly textured.

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