## Vascular Plants of Williamson County Cirsium texanum – TEXAS THISTLE [Asteraceae]

Cirsium texanum Buckl., TEXAS THISTLE. Annual, coarse, often robust, spinescent, taprooted, conspicuously flat-rosetted, 1-stemmed at base, in range 25–130+ cm tall; shoots with to 45 basal leaves and several-many cauline leaves, the lower cauline leaves initially appearing basal before elongation of stem internodes, axes and especially lower surfaces of foliage densely covered with cobwebby-woolly hairs. Stems: somewhat angled, with vertical, spinescent wings, and low-ridged concealed by hairs, on robust plants basal woody stems 15+ mm diameter, green, wings 2 decurrent from each cauline leaf, wing margin finlike with irregularly spaced, spines and spine-tipped lobes 1–8 mm long, ca, 4 wings per internode, cobwebby woolly hairs and patterns of radiating, colorless, coarse hairs < 2 mm long. Leaves: helically alternate, conspicuously odd-pinnately lobed, thick-petiolate (basal leaves) and sessile (upper cauline leaves), without stipules; petiole (basal leaves) wide and 3-sided flattened on upper side, narrowly winged, to 15 mm wide, fleshy to 6 mm thick, whitish pale green with colorless margins of wings; blade narrowly oblanceolate in outline, to  $400 \times 120$  mm (middle basal leaves) increasing from taproot and decreasing to cauline leaves, leafy lateral lobes on each edge 3–6 per 100 mm and the longest at or just above midblade, the several lobes nearest the petiole = green cone spinetipped grading to leafy lateral lobes with each lobe and sublobe spine-tipped, pinnately veined with principal lateral lobes palmately veined with principal veins sunken on upper surface and conspicuously raised on lower surface, upper surface  $\pm$  green with gravish veins having raised tissue rimmed by principal veins and loose woolly hairs permitting surface to be seen, lower surface paler, whitish gray and densely woolly hairy; canopy cauline leaves often not spinescent, roughly ovate in outline with triangular terminal lobe, and somewhat clasping at base, principal lobes acute with fine, soft point at tip except basal lobes often spiny. **Inflorescence:** head, on long peduncle in terminal, open, canopy having 1–40+ heads, with 1–few terminating each axillary branch in the canopy, head discoid, many-flowered, flowers bisexual, above involucre hemispheroid and brushlike, 20–50 mm across (= exserted styles); peduncle stemlike, erect to ascending (spreading) to 290 mm long, tough, green and ca. 8-ridged concealed by cobwebby hairs (oriented lengthwise, axial), hollow, with widely spaced, helically alternate bracts along axis, the bracts acuminate-oblong to acute-oblong cupped upward to somewhat flat and bent or straight,  $< 15 \times < 4$  mm, loose-cobwebby with diminutive spinelike teeth on margins; involucre bell-shaped to hemispheroid depressed at base aging ovoid in outline, ca. 15–20  $\times$  15–20 mm excluding projecting spine tips of phyllaries  $\perp$  to surface to ascending above the widest point (middle phyllaries), including spines to 30 mm across, phyllaries 200+ in 8–10 graded series, the outermost phyllaries acuminate-lanceolate, from 3 mm long including spinose tip < 1 mm long increasing upward, body purple-red and lacking glutinous central ridge, cobwebby, other outer and middle phyllaries acute-lanceolate to 10  $\times$  1.5 mm with a spreading terminal spine tip 1–3(–5) mm long, white and glabrous at base (where hidden), green where exposed having a vertical, whitish, linear, glutinous central ridge  $2.5-4 \times 0.3-0.4$  mm and starting near midpoint, fine short hairs on green tissue, 3veined with midvein dark green, purple-red above glutinous ridge and having a tannish sharp point and jagged spine margin, above involucre midpoint middle phyllaries to inner

phyllaries increasing to 17 mm long, having longer and more slender glutinous ridge and no spines at tip and then no ridge on the innermost series, white at base to mostly green and purple-red margins approaching at tip becoming mostly glabrous except sparsely fineciliate on colorless margins, the acute to acuminate tips erect (not spreading) amidst flowers and pappus; receptacle without bractlets (paleae), with many smooth capillary hairs (setiform bristles) between ovaries, the hairs initially to 6.5 mm long increasing  $2 \times$  in fruit, white. **Disc flower:** bisexual, radial, 3-4 mm across; **calyx** (**pappus**) of  $\pm 15$  silky bristles with fine, featherlike branches (plumose) in ca. 3 series, unequal, (9-)12-16 mm long, <corolla, colorless, flattened front-to-back 0.2–0.3 mm wide with ascending, fine branches < 0.5-1 mm long along 2 edges, enlarged and minutely scabrous (ascending barbs) at brownish tip; corolla 5-lobed; tube cylindric,  $7-8 \times 0.4-0.45$  mm (indistinct from basal portion of throat), colorless, lacking hairs; throat lower portion tubeline to 2 mm long above having an inflated chamber ca.  $2 \times 1.3-1.4$  mm, light pink-purple, upper portion cylindric, ca.  $3 \times 1$  mm, light pink-purple; throat lobes ascending,  $5.5-6.5 \times 0.5-0.6$  mm, linear gradually tapered to darker, thickish, blunt acute to obtuse tip; stamens 5, attached at base of corolla throat; filaments exserted, ca. 7–8 mm long, whitish aging reddish, sparsely short-hairy; anthers fused into cylinder surrounding style, basifixed, dithecal, ca. 6 mm long including acuminate appendages 0.5 mm long, longitudinally and outwardly dehiscent; pollen white or tinged yellowish; **pistil** 1; ovary inferior, wedge-shaped  $\pm 4$ sided,  $1.6-1.8 \times 0.85-1 \times 0.6-0.7$  mm, white, glabrous, 1-chambered with 1 ovule; **nectary disc** surrounding base of style, barrel-shaped,  $0.4 \text{ mm} \times 0.3 \text{ mm}$ , whitish, producing copious, thin nectar filling corolla tube; style in range  $\pm 23$  mm long, exserted 1-3.5 mm above anthers, white to base of anthers (ca. 15 mm), light pink-purple beneath anthers and exserted portion, 2-branched but branched appressed and adherent (not spreading). Fruit: cypselae (achenes), with plumose pappus; cypselae oblong-obovoid slightly compressed side-to-side,  $3.7-5 \times 1.4-1.8 \times 1$  mm, glossy brownish, slightly oblique and mostly shallowly notched at base, with short rim (collar) and a persistent nectary disc in the center on top, inconspicuously low-textured on faces; pappus of  $\pm 40$ soft, plumose capillary bristles in 3-4 series, bristle flattened front-to-back, 12-17 mm long on each cypsela, ca. 0.1 mm wide at base, whitish, with fine, ascending lateral branches to 2.5 mm long.

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