

Vascular Plants of Williamson County

Cirsium horridulum var. *horridulum* – HORRID THISTLE, YELLOW THISTLE [Asteraceae]

Cirsium horridulum Michx. var. *horridulum*, HORRID THISTLE, YELLOW THISTLE. Annual or biennial, horrifically spinescent, taprooted, flat-rosetted, 1-stemmed at base, with several lateral branches each with terminal head, in range 35–90 cm tall; shoots with 20+ basal leaves, photosynthetic cauline leaves decreasing upward, and a set of leaves hiding developing head with comblike series of spines, cobwebby-woolly. **Stems:** 20+-ridged, to 15 mm diameter, tough, with a principal ridge + several minor ridges descending from each cauline leaf, ridges rounded, initially grayish and cobwebby-woolly aging without most hair; pith continuously hollow and to 10+ mm wide at base (white pith mostly destroyed). **Leaves:** helically alternate, deeply pinnately lobed with lateral lobes never in pairs, petiolate, without stipules; basal leaves to 500 × 90 mm, petiole not clearly defined, lobes irregular in shape, to 55 mm long, principal lobes and sublobes wavy and with spine tips = endings of principal veins, coarsely toothed on lobe margins, the principal spines < 10 mm long and straw-colored, spines on each lobe variable in length, at sinuses midrib having blade wings, fleshy midrib + green wings ca. 15 mm wide, pinnately veined with principal veins raised on lower surface, midrib triangular and pale green and white); cauline leaves decreasing upward (to 40 × 11 mm) and becoming flatter and more spinescent, at top of shoot (hiding involucre) cauline leaves reduced to a midrib lined with 40+ sharp-pointed lateral spines, the spines simple and some branched at base, < 2–20 mm long, white, highly variable in length and diameter along each side of infolded midrib, midrib with fine cobwebby-woolly hairs. **Inflorescence:** head, terminal and axillary, appearing spinescent, head at anthesis ca. 35 mm across but appearing much wider, of 250+ bisexual disc flowers, flowers helically alternate, bracteate; peduncle short above the uppermost cauline leaf; **involucre** fully hidden by a dense set of spinescent cauline leaves, bell-shaped, at anthesis ca. 40–45 × 30–35 mm, of 200+ helically alternate, stiff and spine-tipped phyllaries, in numerous series and unequal, phyllaries narrowly triangular, < 15 × 2 mm (the outermost phyllaries) to long-tapered linear with flexible tip, 50 × 2 mm (the innermost phyllaries), margins cobwebby-ciliate with tawny fine hairs, outer surface cobwebby-hairy approaching point at tip, inner series of phyllaries not ciliate, outer surface glabrous at base and above mostly scabrous with short upward-pointing hairs and cobwebby-tomentose approaching tip; in fruit involucre aging cup-shaped to 80 mm across; receptacle flat to slightly domed aging domed, lacking bractlets (paleae) subtending flowers, with white hairs between ovaries 3.5–5 mm long. **Disc flower:** bisexual, radial, to 1.5 mm across, 21–25 mm long; **calyx (pappus)** fine, soft, feathery capillary bristles (plumose) 100+ in several series, before anthesis 17–20 mm long increasing 2× and ascending in fruit, silky-white, fused to ring at base, some lateral hairs 5+ mm long; **corolla** 5-lobed, ca. 24 mm long; tube 5-ribbed with deep furrows, ca. 4.5 × 0.6–0.7 mm, white, lacking hairs; throat ± cylindric, 7–8 mm long, 0.8 mm diameter at base to 1 mm diameter at top, cream-colored, lacking hairs; lobes erect and only scarcely gapping by anther appendages and stigma passing through, strap-shaped, 6–7 × 0.3 mm or splitting longer, white, with blunt, glossy, glutinous callus at tip, papillate on outer lower surface; **stamens** 5, fused to top of corolla tube; filaments never straight, 6–7 mm long, mostly red with white next to anther tails; anthers fused into cylinder surrounding style, basifixed,

dithecal, ca. 11 mm long including white, acuminate appendages 1 mm long and flat, linear tails \pm 2 mm long, sacs cream-colored, appendages minutely toothed at tip, longitudinally dehiscent; pollen white; **pistil** 1; ovary inferior, \pm wedge-shaped, 1 mm long, whitish, glabrous, 1-chambered with 1 ovule; **nectary disc** surrounding base of style, ca. 0.3 mm long, white (corolla not bulging); style to top of anther appendages, cylindric, 20–23 mm long, white, lacking hairs, 2-branched, the branches stigmatic, ca. 2 mm long but appressed and coherent. **Fruits:** cypselae (achenes), knife sheathlike compressed side-to-side, 5.5–6 \times 1.5–2 mm, straw-colored, blunt to nearly truncate at base, with rim at top and within rim having a projecting, persistent base of style to 0.8 mm long, faces with several fine groove and wrinklelike texture; pappus of 100+ silky capillary hairs in several series fused by ring at base, ca. 35 mm long, ring easily dislodged from fruit.

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