

Vascular Plants of Williamson County

Verbesina encelioides – COWPEN DAISY, GOLDEN CROWNBEARD [Asteraceae]

Verbesina encelioides (Cav.) A. Gray, COWPEN DAISY, GOLDEN CROWNBEARD. Annual, taprooted, 1–several-stemmed at base, lower branching mostly opposite and spreading, 20–90(–120) cm tall; gynomonocious; shoots with only cauline leaves, green to grayish green or light gray, feltlike when young, densely sericeous-strigose with appressed, upward-pointing hairs, the hairs with swellings at cell junctions, aromatic when handled or crushed but without obvious glandular hairs. **Stems:** low-ridged, in range to 8 mm diameter, with 3 ridges descending from each leaf, young stem green showing through white hairs, old stem tannish with ± longitudinal patches of glabrous periderm separating sericeous-strigose strips of stem epidermis. **Leaves:** opposite decussate (lower plant and lower nodes on branches) and helically alternate (in canopy, sometimes opposite to inflorescence), simple, petiolate, without stipules; petiole winged or wings only at base, to 26 mm long, commonly lobed on each side at base and clasping stem (sometimes with 0 or 1 lobe), the lobe triangular, 2.2–9.5 mm wide, often tapered toward blade and several-toothed, with vein ending in each tooth; blade ± ovate to deltate or slightly heart-shaped, 15–72 × 8–50 mm, broadly tapered to truncate or slightly cordate at base, serrate to short-serrate on margins, acute to slightly acuminate at tip, commonly 3-veined at base (lateral veins sometimes branching immediately) with principal veins raised on lower surface, upper surface grayish green, lower surface light gray to whitish with dense hairs.

Inflorescence: heads, terminal and solitary or in open, cymelike arrays of several heads, each head on a long peduncle, head radiate, in range 30–52 mm across, with 12–16 ray flowers and 100+ disc flowers, bracteate, sericeous-strigose like shoot; bract subtending peduncle leaflike, narrowly lanceolate to narrowly ovate, with clasping lobes at base with or without petiolelike axis before blade, short-serrate, densely hairy; peduncle 12–75 mm long, bracts along peduncle 0 (1, and if present approaching head, linear, and < 10 mm long); **involucre** saucer-shaped to cup-shaped, 10–30 mm across, phyllaries 13–19 in 2–3 series, the outer 1–5 not associated with flowers, lanceolate to linear-lanceolate, 6–17 × 1–4 mm, the innermost ca. 1/2 size of the outermost phyllaries, green, entire, acute to acuminate at tip, surfaces strigose except glabrous on upper surface below midpoint, inner phyllaries often speckled purple and sometimes orange-yellow at tip; receptacle convex, 3.2–4 mm diameter, with conspicuous bractlets (paleae) subtending disc flowers, the paleae of ray flowers folded and enclosing ovary (the outermost ones instead mostly strongly cupped), 5.2–7.4 mm long, keeled, membranous on basal 2/3, yellow-orange and short-ciliate on margins above, strigose and green (yellowish) along midvein, obscurely pitted with each pit surrounded by white, short ciliate-fringed lobes forming crownlike rims between ovaries. **Ray flower:** pistillate (often in range with aborted or irregular fruits), bilateral, 7–13 mm across; **calyx (pappus)** absent; **corolla** typically 3-lobed; tube cylindrical (flattened), 1.5–2.5 mm long, light green grading to yellowish green at the slightly expanded orifice, short-strigose; limb fan-shaped, 10–21 × 7–13 mm, bright yellow, lobes acute to narrowly rounded, central lobes narrower and sometimes < lateral lobes, sinuses between lobes 0.5–5 mm deep, with fine veins radiating from orifice; **stamens** absent; **pistil** 1; ovary inferior, obovoid compressed side-to-side, 1.6–1.8 × 0.7–1 mm, green, glabrous or sparsely short-hairy, 1-chambered sometimes with 1 ovule; style

exserted, 3.5–7 mm long, orange-yellow, 2-branched, the branches spreading, 0.9–1.6 mm long, short papillate-stigmatic on edges of grooved inner face and at tapered tip. **Disc flower:** bisexual, radial, 1.8–2.5 mm across; **calyx (pappus)** of 2 ascending awns, awns straight to slightly curved, 0.7–1.3 mm long, white to colorless, without barbs; **corolla** 5-lobed, 4.2–5.5 mm long; tube cylindric, 1–1.4 × 0.5 mm, pale green; throat narrowly bell-shaped and abruptly expanded at base, 2.5–3.2 mm long, 1–1.2 mm diameter at orifice, orange-yellow, tube + throat with short hairs having enlarged, colorless or orangish bases; lobes spreading becoming recurved, triangular-ovate, 0.6–1 mm long, orange-yellow, sparsely short-hairy on lower surface; **stamens** 5, fused with base of corolla throat; filaments 1.3–1.6 mm long, pale orange-yellow; anthers fused into cylinder surrounding style, exserted, basifixed, dithecal, 2.3–3.2 mm long, orange-yellow with orange-brown connective and orange-yellow triangular appendages at tip, longitudinally dehiscent; pollen orange-yellow. **pistil** 1; ovary inferior, obovoid strongly compressed side-to-side to triangular-oblongoid, 1.4–3.3 × 0.8–1.3 mm, light green, surfaces with fine ascending hairs, ciliate on margins, 1-chambered with 1 ovule; style exserted, 5–6 mm long, 2-branched, the branches recurved, 1.7–2.3 mm long, orange-yellow, tapered at tip, short papillate-hairy on edges and lower side, flat and glabrous on upper side. **Fruits:** cypselae, dimorphic; cypselae of ray flowers (most appearing sterile without embryo) obovate flattish to obovoid and 4-angled or 5-angled or triangular and 3–5-angled, 3.2–3.6 × 1.1–1.5 mm, in range brown with warty surfaces, without pappus; cypselae of disc flowers, with pappus of 2 awns, obovate (including wide cartilaginous wing), 4.8–5.8 × 2.6–3.5 mm, the wing 0.4–1 mm wide near top and narrower at base, deeply V-notched at tip, tannish, short-hairy on faces and edge; seed chamber blackish to dark brown, sharply ridged on each face, with ascending short hairs; corolla often persistent in notch; awns 0.8–1.3 mm long, ascending from top of seed chamber at notch.

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