

Vascular Plants of Williamson County

Helianthus debilis subsp. *cucumerifolius* – CUCUMBERLEAF SUNFLOWER [Asteraceae]

Helianthus debilis subsp. *cucumerifolius* (Torrey & A. Gray) Heiser, CUCUMBERLEAF SUNFLOWER. Annual, taprooted with many diverging lateral roots, not rosetted, 1-stemmed at base, with spreading to ascending lateral branches, the lower ones often with slender stems, erect to ascending, in range < 35–90 cm tall; shoots with only widely spaced cauline leaves, conspicuously scabrous, hispid hairs mixed with weak nonglandular hairs and short glandular hairs, the hispid hairs upward-arched with enlarged to conic bases; aromatic when handled and crushed. **Stems:** cylindric, to 8 mm diameter, purple to purple-red mottled at bases of hispid hairs, internodes stiff and straight. **Leaves:** helically alternate, simple, petiolate, without stipules; petiole channeled to hemicylindric, 8.5–80 mm long, the lowermost leaves petiole > blade but most leaves petiole < blade; blade \pm deltate to triangular, 28–90 \times 20–75 mm, dull green, subtruncate to broadly tapered at base, serrate to low-serrate with callous points on margins, acute at tip, pinnately veined with 3 principal veins at base and midrib and principal veins raised on lower surface, surfaces evenly short-hispid with upward arched hairs. **Inflorescence:** head, solitary on long peduncle, radiate, 36–53 mm across, with 11–14 neuter ray flower and many bisexual disc flowers, bracteate, scabrous with hispid hairs mixed with weak nonglandular hairs and short glandular hairs; peduncle straight, stemlike, at anthesis in range 60–150 mm long, tough; **involucre** \pm hemispheric but base truncate, phyllaries 21–38 in 3–5 series, long-acuminate lanceolate, 10–17 \times 1.5–2 mm, fleshy and 3-veined at base, pale green below midblade and dark green above midblade, middle phyllaries ascending to widely spreading; receptacle \pm convex, becoming hollow beneath receptacle, with conspicuous bractlet subtending each disc flower (palea), palea 3-lobed, rounded or folded along midline, 6–9 \times 2.1–2.4 mm and > corolla throat, colorless below lobes, sinuses 4.5–5 mm from base, lateral lobes acute-triangular, pale rose to purple, puberulent on back, central lobe acuminate and folded, dark purple, the veins mostly puberulent, the purple tissue minutely scabrous. **Ray flower:** neuter, bilateral, 7–10 mm across; **calyx (pappus)** of 2 scales, awl-shaped, 0.4–0.5 mm, colorless; corolla unlobed; tube cylindric, ca. 1.5 \times 0.7 mm, light yellow, thick-walled, several-ribbed on back and puberulent; limb elliptic to ovate, 19–24 \times 6.7–10.5 mm, bright yellow, parallel-veined, glabrous but with several glandular hairs on lower surface near base; **stamens** absent; **pistil** 1; ovary inferior, conspicuously 3-sided flat on outer side, ca. 3 \times 0.8 mm, whitish, puberulent; style absent. **Disc flower:** bisexual, radial, ca. 2.5 mm across; **calyx (pappus)** of (1–)2 scales, flattened and narrowly lanceolate-linear, 1.2–1.5 \times 0.25 mm, colorless, with raised midvein, minutely hairy on base, weakly attached; **corolla** 5-lobed, ca. 5.5 mm long; tube cylindric, 0.7–0.8 \times 0.6–0.65 mm, pale yellow, outer surface with short-stalked glandular hairs; throat lower portion bulbous, 1.5 \times 0.6 mm, light orangish yellow, upper throat cylindric, 2.3–2.4 \times 1 mm, darker; lobes spreading-ascending, triangular, 0.9–1.1 \times 0.45–0.5 mm, purplish red, puberulent on lower surface and papillate on upper surface; **stamens** 5, attached to top of corolla tube; filaments threadlike, 1.5–1.7 mm long, pale orange-yellow; anthers fused into cylinder surrounding style, exerted, basifixed, dithecal, ca. 3 mm long including triangular appendage 0.4 mm long, deep purple, longitudinally dehiscent; pollen yellow-orange; **pistil** 1; ovary inferior, radially oriented (edge toward center), wedge-shaped, ca. 3 \times 1.2 mm, white, notched at

base, appressed short-hairy, 1-chambered with 1 ovule; **nectary disc** surrounding base of style; style 6.5–7 mm long, 2-branched, below fork ca. 4×0.3 mm, white to midpoint, yellowish within column of anthers, and light yellow at fork, the stigmatic branches spreading later recurved, deep purple, short-hairy. **Fruits:** cypselae (achenes), obovoid to oblanceoloid truncate at top (obpyramidal), $3\text{--}3.7 \times 1.1\text{--}1.9$ mm, shiny black (mottled), notched at base, 2-ridged (edges), truncate at tip, short-villous with ascending hairs.

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