

**Vascular Plants of Williamson County**  
*Helianthus maximiliani* – MAXIMILIAN SUNFLOWER [Asteraceae]

*Helianthus maximiliani* Schrad., MAXIMILIAN SUNFLOWER. Perennial herb, robust, rhizomatous, fibrous-rooted from shallow rhizome, 1–6-stemmed at base, principal stems unbranched, erect to ascending or decurrent and above ascending, in range to 200+ cm tall; shoots with basal and cauline leaves, lower stem leafless at flowering, hispid and scabrous with persistent enlarged bases, gland-dotted with sessile to subsessile glandular hairs having colorless heads; rhizome woody, to 20 mm diameter, covered by dull brown bark, with relatively few, thick adventitious roots. **Stems:** broadly low-ridged aging cylindric, to 11 mm diameter, with 3 ridges descending from each leaf, internodes to 65 mm long, tannish. **Leaves:** helically alternate, simple, narrowly petiolate (lower leaves) and sessile (upper cauline leaves), without stipules; petiole of basal and lower cauline leaves slender and channeled, indistinct from blade; blade oblanceolate to elliptic or lanceolate, < 50–180 × 9–30 mm, long-tapered at base, entire and often wavy on margins, acuminate (acute) at tip, pinnately veined with principal veins slightly raised on upper surface and raised on lower surface, midrib whitish, glandular hairs ± sunken. **Inflorescence:** heads, in a terminal, racemelike array canopy having 1–3 heads, with 10–30+ heads developing from top downward, upper nodes mostly with only 1 head and other nodes with to 3 heads, head radiate, 45–70 mm across, in range of 11–22 neuter ray flowers and 75+ bisexual disc flowers, bracteate, hispid-scabrous on exposed green surfaces and gland-dotted; bract subtending axillary cyme leaflike, lanceolate, < 70 mm long decreasing upward; peduncle of solitary head to 80 mm long, flexible; axillary flowering shoot of 3-headed cyme axis to 30 mm long, with a pair of opposite bracts below midpoint, bract subtending each lateral head leaflike, < 6–15 × 2–4 mm, bract subtending peduncle of terminal head 0–1, lanceolate, to 12 mm long; **involucre** ± hemispheroid with spreading tips, 13–22 mm across, phyllaries 18–20 + 1 inner phyllary subtending each ray flower, outer 3 phyllaries acuminate-triangular, ± 9 × 3 mm, other phyllaries long-acuminate to acuminate-lanceolate, 11–16 × 2–3 mm, < outer phyllaries, noticeably scabrous on acuminate tip; receptacle domelike, with bractlet (palea) subtending and cupping each disc flower, bractlet folded and with winged keel, in range 8–8.5 × 1.5 mm, scarious, with a central lobe and having a pair of smaller lateral teeth at top, central lobe green, upper portion of palea puberulent on outer surface. **Ray flower:** bilateral, to 10 mm across; **calyx (pappus)** mostly of 5 unequal scales, scales lanceolate to ovate, 0.7–2.5 mm long on each flower, jagged on margins, the longer scales keeled, keel lacking hairs at base; **corolla** unlobed or minutely notched; tube solid, 1–1.5 mm long, yellow, glabrous; limb obovate to elliptic, 17–30 × 3–10.5 mm, yellow, acute at tip, parallel veins raised on lower surface, glabrous; **stamens** absent; **pistil** 1, sterile; ovary inferior, conspicuously 3-sided with flat outer side, 3 × 1 mm, white with greenish edges, smooth, glabrous, lacking chamber; style absent. **Disc flower:** radial, 1.5–2 mm across (5 mm across = spreading style branches); **calyx (pappus)** to 2 subequal, opposite scales, scales narrowly lanceolate (aristate), 2.2–2.9 × 0.3–0.4 mm, scarious, keeled, jagged on margins, with stiff, hairlike projectors at base of keel; **corolla** 5-lobed, 6.5–7 mm long; tube cylindric, ± 1 × 0.5 mm, white, glabrous; throat ca. 1.3 mm wide at orifice, 10-veined, colorless with yellow veins, with some minute hairs along veins to sinuses; lobes triangular, 1.2–1.4 mm long, golden-

yellow,  $\pm$  puberulent; **stamens** 5, attached to top of corolla tube; filaments ca. 3 mm long, yellow; anthers eventually exerted, fused into cylinder surrounding style, 3.6–4 mm long including appendages, purple to brownish purple with yellow appendages, longitudinally dehiscent; pollen gold yellow; **pistil** 1; ovary inferior, inversely pyramidal 4-sided, 1.7–1.8  $\times$  1.3–1.4 mm, white, asymmetrically notched at base, smooth, glabrous, 1-chambered with 1 ovule; style 2-branched, to 7 mm long below fork, white at base to yellowish above midpoint, the branches stigmatic, ascending to spreading, to 3 mm long, golden yellow, papillate on outer (lower) side. **Fruits:** cypselae of disc flowers, inversely pyramidal 4-sided, in range ca. 4  $\times$  1.5 mm, mottled black and light, faces finely ribbed base to top, base asymmetrically notched; pappus scales 2, in range  $<$  3 mm long, mostly absent at maturity.

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