

## Vascular Plants of Williamson County

*Grindelia ciliata* – SPANISH GOLD, WAXED GOLDENWEED [Asteraceae]

*Grindelia ciliata* (Nutt.) Spreng. (syn. *Prionopsis ciliata* and *Grindelia papposa*), SPANISH GOLD, WAXED GOLDENWEED. Annual, taprooted, not rosetted, 1-stemmed at base, initially unbranched later with ascending lateral branches in canopy, erect, in range to 75 cm tall; shoots with only clasping, sessile cauline leaves, plant totally lacking nonglandular hairs, foliage mostly ascending gland-dotted, of sunken glandular hairs producing resin with resin eventually drying dry (concealing hairs) and not viscid. **Stems:** ridged, to 6 mm diameter, with 3 ridges descending from each leaf, epidermis soon replaced by thin tan periderm, lower stems woody. **Leaves:** helically alternate, simple and sessile, clasping at base, without stipules; blade oblong to obovate, in range 30–60 × 14–30 mm, initially dark green, regularly serrate with stiff, pointed teeth on margin, to 15 teeth per edge, rounded at tip, pinnately veined with midrib raised on lower surface. **Inflorescence:** heads in leafy, cymelike array of 1–several heads, terminal, head radiate, 30–42 mm across, with ± 30 pistillate ray flowers and 100+ bisexual disc flowers, bracteate, glabrous, green tissues with resin-producing sessile glandular hairs; peduncle < 10 mm long, with 1–3 diminutive, leaflike bracts; **involucre** hemispheroid, 10–15 × 22–25 mm with ascending and spreading flat phyllaries (not keeled), phyllaries 60+ in several series, the outer phyllaries narrowly triangular and ca. 7 × < 1 mm, other phyllaries acuminate-lanceolate, (7–)10–14 × (<1.5–)2.5–3 mm, not fleshy, white at base, in range to 5-veined, glabrous, free green portions initially resinous, inner phyllaries appressed to ray flowers often adherent by resin; receptacle slightly low-convex to flat, lacking bractlets (paleae), conspicuously deeply pitted with crownlike surrounding each disc ovary tightly nested by crown, crown to 2 mm tall with triangular to acuminate scalelike teeth on margins, white, glabrous. **Ray flower:** bilateral, 2.2–2.8 mm across (corolla limb); **calyx (pappus)** of capillary bristles with upward-pointing barbs (antrorsely barbellate), bristles ca. 30 in 1 series fused in ring on rim at top of ovary, unequal and appressed to corolla, 1–< 4 mm long, all slender, whitish, persistent attached to rim or tardily abscising; **corolla** unlobed (obscurely 2-notched); tube ± cylindrical, ca. 4 × 0.5 mm, whitish changing to yellowish at top, wall thick but not bulging at base, glabrous; limb strap-shaped oblanceolate-linear, in range 11–17 × 2.2–2.8 mm, bright yellow, with 6–10 fine parallel veins, when stressed coiling to lower side, lacking hairs; **nectary disc** not evident; **stamens** absent; **pistil** 1; ovary inferior, bell-shaped, ca. 1.5 mm long, white, glabrous and smooth, 1-chambered with 1 ovule; style scarcely visible at top of corolla tube, ca. 4 mm long, translucent at base to yellowish approaching tip. **Disc flower:** radial, 1 mm across, 8.5–10 mm long; **calyx (pappus)** of capillary bristles with upward-pointing barbs (antrorsely barbellate, in range no bristles smooth), in several series, outer series of unequal bristles to 50 fused in ring on rim at top of ovary, < 1–7 mm long, offwhite, mostly slender, inner series of to 15, thicker bristles 5.5–8 mm long, the longest bristles > corolla tube + throat; **corolla** 5-lobed, 7–8.5 mm long; tube strongly 5-ribbed, 2–2.2 × 0.35 mm, ribs offwhite; throat cylindrical (narrowly bell-shaped), ca. 4.5 × 1 mm, yellowish to colorless with fine yellow veins; lobes erect, blunt-triangular, ± 0.7 mm long, bright yellow; **stamens** 5, attached at top of corolla tube, included; filaments ca. 1.5 mm long, light yellow-orange; anthers fused in cylinder surrounding style, basifixed, dithecal, 3 mm long including triangular appendage, pale

yellow with red stripes, longitudinally dehiscent; pollen light yellow; **pistil** 1; ovary inferior, top-shaped slightly compressed side-to-side, 1.2–1.5 × 0.7 mm, white with exceedingly fine reddish lines, with rim for pappus at top, glabrous, 1-chambered with 1 ovule; **nectary disc** saucer-shaped surrounding base of style, < 0.1 mm long, colorless, low-scalloped; style exerted ca. 2.5 mm, white to midpoint and yellow above midpoint, 2-branched, the stigmatic branches ca. 2 mm long, hemi-lanceoloid to hemi-ellipsoid, conspicuously papillate. **Fruits:** cypselae (achenes) monomorphic, of ray flowers asymmetrically ovoid to broadly ellipsoid, 2.5–3.5 long, of disc flowers 2–3 × 1.3–2 mm, ± tannish with brownish stripe aging grayish, mostly rounded and striped to ribbed but sometimes with a flattish face, smooth (not wrinkled, rugose) with whitish rim at top (base); pappus spreading, unequal capillary bristles to 4 mm long, pale straw-colored; corolla persistent with pappus ring.

A. C. Gibson