

Vascular Plants of Williamson County
Grindelia adenodonta – GUMWEED [Asteraceae]

Grindelia adenodonta (Steyerm.) G. L. Nesom, GUMWEED. Annual, taprooted, not rosetted, 1-stemmed at base, ascending to spreading, in range to 165 cm tall (to 240 cm tall if erected); gynomonoecious; shoots with several petiolate basal leaves and mostly sessile cauline leaves, glabrous and mostly not resinous on unmolested, living plant except resinous teeth on leaves. **Stems:** broadly ridged, to 16 mm diameter (woody basal stem), with a wide ridge descending from each leaf; green or aging straw-colored and often red-purple on exposed side, short-hirsute (hirtellous) to short-villous and having stalked glandular hairs, woody stems with brown periderm. **Leaves:** helically alternate, simple and petiolate (basal leaves) and sessile often clasping at base (cauline leaves), without stipules; petiole flared at base, \pm flattened top-to-bottom, to 6 mm long, with midvein raised on lower side, short-hairy; blade oblong or obovate to deltate or ovate, 15–94 \times 7–34 mm, base short-fused to base with free portion truncate or of rounded basal lobes, regularly serrate with blunt, resin-producing glandular teeth or without teeth approaching base, teeth midblade 8–12 per cm, acute to rounded at tip, pinnately veined with midrib raised on lower surface, viscid-resinous on blunt teeth, surfaces short-hairy, upper surface villous along midrib, lower surface having sparse, widely scattered stalked glandular hairs, and pools of exuded resin where injured by insects. **Inflorescence:** heads in leafy, cymelike array of several heads, terminal, head radiate, (16–)20–28 mm across, typically with 23–30 pistillate ray flowers and 100+ bisexual disc flowers with disc to 11 mm across (disc flowers after collection sometimes becoming covered with resin), bracteate, short-hairy and involucre resinous on living plant; peduncle cylindrical and $<$ 5 mm long, tough, purplish red, densely short-hairy; **involucre** initially appearing hemispheroid becoming urn-shaped in fruit, of ca. 160 phyllaries, phyllaries green mostly narrowly lanceolate, the outermost 2 sometimes leaflike and elliptic with petiole, 9–9.5 mm long, outer and middle phyllaries spreading and ascending in 4–6 series ca. 8 mm long, cylindrical from midpoint and hooked outward to recurved with blunt resinous tips, inner phyllaries ca. 55, erect and appressed to ray flowers, flat and acute at tip, often adherent by resin; receptacle low-convex, lacking bractlets (paleae), pitted and crownlike surrounding each disc ovary, crown to 0.4 mm tall with blunt teeth on margins, white, glabrous. **Ray flower:** bilateral, 1.7–3 mm across; **calyx (pappus)** of 1 smooth, capillary “bristle” on top of ovary inner edge, 3.5–4 mm long, white, not club-shaped at tip, easily detached; **corolla** unlobed; tube \pm 5-angled, 3.5–4 \times 0.5–0.7 mm, white and thick to midpoint, yellowish to yellow and thinner above midpoint, oblique at base, glabrous; limb elliptic to oblong, 5–9.5 \times 1.5–3 mm, bright yellow but yellow-orange at tip, finely parallel 4-veined or 6-veined visible on lower surface; **stamens** absent; **pistil** 1; ovary inferior, wedge-shaped and 3-sided compressed side-to-side, ca. 1.4 \times 0.6 \times 0.8–1 mm, white, 5-ribbed on outer side, having short horizontal ridges, 1-chambered with 1 ovule; **nectary disc** surround style at base, ca. 0.3 mm long, colorless; style ca. 4 mm long, included to exerted from corolla tube to 1.5 mm, 2-branched from midpoint, white to midpoint and yellow above midpoint aging reddish, the stigmatic branches flattened. **Disc flower:** radial, 1 mm across, ca. 7 mm long; **calyx (pappus)** of 2 opposite and lateral, smooth, capillary “bristles,” 5–6.5 mm long, white, somewhat club-shaped at tip, club-shaped portion often exerted above

corolla, easily detached; **corolla** 5-lobed; tube cylindric, ca. $1 \times 0.65\text{--}0.7$ mm, white; throat cylindric, to 1 mm diameter, colorless; lobes triangular, 0.3–0.7 mm long, golden yellow; **stamens** 5, attached at top of corolla tube; filaments 1.5 mm long, yellowish; anthers basifixed, dithecal, usually fully exerted, 3 mm long including appendage 0.4 mm long, golden yellow with 5 fine reddish strips, longitudinally dehiscent; pollen golden yellow; **pistil** 1; ovary inferior, \pm 4-sided wedge-shaped, $1 \times 1 \times 0.35$ mm, translucent white, glabrous, 1-chambered with 1 ovule; **nectary disc** surrounding base of style, ca. 0.4 mm long, colorless; style exerted, 5–5.5 mm long, 2-branched, whitish at base, pale yellow approaching fork, the branches initially appressed, ca. 1.8 mm long, golden yellow, papillate-hairy. **Fruits:** cypselae (achenes), dimorphic, lacking pappus; of ray flowers strongly 3-sided and \pm truncate and knobby top and bottom, $3.5\text{--}4.1 \times 2\text{--}2.5 \times 1.5$ mm, extremely hard, outer 2 edges tan and ridgelike or nearly winged, faces light and dark brown (reddish) and coarsely warty, glossy when resin-coated, having a thin, inner edge tan and often winglike; of outer disc flowers obovoid strongly flattened side-to-side, $4.5\text{--}5.3 \times 2\text{--}2.4 \times 0.5\text{--}1$ mm, having ca. 25 straw-colored fine ribs base-to tip on each side alternating with pale brown to brown, papery.

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