

Vascular Plants of Williamson County

Engelmannia peristenia – ENGELMANN DAISY, CUTLEAF DAISY [Asteraceae]

Engelmannia peristenia (Raf.) Goodm. & C. A. Meyers, ENGELMANN DAISY, CUTLEAF DAISY. Perennial herb, taprooted with caudex, several-stemmed at base, ascending, 20–70+ cm tall; monoecious; shoots with basal leaves and cauline leaves, hirsute and hispid with spreading and ascending hairs 0.4–2.5 mm long, lacking glandular hairs. **Stems:** ± cylindric, to 5 mm diameter, with 2 indistinct ridges descending a short distance from each leaf. **Leaves:** helically alternate, in range 1-pinnately lobed, petiolate (basal leaves) and sessile (cauline leaves), without stipules; petiole broadly channeled, to 70+ mm long decreasing upward, at attachment thin and crescent-shaped, tough, rounded on back, whitish in channel to a white midrib; blade elliptic to oblong in outline (lower leaves), to 180 × 65 mm, narrowly ovate or oblong in outline (upper leaves) and < lower leaves, broadly tapered at base, lobes subopposite to alternate, narrowly ovate to oblong and to 30 mm long, with sinuses more narrow than lobes, lower sinuses of basal leaves nearly to midrib grading to terminal portion of blade coarsely toothed, lobes and coarse teeth obtuse to acute, pinnately veined with principal veins raised on lower surface, midrib white on both surfaces. **Inflorescence:** heads, in terminal and axillary, leafy, open, cymelike arrays, array with 10+ heads on long to short peduncles, head radiate, 30–38 mm across, with 8–9 ray flowers and 25–60+ disc flowers, bracteate, hirsute, lacking glandular hairs; bract subtending each ascending axis, leaflike but sessile with a swollen base, to 50 mm long decreasing upward; peduncle at anthesis to 40 × ± 1.5 mm, often with appressed hairs, bract at top of peduncle (calyculus) absent; **involucre** hemispheroid, 6–10 mm across but in bud with ascending to somewhat spreading phyllaries, outer phyllaries usually 10–15, inner phyllaries 8–9 opposite each ray flower, outer phyllaries with raised, roundish bases and free oblong to oblanceolate blade, 5–8 × 1.7–2.3 mm, green, conspicuously ciliate on margins, obtuse to rounded at tip, persistent; inner phyllaries mostly with enlarged, cupped base having a spreading, diminutive, hairy blade at top mostly < 2 mm long, broad portion short-hairy on outer surface; receptacle domelike, to 2 mm high, with bractlet (palea) subtending each disc flower, palea tip curved over flower bud, of central flowers linear, ca. 5 × 0.4 mm, dome with tufts of short hairs between ovaries. **Ray flower:** pistillate, bilateral, 5–7.5 mm across; **calyx (pappus)** crownlike compressed front-to-back, of short-hairy scales 0.7–1+ mm long, and with 2 longer opposite points (awnlike structures = part of ovary); **corolla** 3-toothed having a diminutive middle tooth; tube ca. 1 mm long, flattened front-to-back; limb elliptic, 13–16 mm long, bright yellow having to 10 orangish veins most conspicuous on lower surface, veins not fused at tip, lower surface strigose, lateral teeth rounded; **stamens** absent; **pistil** 1; ovary inferior, obovate in outline and strongly compressed front-to-back, 3 mm long, green, with longitudinal ridge on inner surface, short glandular-hairy, 1-chambered with 1 ovule; style 3.5–4.5 mm long, golden yellow, 2-branched, lower portion 1 mm concealed by corolla tube, stigmatic branches grooved 2 mm. **Disc flower:** appearing bisexual but functionally staminate, radial, 2 mm across, ca. 7.5 mm long; **calyx (pappus)** absent sometimes with 2, inconspicuous and rudimentary whitish bumps (= part of ovary); **corolla** 5-lobed, narrowly funnel-shaped, 4.2–4.6 mm long; tube slender, cylindric, 1 mm long, white, glabrous, throat ca. 2.8 mm long, golden yellow, with 5 veins to sinuses; lobes spreading, ± deltate, ca. 0.5 mm but 1

lobe often wider, with ascending short hairs on edges and outer surface, densely papillate on inner (upper) surface; at anthesis tube + throat filled with nectar; **stamens** 5, fused to corolla just below throat, exerted 1 mm; filaments \pm 1.8 mm long, whitish at base to orangish above; anthers fused in cylinder surrounding style, basifixed, dithecal, \pm 2 mm long, purple-black to brown-black (orange + purple pigments), longitudinally dehiscent; pollen yellow-orange; **pistil** 1, sterile; ovary inferior, inverse-conic somewhat compressed, 0.55–0.7 mm long, whitish, lacking ovule; style with **nectary** at base, exerted 1.5 mm and slightly above anthers, not branched, white and glabrous at base, upper portion yellow-orange and papillate-hairy. **Fruits:** cypselae (achenes), monomorphic (ray flowers), dispersal unit of inner phyllary (palea) with appressed cypsela and (1–)2–4 strongly cupped paleae and dried, sterile ovaries of those disc flowers (other flower parts); phyllary strongly cupped (rounded on back), ca. 6×3.5 –4 mm, brownish, having the diminutive, hispid blade on top, mostly splitting at least into 2 halves through blade to base of phyllary, cupped surface with short stiff hairs above midpoint; cypsela having several hispid, scarious scales at top ca. 0.7 mm long, obovate in outline, 3.8 – 4.2×2.2 – 2.4 mm, black, turtle shell-like on phyllary side with a median ridge, inner side having a median ridge with 2 indented surfaces, finely textured, white papillate-hairy where hairs not removed; paleae of disc flowers somewhat twisted and cross-ribbed, brown to brownish, hispid at top.

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