

Vascular Plants of Williamson County

Melampodium leucanthum – BLACK-FOOT DAISY [Asteraceae]

Melampodium leucanthum Torrey & A. Gray, BLACK-FOOT DAISY. Perennial herb to subshrub, woody-taprooted, several-many-stemmed at base, having decumbent lower branches and ascending flowering branches, in range to 45 cm tall; monoecious; shoots with only narrow cauline leaves, produced widely spaced to the upper side (appearing 1-sided), foliage somewhat scabrous and strigose and gland-dotted with scattered, mostly sessile, colorless glandular hairs. **Stems:** cylindric, of young stems ca. 1 mm diameter, often tinged pink to purplish, lower stems to 6 mm diameter with brown bark, strigose hairs 0.3–0.6(–0.8) mm long and upward-pointing. **Leaves:** opposite decussate, simple to 6-lobed, petiolate and pair fused across node, without stipules; petiole winged and indistinct from blade base, to 10 mm long, midvein white and rounded on lower side; blade elliptic-linear to lanceolate-linear, 21–45 × 3–7(–13) mm, broader if shallowly pinnately lobed, long-tapered at base, entire to irregularly low-toothed on margin, the margin sometimes somewhat inrolled under, obtuse to acute with fleshy callous at tip, pinnately veined with only midrib conspicuous and raised on lower surface. **Inflorescence:** head, generally solitary aging as a leafy, cymelike array of several heads, terminal on a slender peduncle, radiate, with 8–11(–13) pistillate ray flowers and 25–55+ functionally staminate disc flowers, 25–29 mm across, bracteate; bract subtending peduncle leaflike, often somewhat inrolled on margins, at base of inflorescence with one axillary shoot growing before another; peduncle cylindric, to 85 × 0.6–0.7 mm, in depression of involucre, having short hairs arched and bent upward and short-stalked glandular hairs; **involucre** broadly cup-shaped to hemispheroid, 7–10 mm diameter, phyllaries in 2 distinct series and dimorphic, outer 5 phyllaries fused at least to midpoint and concealing inner phyllaries, flexible, green and herbaceous, with 5 raised midveins, lobes ± broadly ovate, 3–3.5 × 3–3.5 mm, conspicuously short-hairy and gland-dotted, inner phyllaries = ray flowers, each phyllary forming a permanent complex with ovary of ray flower, lower portion tightly enclosing ovary and upper portion forming a peaked collar open on the inner side, at anthesis green, lower portion with conspicuous, peglike projections, having a conic knob at base on inner side; receptacle conic, bractlet subtending disc flower (palea) membranous, 3/4 encircling ovary, ca. 4.5 mm long, ± keeled, colorless at base, top to yellow and deeply cut concealing flower bud, aging scarious. **Ray flower:** pistillate, bilateral, to 7 mm across (at pollination 2 mm across); **calyx (pappus)** absent; **corolla** mostly notched and 2-lobed to 3-lobed or toothed, at pollination 3.5–4 mm long and inrolled; tube compressed top-to-bottom, < 0.5 × 0.5 mm, green, outer surface short-hairy and glandular; limb oblong-obovate to narrowly fan-shaped, 7–11 × (2.5–)5.5–7 mm, at maturity pure white with 7–9 yellowish green (salmon-colored) veins raised on lower surfaces (at pollination with veins reddish), lower surface having sessile glands with colorless heads and aging sparsely short-strigose; **stamens** absent; **pistil** 1; ovary inferior, asymmetrically top-shaped compressed side-to-side, ca. 1 × 0.7 mm, white with fine lengthwise veins, 1-chambered with 1 ovule; style to 2 mm long, 2-branched just above base, the branches ascending, narrowly tongue-like with groove on stigmatic inner side, light yellow-green, with glandular colorless heads on outer surface at pollination, aging recurved to coiled and black. **Disc flower:** appearing bisexual but functionally staminate, radial, ca. 2.5 mm across; **calyx**

(**pappus**) absent; **corolla** 5-lobed; tube short, white, minutely hairy; throat funnel-shaped, to 1.5×1 mm, yellowish, without hairs; lobes triangular, 0.8×0.6 mm, yellow, conspicuously papillate on upper surface and with tuft of short hairs near tip; **stamens** 5, attached to top of corolla tube; filaments ca. 1 mm long, white; anthers fused into cylinder surrounding style, basifixed, dithecal, ± 1.5 mm long, golden yellow to yellow-orange, longitudinally dehiscent; pollen golden yellow; **nectary disc** around base of style, 0.1 mm long, white; **pistil** 1, sterile; ovary wedge-shaped, $0.8\text{--}1.2 \times 0.4\text{--}0.6$ mm, greenish, short-hairy; style with tip exerted from anthers, cylindrical, 3 mm, white to midpoint and yellowish above midpoint, unbranched, puberulent approaching tip. **Fruits:** cypselae (achenes) of only ray flowers, each enclosed by inner phyllary (perigynium); cypselae ear-shaped flattened side-to-side, $1.5\text{--}2.6 \times 1\text{--}1.6$ mm, black, with fine, lengthwise grooves; perigynium leathery, enclosed around fruit but with slitlike opening on top, fruit chamber powderhorn-shaped, 2.5–3.5 mm long, 3-ribbed on lateral faces with bridges and bumps (tuberculate), free portion of phyllary peaked and collarlike above fruit chamber, ca. 1.5 mm long, short-hairy at top.

A. C. Gibson