

Vascular Plants of Williamson County

Helenium amarum var. *amarum* – YELLOW BITTERWEED, FINELEAF BITTER SNEEZEWEED, YELLOW DOG FENNEL [Asteraceae]

Helenium amarum (Raf.) H. Rock var. *amarum*, YELLOW BITTERWEED, FINELEAF BITTER SNEEZEWEED, YELLOW DOG FENNEL. Annual, taprooted, not rosetted, 1-stemmed at base, ± erect with ascending, flowering principal branches, in range 15–65 cm tall; gynomonocious; shoots with feathery basal leaves and cauline leaves, leaves either linear or dissected with several linear lobes (lower spring leaves), tufted at nodes having cauline leaf with several leaves on unexpanded axillary shoot, lower leaves withered and absent at flowering, with weak short hairs withering so appearing glabrous on mature shoots and gland-dotted with sessile glandular hairs, foliage pleasantly aromatic when crushed.

Stems: strongly ridged (not winged), to 5 mm diameter, with 3 ridges descending from each leaf, tough, old stems lacking nonglandular hairs, with sessile glandular hairs.

Leaves: helically alternate, simple and sessile (first-formed leaves sometimes deeply lobed with linear lobes), without stipules; blade of most leaves linear, in range 20–60 × 0.5–1.2 mm, entire, blunt at tip, 1-veined with midrib raised on lower surface, with scattered, delicate short hairs and abundant sunken, sessile glandular hairs on both surfaces. **Inflorescence:** head, solitary and terminal on long peduncle, heads radiate, ca. 20 mm across, mostly with 8–10 pistillate ray flowers and hemispheric mound of 75+ bisexual disc flowers, bracteate; peduncle slender, 5-ridged, 50–130 × 0.5 mm, tough, sparsely short-hairy and with sessile glandular hairs, lacking bracts subtending involucre at top (calyculus); **involucre** somewhat hemispheroid in outline, phyllaries ca. 16 in at least 2 series, free to base, outer phyllaries ca. 8, acuminate, ca. 6 × 0.8 mm, pale green at base to green at blunt tip, inner phyllaries ca. 8, lanceolate, 2.5–3 × 0.65–0.7 mm, pale green, lower surface with short hairs and sunken sessile glandular hairs; receptacle hemispheric (strongly domed), lacking bractlets (paleae), glabrous. **Ray flower:** bilateral, 4–5.5 mm across; **calyx (pappus)** of 6–8 scales in 1 whorl, scarious with awn from midpoint (aristate), 1.1–1.3 mm long, lower portion overlapping in whorl, obovate, lacking vein, entire or minutely jagged approaching awn; **corolla** (2–)3-lobed; tube cylindrical, ca. 1 mm long, whitish; limb fan-shaped, in range 6.5–9 × 4–5.5 mm, bright yellow (lacking brown or purple at tips), 4-veined at base branched at midpoint with 2 veins converging at tip of each lobe, lobes rounded with short point at tip, < 1 mm long, lower surface having yellow, short-pilose hairs with sessile glandular hairs and raised veins, ciliate on margin near base; **stamens** absent; **pistil** 1; ovary inferior, inversely conic, 0.5–0.6 mm long, white, with tuft of stiff, straight hairs at base 0.6–1.1 mm long, each hair minutely forked at tip, 1-chambered with 1 ovule; style 1.5–2 mm long, orange-yellow, 2-branched, the stigmatic branches ascending, fully exerted, 0.5 mm long. **Disc flower:** radial, 1 mm across (spreading branches of style); **calyx (pappus)** of 6–8 scales in 1 whorl, scarious with awn from midpoint (aristate), 1.5–2 mm long, lower portion obovate, lacking vein, entire or minutely jagged approaching awn; **corolla** 4-lobed (several of the outermost flowers) and 5-lobed, narrowly funnel-shaped; tube + throat ca. 2 × 0.8 mm, orange-yellow, gland-dotted; lobes acute triangular, 0.35–0.4 mm long, densely yellow papillate-hairy on outer (lower) surface; **stamens** 4 (the outermost flowers) or 5, attached to top of corolla tube; filaments 1–1.3 mm long, yellow; anthers basifixed, dithecal, exerted to 1 mm, 1.6–18

mm long including appendages 0.3 mm long, orange-yellow, longitudinally dehiscent; pollen orange-yellow; **nectary disc** surrounding base of style; **pistil** 1; ovary inferior, inversely conic, $0.8 \times 0.6\text{--}0.6.5$, white, with tuft of stiff, straight hairs at base 0.6–1.3 mm long, each hair minutely forked at tip, 1-chambered with 1 ovule; style ca. 2.5 mm long, 2-branched, below fork pale orange-yellow and above orange-yellow, the stigmatic branches spreading, recurved and fully exerted, 1 mm long, channeled on upper (inner) surface, conspicuously papillate at tip. **Fruits:** cypselae (achenes), with 6–8 whorled, scarious, awned scales; fruit body of disc flowers \pm inversely conic (slightly bulging), $0.8\text{--}1.1 \times 0.6\text{--}0.75$ mm, \pm glossy black minutely textured with cells in rows, with tuft of unequal stiff, straight hairs 0.6–1.3 mm long (some $>$ cypselae), of ray flowers similar but flattened on 1 side and somewhat brown; pappus aristate scales of disc flowers scarious, 1.5–2 mm long, lower portion obovate, to midpoint, lacking veins, of ray flowers 1.1–1.3 mm long.

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