

***Heterotheca sessiliflora*** (Nutt.) Shinnery, HAIRY GOLDENASTER. Perennial herb, woody-taprooted, several-many-stemmed at base, branched in flowering canopy, erect to ascending, in range 30–85 cm tall; shoots leafy with cauline leaves but lower leaves withered by anthesis, light green with silvery whitish hairs, moderately to densely villous or hirsute-strigose often with expanded bases and also in canopy short-stalked glandular hairs with colorless heads, strongly aromatic. **Stems:** ridged, to 15 mm diameter, with 3 ridges descending from each leaf. **Leaves:** helically alternate, simple, petiolate (lower leaves) and sessile (canopy leaves), without stipules; petiole to 12+ mm long, expanded at base, villous and also long-strigose on edges; blade oblanceolate (lower leaves) to lanceolate (upper cauline leaves), 8–45(–60) × 3–10 mm decreasing upward, low-tapered to broadly tapered at base, entire and ± wavy on margins, acute to obtuse or rounded at tip often with short point, pinnately veined with principal veins raised on lower surface, villous to strigose and glandular-hairy. **Inflorescence:** heads, in terminal, open, somewhat flat-topped, cymelike arrays, array with (1–)7–55(–126) heads, head radiate, 10–22 mm across, with 6–15 ray flowers and 20–50 disc flowers, bracteate, densely hirsute and glandular-hairy; branchlets ascending, with leaflike bracts along axis (bracts of future peduncles), bracts oblanceolate to lanceolate, 4–10 × 2–3 mm, ± clasping at base, entire and often not wavy on margins, acute at tip; peduncle of head 0–25 mm long with (1–)3–5 bracts, bracts (of future peduncles) oblanceolate to linear, < 7 × 2 mm; **involucre** cylindrical to urn-shaped or bell-shaped, 6.5–11(–12) × 5–7 mm, phyllaries ca. 50 in 4–6 series, 2.5–8 × 0.5–1 mm, grading from outer phyllaries short and narrowly lanceolate to inner phyllaries longer and linear, colorless on margins, fringed-ciliate at acuminate tip, short-villous, strigose, and glandular-hairy, the glandular hairs with translucent yellowish green to reddish heads; receptacle flat aging slightly convex in fruit, without bractlets (paleae), pitted with a whitish toothed crown surrounding each ovary. **Ray flower:** pistillate, bilateral, ca. 1.5 mm across; **calyx (pappus)** in 2 series, outer series of 20–30 short, whitish, awl-shaped scales, inner series of many whitish capillary bristles; **corolla** unlobed or with 2 minute teeth; tube cylindrical, 3–4.5 × 0.3 mm, light greenish, with ascending short hairs < 0.25 mm long (also on lower limb); limb narrowly elliptic, 6.5–10.5 × 1.2–1.7 mm, vivid yellow aging with fine purplish parallel veins, acute at tip; **stamens** absent; **pistil** 1, 4.5–7 mm long; ovary inferior, obovoid, 1–1.3 mm long, densely short-sericeous, 1-chambered with 1 ovule; style exserted, 3.5–5.5 mm long, vivid yellow, 2-branched, the stigmatic branches erect, subequal, slender, ± 0.7 mm long. **Disc flower:** bisexual, radial, 1 mm across; **calyx (pappus)** in 2 series, outer series of 20–30 short, whitish, awl-shaped scales, inner series of many whitish capillary bristles; **corolla** 5-lobed, ± 6.5 mm long, with some fine hairs 0.25–0.7 mm long; tube cylindrical, 1.5–2 × 0.4 mm, whitish; throat 3.5–3.8 mm long, expanding to 1 mm wide below lobes, whitish changing to vivid yellow above; lobes ascending, acute, 0.6–0.9 mm long, golden yellow; **stamens** 5, fused to base of corolla throat; filaments ± 1.7 mm long, yellow; anthers fused into cylindrical surrounding style, slightly exserted, basifixed, dithecal, ± 2.3 mm long, vivid yellow, with appendages at tips, the appendages narrowly triangular, ± 0.5 mm long, translucent, longitudinally dehiscent; pollen yellow to orangey yellow; **pistil** 1; ovary inferior, inversely conic and slightly compressed, ± 1 mm long, white, with dense, ascending appressed hairs; style short-exserted, ± 5 mm long, 2-branched, the stigmatic branches erect, often appressed, flattened, 1–1.5 mm long, papillate at least above

midpoint. **Fruits:** cypselae, monomorphic, oblanceoloid compressed front-to-back, in range 2.7–3.8 mm long, silvery strigose, 6–10 ribbed; pappus outer series of 20–30 narrowly awl-shaped scales, 0.2–0.9 mm long, fringed on margins at tip, inner series of (25–)35–58 spreading bristles, mostly 4–7 mm long, tawny, long-tapered at tip. Late August–early November.

Native. Perennial herb occurring in openings of chaparral and open grassland, e.g., oak savanna. *Heterotheca sessiliflora* is a variable species with four recognized subspecies as well as additional varieties, and in range the common subspecies is *fastigiata* (Greene) Semple (variety *fastigiata*), which is supposed to have wavy blade margins, but sometimes does not. Hybrids between subspecies *fastigiata* and *echioides* (Benth.) Semple are known from the range, and our populations often show intermediate characteristics between the two subspecies. It is likely that the typical form of subsp. *echioides* (Benth.) Semple occurs in range, e.g., at Wildwood Regional Park, Thousand Oaks (SH), and needs to be more thoroughly studied for a description.

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