

Madia sativa Molina, COAST TARWEED, CHILE TARWEED. Annual, taprooted, 1–several-stemmed at base, often unbranched and straight (especially when tall), reproductive branches of upper canopy typically not exceeding main axis, erect to ascending, 25–250 cm tall; shoots with unexpanded axillary branches producing clustered leaves at nodes along stem, hirsute to pilose and conspicuously glandular-hairy, the nonglandular hairs 0.5–2.5 mm long and tapered from a slightly wider or very stout base, colorless or becoming frosty white at base, often with resinous exudate at cell junctions or at tip, the glandular hairs 0.2–1 mm long, capitate with a yellowish green, saucer-shaped to inversely conic head on a sometimes stout stalk, the exudate colorless to pale yellow aging amber to dark reddish or black thereby forming a colored sphere on or around head, strongly aromatic. **Stems:** ± cylindric, to 10 mm diameter, hirsute and capitate-glandular from plant base-to-top. **Leaves:** helically alternate, simple, sessile and ± clasping, without stipules; blade lanceolate to linear-oblong to linear, in range 10–100 × 3–10(–18) mm, broadly tapered to rounded and slightly clasping stem at base, entire, acute at tip, with obvious midrib and sometimes with several fainter longitudinal veins (larger leaves), midrib raised on lower surface, hirsute and capitate-glandular. **Inflorescence:** heads, in terminal racemelike or paniclelike arrays, array with several–many heads, flowering canopy with principal branches ascending (ca. 400 mm long for the lowest branch decreasing upward), each later branch commonly 1–several-branched above midpoint, head radiate, ca. 7 mm across, in range of 6–13 ray flowers and 12–36 disc flowers, bracteate, glandular-hairy like shoot and very sticky; bract subtending peduncle leaflike, lanceolate to elliptic, < 10 mm long; peduncle 1–8.5 mm long, with 2 small bracts from midpoint along axis or subtending head; **involucre** urn-shaped to ovoid, in range 8–8.5 × 5–7 mm, phyllaries 6–13 in 1 series, for each ray flower, equal, ± sickle-shaped, 6.5–8(–16) mm long, ± compressed side-to-side (but not flat) with sides incurved and enclosing ray flowers below midpoint, highly resinous, capitate glandular-hairy, ± tail-like (caudate) at tip with a flat, terminal projection 2–2.5 × 0.5 mm; receptacle flattish, with bractlets (paleae) subtending outer disc flowers (alternate with ray flowers), fused into a vertically corrugated, barrel-shaped palea tube 4.5–5 mm long fused 3.5–4 mm, green on ridges and acuminate tips, membranous on fused margins, pubescent on ridges, hirsute on tips, sometimes with 1 palea transitional between phyllary and palea tube. **Ray flower:** pistillate, bilateral, ca. 2 mm across; **calyx (pappus)** absent; **corolla** 3-lobed, 4–5.5 mm long, with limb extending beyond outer phyllaries; tube 1.8–2.2 mm long, greenish yellow to yellowish green, pubescent; limb erect to spreading, fan-shaped, 2.3–3.5 × 1.4–2.3 mm, in range brilliant yellow to brilliant greenish yellow green-veined on lower surface, lobes rounded, 0.5–0.8 mm long, brilliant yellow to brilliant greenish yellow; **stamens** absent; **pistil** 1; ovary inferior, obovate, 2.4–2.6 mm long, light yellow to whitish, glabrous, 1-chambered with 1 ovule; style 2–3.4 mm long, 2-branched, whitish or greenish below branches, the branches exerted, spreading, 0.6–1.8 mm long, yellowish, tapered, acute at tip, not papillate-hairy. **Disc flower:** bisexual, radial, < 1 mm across; on slightly raised stalk; **calyx (pappus)** absent; **corolla** 5-lobed, cylindric, in range 2.3–3.2 × 0.7–0.9 mm; tube-throat pale yellow at base to greenish yellow above, prior to anthesis purplish red anthers visible at top of throat, pubescent; lobes deltate, ± 0.5 mm, greenish yellow, minutely papillate; **stamens** 5, fused to corolla at midtube; filaments ± 0.7 mm long, yellowish; anthers fused into cylinder surrounding style, included, basifixed, dithecal, ca.

0.8 mm long, dark purplish red, with appendages ca. 0.3 mm long at tip, longitudinally dehiscent; pollen yellow; **pistil** 1; ovary inferior, obovate, 2.4–2.6 mm long, light yellow to whitish, glabrous, 1-chambered with 1 ovule; style 2–3.4 mm long, **nectary** cuplike at base, 0.1 × 0.25 mm, style 2-branched, whitish or greenish below branches, the branches exerted, spreading, < 1 mm long, yellowish, tapered, acute at tips, papillate-hairy. **Fruits:** cypselae, ± monomorphic, ± oblanceoloid, 3.2–3.5 × 0.9–1.2 mm, of ray flowers longitudinally curved with convex sides, of disc flowers longitudinally curved grading to straight at center of head, tan with dark brown markings or dull black, sometimes epidermis peeling off revealing a dull black subsurface, surface finely and minutely grooved with 30–40 grooves at the widest part, minutely transversely wrinkled between grooves. Mid-June–late August.

Native. Annual known from two localities near the village of Topanga, growing in disturbed, mostly sunny habitat near homesteads, where it may have been cultivated for seed oil. *Madia sativa* often grows as a very tall, unbranched plant with leaves covering the stem, and all parts of the plant are glandular, very sticky, and strongly aromatic, more so than its close cousin *M. gracilis*.

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