

*Madia* Molina TARWEED

*Madia gracilis* (Smith) D. D. Keck, SLENDER TARWEED, GUM WEED. Annual, taprooted, 1-stemmed at base, with ascending branches from above midplant, erect, 10–110 cm tall; shoots with only cauline, velveteen leaves, having nonglandular hairs and upper canopy and especially inflorescence conspicuously glandular-hairy, the glandular hairs stalked and having large green to yellowish green heads aging black or dark brown. **Stems:** cylindric or shallowly angled, 1–5 mm diameter, with an angle descending from each leaf midrib, nonglandular hairs short to long and tapered from broader base, the longer ones multicellular and capillary, older stems  $\pm$  hirsute with long and short hairs; hollow. **Leaves:** opposite decussate (lower plant) and helically alternate above, simple, sessile and fused across node (opposite leaves) or clasping (alternate leaves), without stipules; blade elliptic-linear to lanceolate, 10–100+  $\times$  (1–)4–12 mm, entire, acute at tip, with only midrib visible, generally with nonglandular hairs, pilose to hirsute or long-pubescent, with some glandular hairs on blades of upper canopy. **Inflorescence:** heads in racemelike or paniclelike arrays, terminal, heads crowded, radiate, 6–10 mm across, with 3–8(–10) ray flowers and (2–)5–22 disc flowers, bracteate, all green surfaces resinous and bearing conspicuous, stalked glandular hairs; bract subtending peduncle lanceolate or elliptic to oblanceolate, to 15 mm long; peduncle cylindric, 1–25 mm long, green, glandular-hairy and long-hairy; involucre urn-shaped (depressed spheroid), (5–)7.5–11  $\times$  6–8.5 mm, phyllaries in 1 series = ray flowers, equal, each phyllary pocketlike and enclosing ovary of a ray flower (conduplicate) and falling with fruit, sickle-shaped, 5.8–9  $\times$  1.7–2.7 mm deep (midrib to margin), 1–1.5 mm thick, convex along midvein, densely stalked-glandular and sparsely long-hairy on exposed surfaces and finely villous-ciliate on thin to membranous margins, oblong or  $\pm$  awl-shaped at tip 1.5–2 mm long, the tip erect or  $\pm$  reflexed and flat; receptacle flat, glabrous, with a series of fused bractlets (paleae) separating ray flowers from disc flowers, 1 palea per phyllary and fused into a pleated tube, the tips nearly within 0.5 mm of phyllary tips, portions opposite phyllaries membranous, sometimes toothed, surfaces glabrous but long-ciliate on margin, portion alternate with phyllaries and protruding between phyllaries green and stalked-glandular, with tooth at tip, the tooth narrowly triangular, to 1.5 mm long, long-hairy and densely glandular-hairy; free, membranous palea sometimes subtending a disc flower. **Ray flower:** pistillate, bilateral, 1.3–2.6 mm across; **calyx (pappus)** absent; **corolla** 3-lobed, 5–5.7 mm long, with limb extending beyond phyllary tips of involucre; tube 1.8–2.5 mm long, green to yellowish green, pubescent; limb erect to spreading, narrowly fan-shaped, 2.5–3  $\times$  1.5–2 mm with lobes 0.5–1 mm long, brilliant greenish yellowish to brilliant yellow-green, with 3 greenish veins on lower surface extending to tip of each lobe; **stamens** absent; **pistil** 1; ovary inferior, obovoid, colorless, glabrous; style 3.3–4 mm long, 2-branched, slightly swollen at base, the branches stigmatic, exerted from phyllary, spreading, linear, 0.8–1.2 mm long, yellow, flattened on inner face, glabrous or minutely papillate. **Disc flower:** bisexual, radial, (0.8–)1–1.4 mm across; **calyx (pappus)** absent; **corolla** 5-lobed, (2.6–)3–3.1(–4) mm long; tube-throat cylindric, in range 2.6–2.7 mm long, green, pubescent; lobes deltate 0.3–0.4 mm long, greenish yellow, glabrous; **stamens** 5, fused to corolla at or slightly below midtube; filaments flattened, 0.8 mm long, light green; anthers fused into cylinder surrounding style, basifixed, dithecal, 0.8 mm long, black or brown

with brownish sterile appendage 0.3 mm long, longitudinally dehiscent; pollen yellow; **pistil** 1; ovary inferior, obovoid, colorless, glabrous; style 2.3–2.8 mm long, 2-branched, green below fork, the branches stigmatic, exerted, linear, 0.6–0.7 mm long, yellow with ascending projections. **Fruits:** cypselae, monomorphic, asymmetrically obovoid compressed side-to-side and bowed outward, in range (3–)3.4–3.8 × 1.4–1.6 × 0.7 mm, dull black to dark purplish red or tannish mottled with black or purple, lacking beak, glabrous; pappus absent. Early May–late July.

Native. Annual common throughout the range in various plant communities, especially in grassland and grassy openings of chaparral, often flowering there with clarkias, but also can be found in shady southern oak woodland growing with shade-tolerant plants. *Madia gracilis* has velveteen leaves that mostly are not resinous, but the inflorescence has dense, stalked glandular hairs with heads that are mostly black when the chemical ages. The ray flowers of this species are short, scarcely exceeding the involucre, and the ovary of each ray flower is enclosing by a phyllary, with the number of phyllaries equal to the number of ray flowers. The phyllary with enclosed cypselae is dispersed as a unit, and it is sticky and will become attached to animal fur or clothing.

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