

Encelia Adans. BRITTLEBUSH

Encelia farinosa Torrey, DESERT BRITTLEBUSH, INCIENSO. Shrub, drought-deciduous, in range 30–110 cm tall; shoots with green or grayish green leaves formed during winter and early spring and light gray to silvery formed during dry spring and early summer, tomentose with curly to kinky hairs, with faint aroma when crushed. **Stems:** cylindrical with low ridges, 3 ridges descending from each leaf, canescent but hairs easy rubbed off, older stems smooth, greenish aging red-brown on exposed faces. **Leaves:** helically alternate, simple, petiolate, without stipules; petiole flattened on upper side, < 30 mm long, slightly winged; blade deltate to trowel-shaped or broadly lanceolate to ovate, in range 20–70 × 10–45 mm, truncate to ± tapered at base, entire, acute at tip, having 3 primary veins at base with principal veins raised on lower surface (principal veins sunken on upper surface but hidden by denser hairs), uniformly densely tomentose. **Inflorescence:** heads, in terminal, cymelike arrays of 3–9 heads on long peduncles, head radiate, 20–35 mm across, in range of 8–10 ray flowers and 60–100 disc flowers, bracteate, hairy; bract subtending lower branch or peduncle lanceolate or narrowly trowel-shaped, 25–35 mm long, bract subtending upper peduncle lanceolate to linear, 3–15 mm long, subsessile to sessile, gray-canescens; **involucre** shallowly cup-shaped, (6–)9–12 mm wide, phyllaries 17–26 in 3–4 series, linear-oblong to lanceolate or acuminate-triangular, green, villous, with principal veins raised on outer surface, to 7-veined at base and typically with 3 parallel veins at tip; receptacle low-convex, with bractlets (paleae), palea keeled and enclosing ovary, 5–5.5 mm long, white and membranous at base and on margins, green to reddish brown along upper keel margin and at tip, abruptly acuminate at tip, with short glandular hairs on back and on margins approaching tip, sometimes with subterminal teeth. **Ray flower:** sterile, bilateral, 4–7 mm across; **calyx (pappus)** absent; **corolla** 3-toothed, vivid yellow, spreading or often somewhat upturned; tube short-cylindric, 1.5–2.5 mm long, abruptly expanding; limb 6–10 mm long, parallel-veined with 2 prominent and 9 finer veins; **stamens** 0–5, fused to top of corolla tube, sterile = aborted anthers, < 2 mm long, yellowish; **pistil** aborted, minute, colorless. **Disc flower:** bisexual, radial, 2 mm across; **calyx (pappus)** absent; **corolla** 5-lobed, 3.5–4.5 mm long; tube narrow, < 1 mm long, whitish, with scattered club-shaped hairs; throat 2–2.5 mm long, expanding from ± 0.5 mm at base to ± 1 mm diameter at mouth, whitish to pale yellow below midpoint, orange-yellow above midpoint; lobes recurved, triangular-ovate, ± 0.7 mm long, orange-yellow; **stamens** 5, fused to corolla at base of throat; filaments ± 0.7 mm long; anthers fused into cylinder surrounding style, basifixed, dithecal, ± 2 mm long, orange-yellow, the sterile tips triangular-ovate, longitudinally dehiscent; pollen orange-yellow; **pistil** 1, 5.5–6.5 mm long; ovary inferior, obovoid strongly compressed side-to-side, 2–3 × 0.8–1.2 mm, white, short-hairy on medial part of flat faces, long-ciliate on edges with erect or ascending whitish hairs to 1 mm long, 1-chambered with 1 ovule; style 4–4.5 mm long, 2-branched, the branches exerted, spreading becoming recurved, ± 1.5 mm long; stigmatic tips ± triangular or trowel-shaped, hairy on lower part of outer face, minutely papillate on upper part of outer and on inner face. **Fruits:** cypselsae (disc flowers), strongly compressed-obovoid, 3–5 × 1.5–2.3 mm, dark grayish brown, callused at base, slightly notched at top, the central area of face slightly thickened and with straight, ascending transparent to

whitish hairs, the edges ciliate with erect or ascending hairs to 1.5 mm long. Mid-December–early August.

Naturalized. A native California desert shrub appearing in range along road and parking lot sites where construction trucks probably dropped fruits of this species. *Encelia farinosa* most often has leaves that are silvery gray, due to the presence of thick mats of hairs that reflect infrared and visible light, but during growth during the winter wet season, the first leaves produced tend to be broader and greener, because the hairs are less dense. Desert brittlebush tends to have heads in loose arrays, as compared with California brittlebush in which the heads tend to be solitary at the end of a long peduncle. Both species of brittlebush have the highly flattened fruits and elaborate paleae. In range, the number of ray flowers is low and shorter than typical desert plants, perhaps indicating that some of the plants may be hybrids of *E. farinosa* × *E. frutescens*.

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