

*Castilleja minor* (A. Gray) A. Gray subsp. *spiralis* (Jepson) T. I. Chuang & Heckard, ANNUAL INDIAN PAINTBRUSH, CALIFORNIA THREADTORCH. Annual, photosynthetic root parasite (hemiparasite), taprooted, 1-stemmed at base, occasionally forming several ascending branches below midplant, ± slender, erect, 35–150 cm tall; shoots with only cauline leaves, in range sparsely hirsute with straight, multicellular hairs and densely glandular-hairy with capitate hairs of various lengths, surface not oily or glandular-sticky. **Stems:** ± cylindrical, internodes ca. 1/2 leaf length, semiglossy. **Leaves:** helically alternate, simple, sessile, not clasping or slightly clasping for the widest leaves, without stipules; blade typically ascending (spreading), long-tapered narrowly lanceolate, 30–115 × 3–17 mm, rounded at base, entire, acuminate at tip, conspicuously 3-veined at base with principal veins parallel, densely glandular-hairy, lower surface scabrous from broad, persistent bases of multicellular hairs along veins and on margins. **Inflorescence:** leafy raceme (initially spikelike), terminal, to 500+ mm long in fruit, many-flowered, flowers helically arranged, short-stalked, and erect, bracteate, glandular-hairy; axis not strongly ridged, pinkish and semiglossy, glandular-hairy; bractlet subtending pedicel leaflike, linear-lanceolate, 20–35 × 2–4 mm, green and tinged red at tip in lower part of inflorescence to brilliant red-orange from tip almost to base at top of inflorescence, entire, long-tapered at tip shriveling after pollination and breaking off, 1-veined or 3-veined, glandular-hairy, not inrolled around flower; pedicel compressed back-to-front, at anthesis 2–3 mm long increasing 2–3× and appressed to axis in fruit, glandular-hairy. **Flower:** bisexual, strongly bilateral, 3 mm across; **calyx** 2-lipped side-to-side, each lip 2-forked, in range 14–22 mm long, green; tube narrowly bell-shaped, ± 6 mm long, not pleated, saclike at base, divided slightly deeper on lower side, 5-veined, soft glandular-hairy; lips lanceolate, typically 2-veined, lobes acuminate, 1–2 mm long; **corolla** 2-lipped, in range 15–30 mm long, pale yellow sometimes tinged orange on exposed surface; tube to midpoint of corolla, 2–3 mm wide at top; upper lip beaklike (galea) with 2 shallow, acute teeth, outer surface glandular-hairy; lower lip, 3-lobed, spreading, < 2 mm long, lobes rounded or pointed and greenish, soft glandular-hairy, with inward bulging between lobes; **stamens** 4, lacking staminode, fused to corolla at different levels, 2 arising below lower lip, 2 arising closer to corolla orifice and below upper lip (galea), with lower pair 1–2 mm below mouth of tube and with anthers positioned slightly farther than anthers of upper pair, upper pair fused to sides of corolla throat 3–4 mm below mouth of tube; filaments whitish; anthers dorsifixed, obliquely dithecal (especially of lower pair), linear, ± 2 mm long, yellow, sparsely long-tomentose, remaining attached to each other, positioned within tip of upper lip or sometimes with 1 pair slightly exerted, longitudinally dehiscent; pollen pale yellow; **nectary disc** fused to ovary base, ringlike, dark green; **pistil** 1; ovary superior, narrowly ovoid, 3.5–4 mm long, green, glabrous, 2-chambered, each chamber with many ovules attached to center; style exerted, straight, 1–3 mm long, whitish, slightly notched at tip; stigmas 2, hemispheric or slightly notched, short-papillate. **Fruit:** capsule, loculicidal, dehiscent by 2 valves, many-seeded, narrowly ovoid, 9–15 mm long, asymmetric at base, grooved over placenta; calyx and corolla abscising when capsule mature. **Seed:** conic to ± D-shaped, 1.1–1.3 × 0.7–0.8 mm, light tan, honeycombed. Late May–early August.

Native. Attractive, slender annual found infrequently in late spring and early summer along wet banks of creeks of the western SMM, presumably parasitic during part of its life on roots of neighboring annuals. *Castilleja minor*, which formerly was called *C. stenantha* A. Gray, differs from the perennial species in being a tall, sometimes unbranched plant with entire bractlets and a green calyx.

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