

Mimulus L. MONKEYFLOWER

Mimulus cardinalis Benth., SCARLET MONKEYFLOWER. Perennial herb, rhizomatous, fibrous-rooted, 1-stemmed at base, sometimes with many lateral branches, erect or ascending to decumbent, 25–90 cm tall; shoots pubescent and typically densely glandular-pilose with colorless hairs; forming adventitious roots at plant base. **Stems:** cylindric, 2–5 mm diameter, light green, somewhat swollen at nodes, densely pubescent. **Leaves:** opposite decussate, simple, sessile and clasping with basal lobes (auricles) slightly overlapping or with pair \pm fused across node, without stipules; blade obovate to ovate or oblong, 30–125 \times 10–60 mm, short-dentate on margins with each tooth having a nipplelike point, acute to obtuse at tip, 3-veined or 5-veined at base with principal veins sunken on upper surface and raised on lower surface, glandular-pubescent with erect short hairs. **Inflorescence:** leafy raceme, terminal, sometimes with secondary racemes arising from bractlet axils, several-flowered with 1 or 2 flowers on long pedicels at each node, bracteate, glandular-pubescent; bractlet subtending pedicel = sessile cauline leaf; pedicel 30–80 mm long, light green, glandular-pubescent. **Flower:** bisexual, bilateral, ca. 22 mm across (fully spreading), 35–45 mm long; **calyx** 5-lobed, 20–25 mm long increasing to 30 mm long in fruit, green with minute purple flecks, glandular-hairy; tube narrowly bell-shaped and also pleated with 5 folds; lobes acute to acuminate, 4–7 mm long, sometimes unequal, if unequal orifice of tube slightly oblique; **corolla** 2-lipped, 5-lobed, scarlet; tube 5–7 \times \pm 4 mm, yellowish white; throat cylindric but compressed somewhat side-to-side, 17–20 mm long, expanding to 5–7 mm wide at orifice, externally orange-yellow with reddish veins, internally bright yellow and red-striped or rose-striped, the floor of throat bearded with 4 (sometimes 2) stripes of yellow to orange-yellow hairs, the 2 central stripes broader than lateral stripes; lips strong to vivid red on inner surface of lips, light orange-yellow on outer surface; upper lip 2-lobed, 10–11 mm long, lobes rounded and slightly arched and projected forward, upturned on lateral margins, the sinus between lobes \pm 5 mm deep; lower lip 3-lobed, reflexed, \pm 10 mm wide except the central lobe and sometimes 1 lateral lobe slightly smaller, lobes rounded, ciliate on margins; **stamens** 4, fused to base of corolla throat, \pm appressed to ceiling of throat then arching downward under upper lip; filaments straight, 20–22 mm long, the middle ones 1–2 mm longer, faded yellow, glabrous; anthers exerted, not fused at tips, dithecal, with anther sacs divergent, 1.5–2 mm long, light yellow, with inconspicuous bristles, longitudinally dehiscent; pollen light yellow; **nectary** beneath ovary, producing copious nectar; **pistil** 1; ovary superior, narrowly conic, 9 \times 2.5–3 mm, slightly compressed \perp septum, glabrous, 2-chambered, each chamber with many ovules attached to 2 placentae; style positioned along ceiling of throat then arching downward under upper lip with the stigma exerted beyond anthers, 28–34 mm long, white, \pm square in \times -section at base, flat and expanded below stigma, glabrous; stigma 2-lobed, positioned close to end of upper lip, the lobes flat, horizontal, semicircular, jagged on margin, pubescent on inner surface, sensitive to touch to close on pollen load. **Fruit:** capsule, loculicidal, dehiscent by 2-valves, many-seeded, \pm lanceoloid, 16–20 \times 4–6 mm, brown, shallowly 2-lobed and slightly compressed \perp septum, acuminate and slightly beaked at tip, with persistent style. **Seed:** \pm ellipsoid or narrow ovoid and slightly curved, 0.5 mm long, golden brown, with colorless longitudinal ridges of papillate cells. Late May–late September.

Native. A perennial herb occurring along wet creek bed or ever-moist waterfall rock face in shaded riparian woodland. *Mimulus cardinalis* is a summer-flowering species with tubular, scarlet flowers adapted for hummingbird pollination.

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