

***Phacelia grandiflora*** (Benth.) A. Gray, LARGE-FLOWERED PHACELIA, BEE PHACELIA.

Annual, coarse, taprooted, not rosetted, 1–several-stemmed at base, with or without ascending lateral branches, erect, 20–120 cm tall; shoots with only cauline leaves, densely hirsute and glandular-pubescent, the longest nonglandular hairs stiff, needlelike, without bulbous bases, often appearing like undeveloped glandular hairs, the glandular hairs mostly 0.3–0.8 mm long, stalked with saucer-shaped (spheric) heads, the heads translucent, amber, or greenish aging dark red or black and opaque, somewhat ill-scented. **Stems:** cylindric, to 15 mm diameter, not straight, typically deep red-purple, hairs radiating, the longest hairs to 3 mm long and needlelike, with a dense cover of shorter glandular and fine nonglandular hairs, somewhat woody at base; solid, pith wide and white. **Leaves:** helically alternate, simple, petiolate to sessile, without stipules; petiole conspicuously channeled, of lower cauline leaves to 90 mm long (scaling with blade size), reduced upward, absent on the uppermost cauline leaves, to 6 mm diameter, deep purple and hairy as on stem; blade ovate to deltate (roundish), (20–)35–120 × 14–110 mm, length ≥ width, dull, cordate to truncate at base, irregularly doubly toothed and somewhat wavy on margins, acute to obtuse at tip, pinnately veined with principal veins sunken on upper surface and conspicuously raised on lower surface, densely hairy, principal veins purple to purplish. **Inflorescence:** racemelike cyme, terminal on main and each lateral shoot, branched, lateral branches ascending, 60–240 mm long, 15–40+-flowered, 1-sided coiled down and inward at tip, densely pubescent and viscid glandular-hairy; peduncle cylindric, stemlike, green; bract subtending lateral branch leaflike, sessile, typically < 15 mm long; bractlet subtending pedicel absent; pedicel at anthesis ascending and 0–3 mm long increasing 2× and spreading in fruit. **Flower:** bisexual, ± radial, 18–45 mm across; **calyx** 5(–7)-lobed, barely fused beneath bulging nectary, green, glandular-pubescent on both surfaces; tube shallowly cup-shaped and continuous with receptacle, < 0.5 mm long; lobes equal (if 6 or 7, the extra lobes shorter and narrower), ± narrowly oblong, (5.5–)6.5–9 × 1.3–1.6 mm increasing to 3 mm longer in fruit, rounded at tip; **corolla** 5-lobed, dish-shaped, 11.5–25 mm long, lacking scalelike appendages; in bud with 5 obovate dimples hidden by calyx lobes; tube 2.3–3 mm long, glossy white, typically glabrous or with several stiff hairs on swellings next to stamen bases; throat broadly funnel-shaped, 3.5–5 mm long, white below midpoint, light blue or light violet above midpoint, with deep purple or dark violet markings, the markings variously dendritic (branched like a tree), spotted, or zigzagged, radiating along 3 veins to each lobe and a line below each sinus, both surfaces with stalked glandular hairs; lobes spreading widely with lateral margins overlapping, equal to unequal, obtuse to rounded, 4–17 mm long, light blue to light violet with faint to dark violet dendritic markings, glabrous on upper surface, finely glandular-hairy on lower (outer) surface exposed in bud; **stamens** 5, fused to base of corolla tube alternate with corolla lobes, exerted, lacking obvious appendages at base; filaments ascending to spreading, curved, slender, in range 13.5–20 mm long, white and somewhat compressed front-to-back at base for 4–6.5 mm, changing to deep violet or deep purple-violet and cylindric above, tapered to tip, with radiating hirsute and short glandular hairs below midpoint; anthers dorsifixed, dithecal, oblong, 2.2–4.5 mm long, light creamy yellow to yellow, longitudinally dehiscent; pollen light creamy yellow; **nectary disc** surrounding and fused to base of ovary, ringlike, ca. 2 mm diameter, white to pale yellowish green; **pistil** 1; ovary superior, compressed-conic with 2 lateral ridges, ca. 2.5 × 2 mm, whitish, glabrous on faces but with glandular hairs and ascending to suberect stiff hairs along ridges, the

glandular hairs clear to yellow, 1-chambered (incompletely 2-chambered) with many ovules on 2 erect placentae having < 200 ovules attached to center axis; style exerted, ascending but not positioned close to anthers, (15–)18–25 mm long, 2-branched, the base ca. 3 mm long, white, with stiff hairs and short glandular hairs, the branches mostly deep violet, persistent as beak in fruit; stigmas terminal, capitate. **Fruit:** capsule, loculicidal, dehiscent by 2 valves, many-seeded, ± ovoid with 2 ridges and an acuminate beak, valves 6–7 × 3–3.5 mm and beak 1–1.5 mm long, valves brown and finely veiny, often slightly bulging from seeds, glandular-hairy with blackish heads, with stiff hairs at margins above midpoint. **Seed:** broadly ellipsoid to granular, 0.35–0.75 × 0.25–0.4 mm, brown, netlike-pitted with minute points at cell junctions. (Late December) Late February–late July.

Native. Annual often growing in dense local populations on burns and open slopes of coastal sage scrub, southern oak woodland, but especially chaparral. *Phacelia grandiflora* is easy to identify as a viscid plant with the broadest flowers of all species in the genus, typically greater than thirty millimeters across; the dish-shaped corolla is blue to violet with conspicuous, darker veins. Small-flowered individuals of *P. grandiflora* appear similar to individuals with large flowers of its close cousin *P. viscida*, but within a population a person should have no trouble distinguishing whether the specimen is the large-flowered form, and lengths of stamens and styles also are distinct enough to separate the two species.

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