Nolina cismontana Dice, CHAPARRAL NOLINA, CHAPARRAL BEARGRASS. Perennial herb, evergreen, sclerophyllous, clonal, with large caudex, fibrous-rooted, rosetted with 1–several rosettes per clone before becoming subdivided into larger colonies, new rosettes arising at ground level and unbranched, rosettes to 80 cm tall, in range with inflorescences 115–235 cm tall; dioecious; rosette with 30–90 basal leaves and to 12 cauline leaves (on lower peduncle), each rosette dying after flowering (staminate clone) or fruiting (pistillate clone), leaves scabrous, fibrous, glabrous. **Stems (peduncles):** ± cylindric, thick, to 42 mm diameter at base, green even during fruit development, on inflorescence portion tough aging woodlike and often wavy to sometimes crooked. **Leaves:** helically alternate, simple without sheath but with expanded base; blade of rosette leaves ascending, linear above triangular base, 500–1000+ mm long, leaf bases 30–40 mm wide, above base 9–16 mm wide, blade of cauline leaves ± erect and appressed to peduncle, in a series gradually reduced in length (shorter and with narrower photosynthetic portion) changing to narrowly triangular and long-tapered to tip, 200–500 mm long, on staminate plants cauline leaves broader and somewhat boatlike below photosynthetic portion of blade, broadly crescent-shaped in ×-section, triangular bases initially white and easy to tear or remove from peduncle, with thinner, wide margins, green blade tough and minutely toothed on margins, pointed at tip but not fibrous, the tip soon dead, gray, and easily broken but not rigid and sharp; blades parallel-veined with all veins slightly raised on both surfaces, with minute, upward-pointing teeth along some veins and sunken stomates in whitish tissue between veins. **Inflorescence:** panicle, terminal, ellipsoid in outline, many-flowered, lateral branches many, to 200 mm long (pistillate) or shorter and more condensed (staminate), at the lower nodes branches sometimes weak or aborted, having ultimate, racemelike branchlets, each with several flowers per cluster, bracteate, glabrous; principal axis wavy to somewhat zigzagged, low-ridged with 1 ridge descending from each bract; bract subtending lateral branch leaflike, at base of panicle narrowly lanceolate and to 150 mm long (pistillate) or more expanded and to 250 mm long (staminate), decreasing upward to < 10 mm long at the uppermost nodes; lateral branches at base and lower nodes often branching again, decreasing upward to having unbranched short laterals; minor axes slender; bract subtending branchlet membranous and ovate to lanceolate, to 20 mm long, fringed on margins; axis of branchlet bearing flowers ridged; bractlets subtending flower cluster 2, the outer bractlet lanceolate, to 5 mm long, the inner bractlet shorter, ovate-roundish, both fringed on margins; pedicel 2.2–3.5 mm long. **Functionally staminate flower:** appearing bisexual but pistil appearing empty and lacking stigmas, radial, 6.5–7 mm across; **tepals** 6 in 2 whorls, corolla at anthesis bell-shaped becoming dish-shaped and later bell-shaped or urn-shaped, tepals ± free, monomorphic, ovate, 3.5–5 × 1.8–2.3 mm, white with green base and central stripe, spreading and recurved above midpoint with inner tepals more strongly recurved, glandular-papillate at tip, of outer tepals somewhat thickened at tip; **stamens** 6, each fused to base of tepal for < 1 mm and fused together at base < 0.5 mm, exserted; filaments spreading, 2.5–3 mm long, abruptly narrowed below anther; anthers dorsifixed to somewhat versatile, dithecal, 1.5–2 mm long, light yellow, longitudinally dehiscent; pollen bright creamy yellow, copious, dry; **nectary** absent; **pistil** 1, short-stalked (gynophore), sterile; gynophore stout, ca. 0.3 mm long, green; ovary superior, 3-lobed ovoid to spheroid, 0.8–2 × 0.8–1.8 mm, whitish, 3-chambered but lacking ovules; style absent; stigmas absent. **Functionally pistillate flower:** appearing bisexual but having sterile stamens, radial, 2.5–3 mm across; **tepals** 6 in 2 whorls, corolla

bell-shaped never becoming dish-shaped, tepals ± free, monomorphic, ± erect, ovate, 2.8–3.2 × 2.1–2.5 mm, white with green base and central stripe, glandular-papillate at tip; **stamens** 6, opposite tepals and fused to tepal bases, included, with sterile anthers; filaments ascending, free portion ca. 1.3 mm long; anthers dorsifixed, dithecal, ± 0.6 mm long, white; pollen absent; **pistil** 1, short-stalked (gynophore); gynophore stout, ± 0.3 mm long, green; ovary superior, 3-lobed ovoid, ± 2 mm long, green, 3-chambered, each chamber with 2 ovules attached to center; **nectary** nectar-producing along septa at base, producing copious nectar; styles 3, short-exserted, stout, ± 0.5 mm long, colorless; stigmas papillate. **Fruit:** utriclelike, dry, ± indehiscent or occasionally a chamber bursting irregularly due to seed enlargement, to 3-seeded (commonly lacking seeds), papery with 3 radiating, inflated chambers, 9–12 mm long and wide, depressed on top and bottom. **Seed:** broadly ellipsoid to spheroid, 3.4–4.2 × 3.2–3.7 mm, ± cinnamon to yellow ochre, finely wrinkled on surface, slightly ridged on 1 side from top to bottom. Late March–Early May.

Native. Perennial, rosette monocotyledon occurring in several isolated populations in chaparral of SH from SMMNRA Palo Comado westward to Simi Peak, growing on sandstone. *Nolina cismontana*, only recognized as a species in 1995 as distinct from its desert relatives, is an evergreen with long, tough, scabrous leaves arising from a large caudex. After a fire, chaparral nolina easily resprouts at ground level from the caudex. This species in vegetative condition closely resembles *Hesperoyucca whipplei*, which grows with it; however, nolina is easy to identify because its leaves break or peel from the stem and have a harmless, pointed tip, easily broken, whereas the yucca has leaves that cannot be separated from the plant and terminate in a persistent, hard, sharp-pointed tip. Plants of *N. cismontana* are either functionally staminate or functionally pistillate, although each flower type contains a sterile version of the other sex organ. Staminate flowers are wide open and offer copious dry pollen to pollinators but no nectar; pistillate flowers are barely open but provide copious nectar, forcing the pollinator to enter the flower usually past the exserted stigmas to get to the pool of nectar at the base of the ovary. Fertilization appears to be rare, because greater than 90% of potential fruits abort, some fruits contain only a single seed, and most surviving fruits lack seeds entirely. The papery, bladderlike fruit has three inflated lobes, and can be short-distance wind-dispersed, if seeds are present, and the seed when large enough may break open the chamber.
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