

*Phoenix canariensis* Chabaud, CANARY ISLAND DATE PALM. Tree, evergreen, spinescent (leaflets near petiole), fibrous-rooted, with 1 trunk, unbranched, in range (currently) to 6 m tall, potentially 15+ m tall; dioecious; shoots when young leaves short and ascending, when plants older or reproductive having massive leaves and a rounded canopy, glabrous; trunk thick and initially hidden by leaf bases, at base trunk of mature tree 500+ mm diameter (excluding persistent petioles), having adventitious roots at base below persistent petioles. **Leaves:** helically alternate, pinnately compound having midleaf 8–11 green, alternate to subopposite leaflets per 100 mm along axis and leaflets ascending at 45°, petiolate, with sheath; sheath open, encircling stem (at stem tip); petiole triangular in outline, on mature individual 400+ mm long (scaling with leaf size), thick and fibrous, at base to 75 mm thick, persistent (bases of petioles unobservable); blade lanceolate in outline, (850–)3000–4500+ mm long, with dimorphic leaflets; rachis (of canopy leaf)  $\pm$  3-sided along most of length, being convex on bottom and with leaflets ranked and arising on flat sides, terminating in the shortest leaflet; blades of lower leaflets V-folded (induplicate), rigid and spine-tipped, to 400 mm long, yellow-green, not splitting; blades of typical leaflets V-folded, on reproductive individuals photosynthetic leaflets lanceolate-linear,  $< 200\text{--}700 \times < 20\text{--}35$  mm per leaf, tough, entire, long-tapered to tip, parallel-veined with a conspicuous midrib, eventually splitting along midrib upward from base and downward from tip (tip dead) but midportion remaining intact, when young having a short-hairy, threadlike fiber separating from leading edge at base, surfaces glabrous, lower surface with a pulvinuslike swelling on leading side. **Inflorescences:** panicles of spikes, unisexual, axillary and ascending (emerging within canopy between fully expanded leaves), with many lateral branches (spikes) = 1-order branching, spikes in flat sets of 1–10 per node, at anthesis spikes erect to suberect (later, when flowers absent, appearing broomlike), each spike 50–75-flowered, flowers irregularly alternate and sessile, bracteate, glabrous; bract subtending inflorescence (prophyll) on stem side, boat-shaped and conspicuously 2-keeled base to tip,  $> 800$  mm long, width across keels to 85+ mm, margins  $\perp$  keels and to 30 mm wide, fibrous, aging brown; inflorescence axis with basal portion hidden by leaf bases, exposed portion strongly flattened side-to-side, ca. 60 mm wide  $\times$  20 mm thick with rounded edges, fibrous; bracts along peduncle absent; rachis flattened like peduncle and sometimes wider below midpoint (staminate) but eventually decreasing in width and thickness and becoming strongly ridged; bract subtending lateral branch typically absent; spikes formed at unequally spaced nodes mostly on 2 flat faces, unbranched (rarely 1-forked or 2-forked), the lowest 1 or 2 spikes often solitary and widely spaced, each with a strongly angled peduncle and basal pulvinus, without bracts; rachis of spike crooked to irregularly sinusoidal above the lowest flower, flowers unequally spaced along axis, irregularly angled with ridge descending from each bractlet and indented opposite each flower; bractlet subtending flower inconspicuous, appressed, awl-shaped and membranous, short–0.8 mm long, abscising but forming a low rim on outer side of flower. **Staminate inflorescence:** flowering portion to 500 mm long, bearing several thousand flowers, lateral branches 160–280 mm long, mostly ca. 4 mm diameter at base, greenish yellow at base to cream above aging more yellow and scars aging orangish. **Staminate flower:** radial,  $\pm 7$  mm across; with faint strawlike fragrance; receptacle hemispheric and expanded beneath corolla and stamens; **calyx** mostly 3-lobed (teeth), tightly appressed, 2.8–3.5 mm long; tube deeply cup-shaped, pale creamy white and thickish below and membranous above midpoint,  $\pm$  truncate, parallel-veined, sometimes splitting to base after flowers open;

lobes alternate or nearly so with petals, triangular to deltate, to 0.9 mm long; **petals** 3, ascending, not overlapping, ovate, 5.5–7 × 3–4 mm, pale creamy white, thick and especially so at base, stiff, slightly cupped to somewhat hoodlike at acute tip, with faint parallel veins, low-ribbed on upper (inner) surface; **stamens** 6, fused to thick bases of petals, sessile; anthers basifixed, dithecal, 3–3.3 mm long, pale creamy white, longitudinally and sideways dehiscent in bud; pollen pale creamy white (paler than anther), copious, dry; **pistils** absent or 3 and vestigial, in center of receptacle, < 1 mm long.

**Pistillate inflorescence:** exposed peduncle elongating after fertilization and becoming > 500 mm long below the lowest spike, green aging orange; spike with angled peduncle 4–7 mm wide, initially erect becoming spreading in fruit, 600–700 mm long when fully exposed and tough but flexible; rachis of spike 180–350 mm long not increasing in fruit.

**Pistillate flower:** ± radial, ± 3.5 mm across, spheroid; **calyx** 3-lobed, tightly appressed, green, glabrous; tube cup-shaped to midpoint, very thick at base; lobes broadly ovate 1.8–2.2 mm long, acute at tip, persistent; **petals** 3, appressed, overlapping, ± kidney-shaped but strongly cupped, ca. 3.5 × 6 mm, slightly > calyx, whitish with conspicuous venation, thick and fleshy at base, with membranous margins, round with short, broadly triangular point at tip, persistent; **stamens** vestigial, forming as 6 staminodes, free, = triangular to deltate filaments, < 0.6 mm long, colorless; **pistils** 3, free; ovaries superior, erect, 3-sided ovoid, ± 2 mm long, white, appressed in center, slightly exposed from perianth, each 1-chambered with 1 ovule attached at base; styles exerted, spreading and becoming coiled under, ± 1.2 mm long, whitish, papillate, persistent. **Fruit:** berrylike drupe (only 1 ovary maturing), ovoid-ellipsoid to broadly ellipsoid, 18–22 × 10–13 mm, green and smooth often maturing orange and wrinkled; wall ca. 1.8 mm thick, outer wall (exocarp) leathery, 0.2 mm thick; pulp (mesocarp) firm but juicy; inner wall (endocarp) thin and membranous but somewhat fibrous; perianth tightly appressed, orange with purplish red outline and narrow brown-scarious on margins, base of calyx tube = 3 mounds. **Seed:** broadly ellipsoid, 11–16 × 6–11.5 × 5–10 mm, with a papery brown seed coat, rounded at ends, with a deep longitudinal groove. Summer.

Naturalized. Tree palm escaped from cultivation in relatively moist situations wherever birds distribute the fruits from neighborhood plants. Individuals of *Phoenix canariensis* are often extirpated before they become trees, but a small population is currently well-established at Malibu Lagoon, where they are still too young to begin flowering. *Phoenix canariensis* has pinnately compound leaves that do not abscise, so the persistent leaf bases hide the stem. The lowest leaflets of a *Phoenix* leaf are modified as sharp-tipped spines. Once plants achieve reproductive age, the two sexes are easy to distinguish whenever new or old inflorescences are found; a pistillate plant has a large orange inflorescence with many long, flexible spikes bearing fruits, whereas a staminate inflorescence is more compact with shorter axes and abscises when it is dry. Staminate flowers have a faint fragrance, attracting bees, which can harvest the copious dry pollen without receiving a nectar reward.

B. A. Prigge & A. C. Gibson