

Lycium L. BOX THORN, DESERT-THORN, WOLFBERRY

Lycium californicum Nutt., CALIFORNIA BOX THORN, CALIFORNIA DESERT-THORN. Shrub, moundlike, spinescent, drought-deciduous, with long shoot-short shoot organization, with sharp-tipped branchlets forming a 3-dimensional array, < 100 cm tall, height << width; shoots with small fleshy leaves tufted on short shoots, sparsely and inconspicuously glandular-hairy. **Stems:** branchlets 15–110 mm long, < cylindric but with 2, fine descending ridges from each long-shoot leaf, < 2 mm diameter, becoming light brownish gray but green beneath young bark; older stems rigid, with grayish to brownish bark, with raised leaf bases and peeling fibrous ridges. **Leaves:** helically alternate, simple, subsessile, without stipules; petiole 0.3–1.3 mm long, commonly indistinct when blade obovate or narrower and distinct when elliptic or subspheroid leaves; blade oblanceolate-linear to obovate or elliptic to circular, 1.5–16 × 0.7–2.5 mm, fleshy, circular to elliptic in ×-section, long-tapered to rounded at base, entire, ± rounded at tip but becoming reddish and aging slightly depressed (= shriveled point), obscurely veined with only midrib ± visible, with scattered, glandular hairs becoming obscure. **Inflorescence:** flowers solitary, axillary, with (0)1–several flowers per short shoot, lacking bracts; pedicel < 0.5 mm long. **Flower:** bisexual, radial, 4–6.5 mm across; **calyx** in range (3–)4-lobed, 3.6–5 mm long, increasing in fruit, green, not veiny; tube funnel to bell-shaped, ± 4-angled; lobes ± unequal, ± deltate, 0.6–1.3 mm, sometimes ± broadly keeled, puberulent whitish (purplish) on margins; **corolla** (3–)4(–5)-lobed, 4–6 mm long, white with purple blush or lines, glabrous, with lower portion persistent and becoming stretched by fruit; tube cupped to inversely conic, 0.5–1 mm long, white; throat exerted to 0.7 mm beyond calyx lobes or not, ± cylindric or slightly dilated upward, internally striped with 13–20 purple lines approaching lobes and sinuses or extending into lobes; lobes broadly oblong to broadly ovate or obovate, 2–3 × 2 mm, white with purplish blush or lines mostly below midpoint; **stamens** (3–)4(–5), fused to base of corolla throat; filaments ascending, 3.5–4.5 mm long, with a conspicuous tuft of colorless villous hairs on lower 1/4 to 1/3 that collectively fill basal part of corolla tube, glabrous above and below tuft, the broadest at tuft of hairs, tapered to base, compressed front-to-back but more pronounced where broader; anthers versatile-dorsifixed, dithecal; sacs ellipsoid to slight obovoid, 1–1.3 mm long, fused together above midpoint, green to yellow-green and sometimes also with purplish red spots, connective somewhat swollen at filament attachment, longitudinally dehiscent; pollen white; **nectary disc** covering lower 1/3 of ovary, yellowish; **pistil** 1; ovary superior, obovoid, 0.8–1 × 0.6–0.7 mm, green, 2-chambered, each chamber with 1 ovule; style erect, 3–4.5 mm long, white; stigma capitate, slightly 2-lobed, exerted to level of anthers, green, wet, short-papillate. **Fruit:** berry, fleshy, 2-seeded, broadly obovoid to spheric, 5.5–6.5 × 5–6 mm, red-orange, indented at top; mesocarp red-orange. **Seed:** ± hemi-ovoid to triangular, 4–4.4 × 2.8–3 mm, orange buff, truncate at base flattened on 1 side facing other seed and with raised hilum scar 1 mm from base, outer face with inconspicuous longitudinal ridges. Mid-January–mid-March.

Native. Spinescent shrub with its northernmost coastal distribution occurring in range. *Lycium californicum* is sometimes a common component of coastal sage scrub on coastal bluffs south of our range, but in our area it is known from several isolated coastal locations (e.g., Latigo Canyon) and a somewhat inland site that is essentially riparian. *Lycium*

californicum is drought-deciduous and exhibits long shoot-short shoot organization; it forms a new crop of leaves following the first effective winter storm, and thereafter one or more axillary flowers per short shoot. New long shoots are stimulated to grow during the wet spring.

B. A. Prigge & A. C. Gibson