

Spartium L.

Spartium junceum L., SPANISH BROOM. Shrub, drought-deciduous, green-stemmed and lacking all leaves during dry season (aphyllous), highly branched with ascending stems, to 350 cm tall; shoots appearing glabrous; roots nodulated. **Stems:** \pm cylindrical, during first season 1–4 mm diameter, tough but flexible, glabrous, green and with many narrow stripes; second-year stems woody, green with patches of brown bark. **Leaves:** present only on new growth, alternate and subopposite, 1-foliolate (appearing simple), short-petiolate, without stipules; petiole < 3 mm long, expanded and oblong-ovate, concealing axillary bud, bluntly and minutely toothed on each margin near blade, persistent and appressed when blade abscises, pulvinus obscure; petiolule 1–1.5 mm long; blade of leaflet narrowly lanceolate to oblanceolate, 10–30(–41) \times 1–5(–14) mm, entire, acute to obtuse at tip, pinnately veined, upper surface glabrous, lower surface appressed-hairy.

Inflorescence: raceme, terminal and ascending on young shoots, 150+ mm long, to 40-flowered, bracteate; bractlet subtending pedicel awl-shaped, ± 2.5 mm long, early-deciduous when in young bud; pedicel 3–5(6–8) mm long, initially short-strigose becoming glabrate in fruit; bracteoles 2 at the base of sepals, linear, ± 1.7 mm long, early-deciduous when in young bud. **Flower:** bisexual, bilateral, pealike (papilionaceous), typically 17–33 mm across, sweetly fragrant; **calyx** deeply cleft on upper side (spathelike), open portion flaring and minutely 5-toothed, ± 8 mm long; tube bell-shaped, 2.5–3 mm long, upper portion with lateral teeth within 0.5 mm of central tooth, green becoming papery and brownish eventually splitting between teeth; **petals** 5, bright yellow; banner spreading, \pm round, 19–25 \times 17–23 mm, with faint radiating lines and in center having orange dashes below midpoint, glabrous; wings 2, arching forward and turned away from keel, clawed, claws 3.5–4 mm long, light greenish yellow, limbs obovate, ca. 19 \times 5.5–6.5 mm, not fused along margins, with a rounded, backward-pointing lobe ca. 1.5 mm long at base, locked to keel with a ledge, with faint venation, glabrous except tomentose-ciliate on basal lobe and above claw; keel of 2 petals fused only at a conspicuous, narrow point, clawed, to 26 mm long including claws 4 mm long, $>$ wings, acuminate and strigose at tip, on outside and internally conspicuously tomentose on lower edge near base becoming strigose near tip, glabrous on upper edge except tomentose-ciliate on basal tooth; **stamens** 10, monadelphous (all stamens fused into column); filament column unequally fused, 9–12 mm long with free portions 4–9 mm long, pale green, column and free portions both shorter on upper side with lower side stamens as long as pistil; column with a low rib on upper side; anthers basifixed to dorsifixed (versatile), dithecal, unequal, 2–3.2 mm long within a single flower (rarely longer), brownish yellow, often with hairs on base or also scattered on edges, longitudinally dehiscent; pollen whitish, copious, sticky; **pistil** 1, ca. 20 mm long, not stalked; ovary superior, narrowly oblong, 6–7 mm long, greenish and silvery sericeous, 1-chambered with 10 or more ovules attached to upper side; style gradually curved upward 90°, tough, persisting on developing fruit, stigmatic on inner curve below blunt tip. **Fruit:** pod (legume), dehiscent (indehiscent), 10–15-seeded, ascending or often inverted due to twisting of pedicel, linear-oblong, 55–100 \times 6–9 mm, dark brown, flattened, with partial partition between seeds or not, valves flat or twisted, with appressed silvery hairs. **Seed:** \pm ellipsoid and truncate on micropylar side and also compressed side-

to-side, 3.5–4.3 × 2.5–3.6 mm, mocha to oxblood reddish brown. Late November–early September.

Naturalized. Shrub from the Mediterranean region naturalized along roadsides, where it was planted originally for revegetation but has become widespread in disturbed sites of chaparral and coastal sage scrub. *Spartium junceum* is a plant having photosynthetic stems with long, green internodes, and at first glance appears leafless (aphyllous) because the leaves are absent most of the year. Spanish broom, which resprouts after fire, is generally liked by the public because the flowers are bright yellow and have a very pleasant fragrance, but managers of natural preserves are worried that it could become invasive in chaparral. There are places in the mountains where former stands of Spanish broom have been dying on their own, perhaps due to a biotic factor, but in several remote drainages, e.g., in central Trancas Canyon and Zuma Canyon (SMM), large, dense thickets must be controlled at least every two years to stop the threat of its spread.

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