

Parkinsonia aculeata L., MEXICAN PALO VERDE. Small tree, evergreen and green-stemmed, spinescent, with erect to ascending trunk and ascending to spreading principal branches, in range < 7 m tall; shoots with wispy compound leaves + woody stems conspicuously green and photosynthetic, with persistent, pendent to drooping, ribbonlike rachillas (of primary leaflets) flattened as photosynthetic organs, with or without secondary leaflets, immature surfaces short-strigose rapidly becoming glabrescent; bark eventually forming on trunk and old or damaged branches, scaly and gray. **Stems:** cylindrical, somewhat zigzagged, young branches flexible, spinescent, internodes 25–50 mm long, eventually with knobby nodes. **Leaves:** helically alternate, 2-pinnately compound with 2–5 primary leaflets and typically a spine-tipped rachis, each primary leaflet bearing 20–100+ secondary leaflets, petiolate, with stipules; stipules 2, attached to base of petiole, spreading to slightly curved backward, maturing as spines 2–5.5 mm long, persistent but often broken off, with yellowish hairs (food bodies) in axil when very young; petiole stout, 2–3 mm long; rachis condensed with crowded several primary leaflets + 1 straight spine 5–15(–25) mm long (absent); primary leaflets 80–450(–600) mm long, with a conspicuous pulvinus at base and a long rachilla, the pulvinus barrel-shaped, 3–4.5 mm long, green, somewhat transversely wrinkled, when young with yellowish food bodies in axil, the rachilla flattened on upper side, 1.5–2.5 mm wide, flexible, green, glabrate; petiolules pulvinuslike, < 0.7 mm long; stipel subtending secondary leaflet absent; secondary leaflets ascending, mostly alternate, without food bodies, blades of secondary leaflets ± elliptic or oblong to oblanceolate, 1.3–8 × 0.5–2.5 mm, slightly oblique at base, entire, ± obtuse to rounded at tip (minutely pointed), pinnately veined with only midrib conspicuous, most or all secondary leaflets early-deciduous. **Inflorescence:** raceme, axillary, to 140 mm long, several–15(–28)-flowered, bracteate, glabrate; peduncle 5–15 mm long; bractlet subtending pedicel awl-shaped, 1 mm long, abscising before bud 1/2 length, subtended by a ring of hairs; pedicel spreading to ascending, 10–16 mm long. **Flower:** bisexual, slightly bilateral, ± 20 mm across, yellow or with the largest petal (banner) turning reddish orange after pollination; **nectary** receptacle bowl-like, 1–2 × 4 mm, green, nectar-producing below ovary; **sepals** 5, reflexed, equal, oblong, 6–7 × 2.2–2.8 mm, yellow-green to green-yellow, outer surface glabrate before anthesis; **petals** 5, spreading, clawed, somewhat dimorphic; banner 11.5–12.5 × 6–8 mm, claw strongly incurved beneath limb, 4–5 mm long, limb ovate, bright yellow with red spots, aging reddish orange, pubescent on margins at base and upper surface; 4 petals ± equal, 10.5–13 × 5.5–6(–8) mm, yellow, claws 1–1.5 mm long, limbs elliptic to obovate, densely white-hairy; **stamens** 10, free, exerted, unequal, 7–10 mm long; filaments leaning inward and surrounding pistil then curving outward, green aging reddish, expanded and white-hairy at base, aging orangish above midpoint; anthers versatile, dithecal, 1.5–2 mm long, orange-brown to rose-colored aging maroon, longitudinally dehiscent; pollen orange; **pistil** 1, = the longest stamen, greenish but aging purplish red approaching tip; ovary superior, linear compressed side-to-side, with long, upward-pointing hairs, 1-chambered with a single row of ± 10 ovules attached to upper side; style curved upward, 3.5–4.5 mm long; stigma terminal, minute. **Fruit:** pod (legume), pendent, ± indehiscent or tardily dehiscent, in range typically 1-seeded or 2-seeded, fusiform, 35–60(–100) mm long, if 2-seeded constricted and laterally flattened between seeds and also at base and tip, medium to light brown, leathery, strongly ridged on edges, ± longitudinally wrinkled on surface with slightly raised veins. **Seed:**

ovoid to fusiform and slightly compressed side-to-side, 8.5–10.5 × 4.5–5.2 mm, very hard, dull and mottled yellowish or olive brown and brownish gray, smooth, often showing fine cracks ⊥ long axis. Mid-May–late July (+ other months in cultivation).

Naturalized. Cultivated small tree that during the last thirty years has become established from seed near roads, but showing no indication yet of becoming invasive. *Parkinsonia aculeata* is a curious plant form with photosynthetic woody stems (not periderm) and pendent to drooping photosynthetic rachillas of primary leaflets. Its secondary leaflet blades are small and comparatively minor contributors to carbon fixation. Stems are spinescent due to the presence of paired stipular spines and a sharp spine terminating the leaf axis of the twice-compound leaf. Flowers of this legume are caesalpinoid and bright yellow, with only the banner being slightly different in size, having colorful spots, and aging reddish orange. Fruits are indehiscent or may dehisce tardily, and the hard seed coat must be physically scarred (scarified) before the seed can germinate.

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