

*Senna* Miller CASSIA, SENNA

*Senna didymobotrya* (Fresen.) H. S. Irwin & Barneby, NAIROBI CASSIA, AFRICAN WILD CASSIA. Shrub, evergreen, unarmed, with mostly ascending shoots, in range 100–250 cm tall; shoots erect-pubescent to short-pilose and with scattered and inconspicuous glandular hairs,  $\pm$  foul-smelling. **Stems:** cylindric, straight, green when young, internodes typically 20–50 mm long. **Leaves:** helically alternate, even-1-pinnately compound, in range with 14–18 pairs of lateral leaflets spaced 8–20 mm apart along rachis and  $\pm$  overlapping, petiolate, with stipules; stipules 2, attached to stem and partially to leaf base, asymmetrically heart-shaped to ovate heart-shaped, (6–)12–17  $\times$  5–11 mm, with a slender point at tip, palmately veined from broad base, tardily abscising; petiole cylindric with pulvinus, 15–40 mm long; rachis compressed side-to-side, 150–270(–300) mm long, 5-angled, shallowly and narrowly grooved between upper angles, extended as narrowly conic projection ca. 2 mm beyond last pair of leaflets, erect-pubescent to short-pilose, with 3–10 coarse, brownish to dark purplish red hairs between leaflets of a pair, without nectary glands; petiolules 1–2 mm long; blades of leaflets oblong, 20–50(–60)  $\times$  10–20 mm, the larger ones at tip, slightly oblique at base, entire and pale on margins, notched to obtuse with short point at tip, pinnately veined with midrib raised on lower surface.

**Inflorescence:** raceme, axillary, dense, 15–55-flowered, flowers helically alternate, bracteate, densely erect-pubescent and glandular-hairy, the glandular hairs colorless, swollen at base and pointed at tip; peduncle 40–70 mm long; rachis ascending, 200–360 mm long; bractlet subtending pedicel spreading, cupped-ovate, (10–)16–20  $\times$  9–10 mm, dark brown to dark olive brown,  $\pm$  parallel-veined, pubescent, deciduous leaving a tiny knob; pedicel at anthesis 1–2 mm long increasing 4–7 $\times$  in fruit, pubescent, expanded at tip with pubescent, inversely conic receptacle. **Flower:** bisexual, slightly bilateral, 15–18 mm across, cup-shaped; **sepals** 5, unequal, cupped-obovate or cupped-elliptic, 10–17  $\times$  4–9.5 mm, progressively narrower from the outermost sepal to innermost sepal, dark yellowish green to brownish yellow-green, light yellow-green on margins and tip, rounded at tip, lower surface puberulent, abscised only after fruit begins to grow; **petals** 5, cupped, short-clawed,  $\pm$  subequal with banner somewhat wider, bright yellow, claws to 1.5 mm long; limbs oblong to obovate, (15–)20–22(–25)  $\times$  12–14 mm, pinnately veined, glabrous; **stamens** 10, free, heteromorphic (several forms), 7 fertile stamens and 3 sterile staminodes; staminodes on upper side, filaments 2.5–2.7  $\times$  0.5 mm, greenish at base grading to yellow above, staminode anthers 1.3–2  $\times$  1.6–1.8 mm, arrow-shaped at base, with inwardly curved lobes at base, twisted above midpoint and bent 90° or arched outward; fertile stamens of 3 forms (4 median = 2 on each side of ovary, 2 lateral on lower side, 1 central on upper side), of median stamens filaments 3–4  $\times$  0.8 mm, greenish at base changing to yellow above, anthers 5.5–6.5  $\times$  2–2.2 mm; of lateral stamens filaments 4.2–4.5  $\times$  1 mm, anthers 12–14  $\times$  3.2 mm, curved, slightly bent at tip; of centric stamen filament 5.5  $\times$  0.8 mm, anther 6.5–7  $\times$  1.7–1.8 mm; anthers basifixed, dithecal, yellow becoming brownish yellow, dehiscing by lateral pore at top of each anther sac, with longitudinal ribs on each sac side of a dehiscence zone not opening or tardily dehiscent from base upward; pollen yellow; **pistil** 1, short-stalked (stipe), stipe at anthesis ca. 1.5 mm long increasing 2–3 $\times$  in fruit, pubescent at base; ovary superior, sickle-shaped compressed side-to-side, 7–8  $\times$  1–1.2 mm, strongly ribbed on margins of each valve, short-

pilose, 1-chambered with < 20 seeds attached on upper side; style recurved to ca. midpoint over ovary, glabrous; stigma minute, glabrous. **Fruit:** legume (pod), dry, spreading, dehiscent, 10–18-seeded, straight oblong, in range 80–100 × 19–21 mm, flat, dark brown, valves like thick paper, with vertical septa visible on surface, pubescent and foul-smelling. **Seed:** ± oblong and abruptly tapered at base, 7.8–8.9 × 3.6–4.8 × 1.9–2.2 mm, brown with central region on both faces, the central region narrowly oblong, 4–4.7 × 1–1.4 mm, wider approaching tip; hilum laterally subbasal. Summer–mid-November.

Naturalized. Shrub escaping from plantings in Malibu in area of the civic center and showing a possibility of spreading farther, because it has fruits with many viable seeds. *Senna didymobotrya*, a native of tropical East Africa with poisonous properties, is used as an ornamental in southern California because it has large, bright yellow flowers, but it also has foul-smelling foliage, to some reminiscent of mice. Of the 10 stamens, seven have fertile pollen, but typically only two are utilized in pollination, while the others provide food to the carpenter bee pollinator.

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