

Vascular Plants of Williamson County

Dermatophyllum secundiflorum – TEXAS MOUNTAINLAUREL, MESCAL BEAN [Fabaceae]

Dermatophyllum secundiflorum (Ortega) Gandhi & Reveal (syn. *Sophora secundiflora*), TEXAS MOUNTAINLAUREL, MESCAL BEAN. Shrub, evergreen, several-stemmed at base, in range mostly < 300 cm tall; shoots with only cauline leaves, foliage when very young somewhat velveteen (elsewhere to densely velveteen) having appressed, soft, short hairs (short-velutinous), aging ± leathery and glabrescent. **Stems:** ± cylindrical, initially densely velutinous with occasional short red hairs. **Leaves:** helically alternate appearing subopposite on some twigs, odd pinnately-1-compound with (1-)3-4(-5) pairs of lateral leaflets, the pairs mostly opposite to subopposite and within a pair equal to subequal, petiolate with pulvinus, without stipules; petiole pulvinus 2-3 mm long, densely short-velutinous, above pulvinus cylindrical, to 30 mm long, densely short-velutinous, lacking extrafloral nectaries; rachis with pairs of lateral leaflets to 30 mm apart, channeled with 2 ridges, each ridge with acute tip subtending petiolule (petiolule not arising from ridge), having 2 ridge tips subtending petiolule of terminal leaflet, sparsely short-hairy; petiolule pulvinus 1-3 mm long, wrinkled and sparsely short-hairy, wrinkled portion often extending past blade base; blades of leaflets obovate to elliptic (fan-shaped), < 23-62 × 13-36 mm, mostly the terminal leaflet > lateral leaflets, tapered at base (rounded), entire, obtuse to rounded or shallowly notched at tip, pinnately veined with midrib raised on both surfaces and principal and minor veins somewhat raised, upper surface ± glossy and glabrescent with fine, appressed short hairs. **Inflorescence:** raceme, terminal, (12-)20-45-flowered, cluster spreading to somewhat pendent, 40-140 × 47-78 mm, flowers alternate unevenly spaced with short internodes, bracteate, axes short-hairy; peduncle short; rachis cylindrical, densely short-hairy with appressed tannish hairs; bractlet subtending pedicel awl-shaped, 2.5-5 mm long, green, channeled approaching base, hairs tannish, abscising above projecting persistent base; pedicel cylindrical, at anthesis 8-18 mm long, green, with mixed short hairs tannish and fewer radish hairs, with a pair of subopposite, awl-shaped bractlets to 1.5 mm long ca. 3-4 mm from base. **Flower:** bisexual, bilateral, pealike (papilionaceous), 16-20 mm across, strongly fragrant ± grapelike (*Vitis* fruit); **nectary** receptacle expanded into inversely conic floral cup (hypanthium) 3-4 mm long, green and fleshy, outer surface short-hairy, at anthesis producing copious thin nectar; **calyx** 2-lipped, ca. 12 mm long, green or tube tinged purple, surfaces short-hairy; tube somewhat bell-shaped, to midpoint; upper lip appressed to corolla (banner), somewhat keeled, obtuse to truncate and minutely notched, 5-6 mm long, sometimes with a minute tooth on each half of margin; lower lip 3-lobed, lobes broadly triangular, ca. 3 mm long, aging somewhat inrolled; **petals** 5, clawed, claws, 4.5-6 mm long with narrow winglike margins, claws and basal limbs mostly white with exposed portions in range light purple to purple or violet (bluish), lacking conspicuous nectar lines, glabrous; banner positioned outside of other petals, recurved above midpoint from top of keel-like midrib, 25-27.5 × 18-20 mm, heart-shaped, claw 4.5-5 mm long, limb conspicuously notched to midpoint; wings 2, oriented ± horizontal and parallel with banner limb, more narrowly clawed and claws twisted to orient limbs, limbs obovate with a pair of backward-pointing basal lobes, ± 23-24 × 8.5 mm, the basal lobes 1-1.5 mm long and white; keel petals 2, not locked with and ⊥ wings, initially with upper surfaces touching

later somewhat parted, claw ca. 6 mm long, white or greenish at base, limb oblong with a pair of basal lobes, 16–17 × 7–7.5 mm, ca. 5 mm < wings, basal lobes unequal (ca. 2.5 mm and 1 mm long); **stamens** 10, free from top of receptacle floral tube, alternately short and longer; filaments slightly curved or wavy, tapered from base to top, ca. 6 × 0.5 mm and 7–8 × 0.8 mm, white, glabrous; anthers dorsifixed, dithecal, slightly dimorphic, 0.8–0.9 mm long (short stamens) and 1.1–1.3 mm long (long stamens), light orange, longitudinally dehiscent; pollen light orange; **pistil** 1, stalked (stipe), the stalk 1.5–2 mm long, green; ovary superior, oblong slightly compressed side-to-side, 9–10 mm long, dense soft-pubescent, wall thickened, 1-chambered with to 6 ovules along upper side; style elevated from plane of ovary with stigma within zone of anthers, straight, ca. 5 mm long, white, with minute terminal stigma with a ring of minute white hair at base of stigma. **Fruit:** pod (legume), heavy and drooping or pendent on branches, mostly indehiscent with seed released by decay of blackened fruit wall, 1–6-seeded, resembling a series of large beads constricted mostly constricted between seeds, 30–130 × (13–)16–20 mm + stalked below fruit to 12 mm long, silvery to gray (on plant) covered with a dense mat of appressed hairs, green aging brown beneath tomentum, seed segments < 20–30 mm long, the outer wall to 3.5 mm thick and leathery but septa between seeds thin. **Seed:** somewhat kidney-shaped to broadly ellipsoid or spheroid, (10–)14–18 × (8–)10.5–14 × (8–)10.5–13 mm, dull scarlet or orange-red (weathering black), exceedingly hard seed coat, smooth, with faint ridge (raphe) on back, hilum near midpoint or off-center, white with a central pair of scarlet, parallel stripes, hilum next to a deep micropyle.

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