

Vascular Plants of Williamson County

Desmanthus illinoensis – ILLINOIS BUNDLEFLOWER, PRAIRIE MIMOSA [Fabaceae]

Desmanthus illinoensis (Michx.) MacMill., ILLINOIS BUNDLEFLOWER, PRAIRIE MIMOSA. Perennial herb, with woody central root, not rosetted, several-stemmed at base, mostly erect to ascending, in range to 90 cm tall; shoots with only highly divided cauline leaves, axes short-hairy, mostly lacking glandular hairs. **Stems:** ridged, on basal, woody stems to 4 mm diameter, with 3 ridges descending from each leaf, tough, short-hairy, having minute purple-red food bodies in furrows; woody lower stems hollow. **Leaves:** helically alternate, even-2-pinnately compound in range with (5–)7–13 pairs of widely spreading primary leaflets (pinnae) 8–25 mm long, primary leaflet in range with (7–)14–21 pairs of secondary leaflets, petiolate with pulvinus, with stipules; stipules 2, attached below base of pulvinus, threadlike, in range (2.5–)4.2–5.5 mm long, soon turning red, flared only at base, with upward-arching short hairs; petiole pulvinus ca. 1.5–2 mm long, green, short-hairy, often with no petiole axis above pulvinus, next to pulvinus having a cauldronlike gland (extrafloral nectary) between the lowest pair of primary leaflets, fully developed gland 0.2 × 0.5 mm, yellowish green to red, with slightly depressed center, glabrous; rachis channeled and angled with 2 flat sides, 20–66 mm long + extension beyond last pair of primary leaflets (to 2.5 mm long), primary leaflets spaced 3.5–5.5 mm apart, on upper side with fleshy flap subtending petiolule, short-hairy; stipels appearing to be red-purple food bodies on lower side of rachis; petiolules of primary leaflets = pulvinus, spreading, ca. 0.7 mm long, light yellow-green, short-hairy; rachilla of primary leaflets widely spreading, 3-sided, (6–)10–22 mm long + short extension, lower side rounded and short-hairy, upper sides flat with secondary leaflets attached and glabrous, lacking stipels, leaflets attached along flat sides ca. 0.7 mm apart; petiolule of secondary leaflet = pulvinus, 0.15–0.2 mm long, light yellow-green; blades of secondary leaflets ovate to oblong-ovate or oblong, 1–2.9 × 0.4–1 mm, the lowest pair 1/2 other leaflets, asymmetric at base with larger side from petiolule truncate, entire and sometimes sparsely short-ciliate to midblade, acute at tip, with 1 vein visible and closer to leading edge, surfaces glabrous and lower surface somewhat glaucous. **Inflorescence:** headlike spike, axillary, 13–15 mm diameter, 25+-flowered, flowers helically alternate, in range all fertile or with a lower series of staminate flowers (lacking pistil), bracteate, short-hairy; peduncle pulvinus at base short and poorly defined, above 5-ridged and slender, to 22 × 0.5–0.6 mm increasing 2× in fruit, short-hairy; rachis with closely spaced flowers, at anthesis 2.5–3 × 1 mm and in fruit 6 × 2 mm, glabrous, lacking glandular hairs; bractlet subtending flower stalked acuminate diamond-shaped (sometimes somewhat 3-lobed below midpoint), 0.9–1.1 mm long, aging reddish, with raised midvein on back and somewhat jagged on margins, glabrous (several bractlet on peduncle approaching spike but lacking flowers). **Staminate flower:** radial, 5–6 mm across (stamens); **calyx** 5-lobed, ca. 0.6 mm long; tube funnel-shaped, mostly colorless (greenish at base) with 5 faint veins aging reddish; lobes triangular, margin often reddish; **petals** 5, free to base; oblanceolate, 2 × 0.6 mm, colorless below midpoint and mostly light green above midpoint; **stamens** 5, free, exserted; filaments 6–7.5 mm long, tangled and never straight, white; anthers dorsifixed, dithecal, 0.35–0.4 mm long, yellowish aging with orange and red, longitudinally dehiscent; pollen pale yellow; **pistil** absent. **Bisexual flower:** bisexual, somewhat radial (filaments tangled, 5–6 mm across, ca. 6 mm long;

calyx 5-lobed, 1 mm long; tube funnel-shaped, ca. 0.7 mm long, mostly colorless (greenish at base); lobes deltate, with faintly reddish vein to each lobe; **petals** 5, free to base, oblanceolate, 2×0.6 mm, colorless to midpoint and mostly light green above midpoint; **stamens** 5, free, exserted; filaments 6–0.75 mm long, tangled and never straight, white; anthers dorsifixed, dithecal, 0.35–0.4 mm long, yellowish aging with orange and red, longitudinally dehiscent; pollen pale yellow; **pistil** 1; ovary superior, hatchet-shaped compressed side-to-side, 1×0.6 mm, light green, glabrous, 1-chambered with 4 ovules attached to upper side; style crooked and twisted, exserted but not above anthers, cylindrical, 5–6 mm long, white, with a terminal, depressed stigma. **Fruit:** pod (legume), in dense, ball-like cluster at top of peduncle (all or more bisexual flowers forming seed-bearing fruits and faced in the same direction), dehiscent by 2 valves first along 1 edge, in range 1–4-seeded, sickle-shaped and strongly flattened side-to-side, ca. $15\text{--}19 \times 5$ mm, brown to dark brown, somewhat papery, veiny but veins not raised, rounded at base, glabrous. **Seed:** obovate in outline and strongly flattened, $2.6\text{--}3.9 \times 2.1\text{--}2.8$ mm, brown, with U-shaped mark midpoint on both broad faces; attached to fruit by long, slender funiculus.

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