

Vascular Plants of Williamson County

Centrosema virginianum – SPURRED BUTTERFLY PEA [Fabaceae]

Centrosema virginianum (L.) Benth., SPURRED BUTTERFLY PEA. Perennial herbaceous vine, twining, not spinescent, not rosetted, 1–several-stemmed at base, climbing on neighboring herbs and shrubs; shoots with only cauline leaves, leaves somewhat leathery, widely spaced on long, slender stems with twining internodes, short-hairy with nonglandular and some glandular hairs. **Stems:** ridged, to 1 mm diameter, with 3 ridges descending from each leaf, internodes < 50–150 mm long, wiry and often twining. **Leaves:** helically alternate, pinnately 3-foliolate, petiolate with pulvinus, with stipules; stipules 2, attached to stem at node, widely spreading aging recurved, ovate (2-lobed), 2.5–3 × 1–1.3 mm, green and white, finely parallel-veined, the veins not converging at tip, margins sometimes purplish, persistent; petiole pulvinus to 1.5 mm long, short-hairy, above pulvinus channeled, to 26 mm long; rachis deeply channeled, to 10 mm long, with short glandular hairs; stipels 4, 1 from rachis ridge for each petiolule of lateral leaflets and 2 from rachis ridges for petiolule of terminal leaflet, ascending, linear, 1.5–2 mm long, green and purple, 1-veined, with short-stalked glandular hairs; petiolule of leaflets = pulvinus, 1–1.5 mm long, green, short-hairy; blades of leaflets ovate, in range < 20–45+ × 10–20 mm, broadly tapered to subtruncate at base, entire and strigose-ciliate with upward-pointing hairs on margins, obtuse with short point at tip, pinnately veined with principal veins slightly raised on both surfaces, blade of lateral leaflets with asymmetric venation having midrib closer to leading edge, having short hairs along veins. **Inflorescence:** cymelike, axillary, to 4-flowered with 2 axes per node of different ages and each axis potentially having 2 flowers of different ages, axis appearing jointed with pulvinus, bracteate, short-hairy; bract subtending peduncle pulvinus stipulelike of 2 lateral units, 1.5–2 mm long; peduncle flexed, pulvinus glossy and glabrous, above axis to 9 mm long, short-hairy with some glandular hairs; bractlet subtending pedicel of first flower sheathing on pulvinus, broadly ovate to inverted heart-shaped, 3–3.5 × 4 mm, striped green and white, parallel-veined with 25+ veins at base, short-hairy on lower surface, early-deciduous, of second flower flower bractlet = 2 stipulelike structure, ovate and sometimes having a linear central structure (blade) to 2.5 mm long; pedicel cylindrical, 5–6 mm long, greenish, short-hairy including glandular hairs, easily detached, at top of pedicel having 2 prominent bracteoles, bracteoles opposite, appressed to and mostly concealing calyx tube, ovate, ca. 7 × 4–4.2 mm, green with ca. 20 parallel veins from base, the veins not converging at tip, outer (lower) surface with stalked glandular hairs and nonglandular hairs, inner (upper) surface glabrous. **Flower:** bisexual, bilateral, pealike (papilionaceous), in range 30–38 mm across; oriented 180° via pulvinus action from typical with banner positioned downward and keel upward (resupinate); spurred on banner but hidden by calyx; **nectary disc** surrounding stalk (stipe) of pistil, collarlike, 0.8–0.9 mm long, green; **calyx** (“4”)5-lobed, green; tube bell-shaped slightly compressed side-to-side and appearing somewhat pouchlike, ca. 4 × 5 × 3 mm, green, with glabrous patches (beneath bracteoles) and puberulent patches; lobes long-acuminate, upper 2 lobes (sometimes treated as 1 lobe) 7–7.5 × 1–1.2 mm fused at base ca. 1 mm, other lobes 10–11 × 1.4–1.5 mm, lateral 2 lobes curved upward, outer (lower) surface short-hairy with glandular and nonglandular hairs but hooked hairs (uncinate) on margins, inner (upper) surface glabrous; **petals** 5; banner

oriented downward, clawed, spurred, claw boat-shaped, ca. 3.5 mm long, white, limb strongly reflexed backward, \pm round notched at tip, in range 30–32 \times 32–38 mm, mostly light lavender to light pink-purple with broad, white (cream) central panel to tip, wavy to midpoint on margins, upper surface glabrous, lower surface short-pilose (in bud green); spur on back of banner limb with truncate end close to claw, 2–2.5 mm long, white, lacking hairs; wings 2, ca. 18 mm long, clawed, claws deeply notched at base, white, short-ciliate on margins, limbs adherent to keel, oblong, ca. 13 \times 5.5 mm, lavender to pale and light pink-purple, with weak backward-point basal lobe; keel of 2 petals partially fused, ca. 21 mm long, clawed, claws \pm straight, 2.5–3 mm long, white, limbs mostly fused but open on upper side 5–6 mm from claw and not fused along tip of keel, white but light pink-purple approaching tip; **stamens** 10, diadelphous (9 fused and 1 free), concealed within keel; filament sheet straight to midpoint then strongly curved backward (coachwhiplike), with free filaments ca. 25 mm long base-to-tip (straightened), white, free portions ca. 3–4 mm long alternating long and short (1 mm shorter); anthers dorsifixed, dithecal, 1 mm long, light beige, longitudinally dehiscent; pollen beige; **pistil** 1, in range 23–24 mm long, stalked (stipe), stalk to 1 mm long; ovary superior, \pm straight, linear, and channeled, ca. 9 \times 0.7 mm, green, short-strigose with upward-pointing hairs, 1-chambered with 20+ ovules attached to upper side; style ca. 14 mm long, lower portion cylindrical and green from base, with some hairs like ovary, upper portion touching anthers expanded, tongue-like and flattened, ca. 5 \times 1.5 mm, white, rounded and fringed at top, 1 surface short-hairy and stigmatic. **Fruit:** pod (legume), dehiscent by 2 valves helically twisting, 15+-seeded, straight and flattened side-to-side, in range at maturity 90–100 \times 4.5–5 mm + persistent, straight, tail-like (caudate) beak (style) 14–25 mm long. **Seed:** kidney-shaped, ca. 3.5 \times 5 mm, dark brown.

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