

Vascular Plants of Williamson County
Trifolium carolinianum – CAROLINA CLOVER [Fabaceae]

Trifolium carolinianum Michx., CAROLINA CLOVER. Annual, taprooted, not rosetted, several-stemmed at base, decumbent, in range < 15 cm tall; shoots with only cauline leaves, with short-strigose and strigose hairs with upward-pointing hairs; roots nodulated. **Stems:** ± cylindric, to 1 mm diameter, short-strigose. **Leaves:** helically alternate, palmately 3-foliolate, petiolate, with stipules; stipules 2, attached to stem at node and as wings attached to petiole, fused across stem (closed ca. 0.5 mm), asymmetric acuminate-ovate, 6–9 × 2.5–3 mm, subentire and short-ciliate on margins, with 7 principal veins and midvein to tip off-center, upper (inner) surface glabrous, lower (outer) surface often blushed rose and sparsely puberulent; petiole lower portion with 3-raised veins on lower side, upper portion (above stipules) channeled, in range 6–45 mm long, short-strigose, pulvinus absent; petiolules pulvinuslike, 0.6–1.1 mm long, often rose, glabrous or with several short hairs; blades of leaflets obovate flat or initially folded upward from midrib, in range to 11 × 10 mm, tapered at base, low-serrate from below midblade, subtruncate to shallowly notched to 1 mm with a minute point at tip, pinnately veined with midrib raised on lower surface, lateral veins ending in teeth, surfaces dull, upper surface glabrous, lower surface short-hairy mostly along midrib. **Inflorescence:** headlike raceme, terminal, ca. 15 mm across, in range ca. 25-flowered, with the lowest flowers appearing whorled and for younger flowers whorls not conspicuous, initially drooping on arching pedicels to ascending, bracteate, mostly short-strigose, not glandular-hairy; peduncle ± 4-sided, in range to 80 mm long, short-strigose with upward-pointing hairs; **involucre** of fused bractlets subtending the lowest “whorl” of flowers, forming a narrow fringe 0.25–0.3 mm wide around axis, fringe low-dentate and sparsely short-ciliate on colorless margin; for younger flowers bractlet subtending 1–3 adjacent pedicels and inconspicuous, curtainlike to 0.3 mm long; pedicels of lower raceme arching aging reflexed, of upper raceme initially ascending, cylindric, to 4 mm long, light yellow-green or light strawberry-colored and short-hairy. **Flower:** bisexual, bilateral, pealike (papilionaceous), 2 mm across; **calyx** 5-lobed, in range 3–4.2 mm long; tube bell-shaped, ca. 1 × 1 mm, nearly glabrous to minutely strigose, exposed surface mottled red-purple, with 10 slightly raised veins; lobes unequal, often red-purple, the shortest lobe appressed to keel, narrowly triangular, 1 × 0.25 mm, lateral lobes narrowly triangular, ca. 2 × 0.7 mm, 2 lobes appressed to banner fused at base with deep, V-shaped sinus, lobes short-ciliate on margins, short-strigose on outer surface, acuminate at tips (not bristle-tipped); **petals** 5, to 4 mm long, at anthesis banner > wings > keel; banner not clawed, folded from midline, initially mostly colorless but somewhat cream-colored drying papery and brownish, exposed portion scalloped on margin; wings 2, ca. 3 mm long, clawed, claws slender and flat, ca. 1 mm long, whitish, limbs ± acuminate-ovate, pinnately veined, having a white, semicircular basal lobe ⊥ to wing axis ca. 0.3 × 0.6 mm (not backward-pointing); keel of 2 partially fused petals, ca. 2 mm long, clawed, claws ca. 1 mm long, limbs fused from tip down lower edge ca. 1 mm (ventral), coherent to limbs of wings; **stamens** 10, diadelphous (9 filaments fused and 1 free), to 2.5 mm long; filament sheet to about 2/3, straight, whitish, free portions of filaments ca. 0.7 mm long; anthers basifixed, dithecal, pale yellow, longitudinally dehiscent; pollen yellowish; **pistil** 1, ca. 2.5 mm long, not stalked at base; ovary superior,

fusiform compressed side-to-side, ca. 1.3×0.5 mm, green, with short hairs along edge by style, 1-chambered with 4 ovules attached to upper side; style slender, translucent; curved at end with stigma terminal. **Fruit:** pod (legume), subsessile, dehiscent along upper (dorsal) edge, in range mostly 1–2-seeded, hatchet-shaped, ca. $4 \times 2 \times 1.5$ mm, lateral wall thin and bulging with seeds, style often persistent and puberulent on exposed edge (below style); calyx papery when dry. **Seed:** roundish, ca. 1 mm, dull brown, minutely textured, A. C. Gibson