

Vascular Plants of Williamson County
Geranium texanum – TEXAS GERANIUM [Geraniaceae]

Geranium texanum (Trel.) A. Heller, TEXAS GERANIUM. Annual, rosetted, taprooted, 1-stemmed at base, ascending, branching at subsequent nodes in canopy, in range 11–35 cm tall, to 45 cm long; shoots with basal leaves typically absent at flowering and having 1–2 nodes of cauline leaves, above “cauline leaves” = bracts subtending inflorescence, basal leaves < 10, stems and petioles short-strigose with downward-pointing hairs and other leaf parts short-strigose with upward-pointing hairs, lacking long-stalked glandular hairs on vegetative and reproductive plant but having inconspicuous, minute glandular hairs on particular surfaces. **Stems:** cylindric, in range 3 mm diameter (internodes) and swollen at and just above node (base of each internode), pulvinus at base of branch internodes mostly tinged with reddish pigment, internodes to 120 mm long, tough, bent at cauline node (geniculate), lower stem short-strigose with hair frequency and density increasing upward, hairs to 0.25 mm long, with inconspicuous, minute glandular hairs. **Leaves:** helically alternate and true cauline leaves subopposite (bracts and bractlets within inflorescence = opposite), blade deeply palmately divided having sinuses $\frac{2}{3}$ – $\frac{7}{8}$ to base defining 5 or 7 lobes (sinuses V-shaped and 2.5–6 mm from blade base) each lobe with 2–3(–4) sublobes above midlobe, petiolate to long-petiolate, with stipules; stipules 2, attached to base of petiole, acuminate-ovate winged to above midpoint, 3–5 mm long, wings initially membranous, short-ciliate on margins of wings, green midvein raised on lower (outer) surface and upper (inward) surface with sparse, upward-pointing short-strigose hairs, aging papery and persistent; petiole slender and cylindric, < internode and >> blade with the longest on the lowest cauline leaves, short-strigose with upward-pointing hairs; blade \pm round to in outline, in range < 10–27 \times 10–32 mm, of basal leaves < cauline leaves, green or tinged red, cordate at base, lobes obovate or narrowly fan-shaped to wedge-shaped, sublobes and teeth 3(–5), unequal, < 1–5+ \times 0.4–2 mm, on central lobe sublobes bilaterally symmetric, obtuse to broadly acute (rounded) with calluslike tip, short-strigose ciliate on lobe margins, palmately 5-veined (7-veined) with principal veins slightly sunken on upper surface and raised on lower surface, 1 vein to tip of each sublobe, upper surface sparsely short-strigose with upward-pointing hairs, lower surface conspicuously short-strigose with upward-pointing hairs along principal veins and scattered, minute, short-stalked glandular hairs between veins; small blades of basal leaves uniformly appressed short-hairy on both surfaces. **Inflorescence:** cyme, 2-flowered, paired in canopy, bracteate, axes short-strigose with downward-pointing hairs; bracts subtending cyme stipulelike (1 pair per peduncle), acuminate-triangular, to 5 mm long, with green midvein and short-strigose on membranous wings along lower surface aging scarious and reddish, persistent; peduncle (cyme axis) having pulvinus at base of internode, at anthesis to 11 mm long increasing in fruit, having minute glandular hairs; bractlets subtending each pedicel 2 (4 per fork) = stipules, triangular, to 3 \times 1 mm, 1 stipule of each pedicel fused at base, short-ciliate on margins; pedicel at anthesis to 3 mm long, . **Flower:** bisexual, radial, 5–6 mm across (spreading sepals tips); **sepals** 5, overlapping with 3 outer and 2 inner sepals, body acuminate-ovate ascending with a \pm spreading point at tip (“awn”), conspicuously 5-veined (outer sepals) and 3-veined (inner sepals), the body ca. 3 \times 2.5 mm increasing in fruit, outer sepals not infolded from lateral veins, tip fingerlike and subterminal 0.7–1 mm

long, green, uniformly short-hairy with upward-pointing stiff hairs, outer surface with short-strigose with upward-pointing hairs along raised veins and short-strigose along narrow membranous margins, having several minute glandular hairs at base of each sepal or also above midpoint, inner surface lacking hairs; the awnlike tip lacking teeth (not scabrous), persistent, with an extra tuft of short hairs at its base; **petals** 5, easily dislodged, ascending, oblanceolate, $2.2\text{--}2.5 \times 0.7$ mm, < sepals but visible when spreading, white, vein 3-forked at clawlike base and veins colorless and not converging at tip, with some soft hairs on margins and back of “claw”, entire, rounded at tip, with minute, stalked glandular hairs on margin at tip; **nectaries** 5, in an interrupted ring, to 0.3 mm long, light green, producing a drop of nectar viewed at base of each petal; **stamens** 10 in 2 whorls, free, 5 staminodes (outer whorl) and 5 fertile (inner whorl), each fused to top of 1 or 2 nectaries; filaments appressed to pistil and erect, tapered base-to-tip, translucent-white, short-ciliate on margins to midpoint, of staminodes somewhat cupped-triangular, $\pm 1.5 \times 0.5$ mm, of fertile stamens flat-triangular, $\pm 2 \times 0.5$ mm and > staminodes (slightly elongating during fruit development), persistent, outer surfaces of both types with inconspicuous, minute sessile glandular hairs, lacking hairs approaching top; anthers adjacent to stigmatic lobes, dorsifixed, dithecal, 0.35–0.4 mm long, pale red-purple with fine dark stripe, longitudinally dehiscent; pollen white; **pistil** 1, at anthesis ca. 2 mm long, pubescent; ovary superior, deeply 5-lobed to central axis, < 1 mm long, lobes spheroid, light green, 5 fused with dense hairs between lobes and ascending hairs on lobes, 5-chambered, each chamber with 1 ovule; style with column of 4 erect, fused styles having 5 fingerlike, the column at anthesis green with 5 panels of short-strigose hairs approaching stigmatic lobes) alternating with narrower glabrous tissue (opposite filaments of fertile stamens), stigmatic lobes 0.5–0.7 mm long, light yellow-green, with line of short hairs along back (outer) of each lobe, lobes spreading to ascending at pollination, inner side papillate. **Fruit:** schizocarp of 5 1-seeded mericarps, before dehiscence erect, needlelike (= beaks) with swollen base (= seed bodies); seed bodies plump D-shaped rounded on back, 3–3.3 mm long, green aging papery brown, dehiscent on inner face, short-hirsute when fresh with scattered minute glandular hairs; beak erect, 10–11 mm long with appressed stigmatic lobes at tip, with 5 shallow furrows alternating with 5 flat raised panels, panels short-strigose with upward-pointing hairs, with minute glandular hairs especially along furrows, panels (strips) of beak abscising upward curled, ca. 0.4 mm wide with short-strigose hairs on inner side; sepal blade 5–5.3 mm long flexed backward, touching seed bodies with erect “awns”. **Seed:** tightly covered by seed body, plump D-shaped, ca. $2.8 \times 1.7 \times 1.6$ mm, dull brown with uniform shallow pits.

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