

**Vascular Plants of Williamson County**  
*Geum canadense* – WHITE AVENS [Rosaceae]

*Geum canadense* Jacq., WHITE AVENS. Perennial herb, having ± vertical, woody caudex (taprooted) and fibrous-rooted, conspicuously rosetted, several-stemmed at base, shoots and leaves ascending, in range 30–65 cm tall; shoots with basal leaves and cauline leaves, foliage velveteen having short-pilose and pilose hairs. **Stems:** ± cylindric, to 3 mm diameter, green but purple-red near rosette, lower stem hairs stiffer (short-hirsute and hirsute) often curving downward. **Leaves:** helically alternate, odd-1-pinnately compound, to 9-foliolate but also 1-foliolate (basal leaves), in canopy decreasing to 3-foliolate or 1-foliolate (cauline leaves) with lateral leaflets paired but subopposite, if compound having 1–2 pairs of major lateral leaflets and 0–2 pairs of minor lateral leaflets, the minor leaflets along lower rachis or alternating along rachis with pairs of major leaflets, leaflets sessile to subsessile, in range leaf 40–210 mm long, petiolate (lower leaves) and subsessile (canopy leaves and bracts), with stipules; stipules 2, fused to the lowermost petiole 1–2 mm and forming a ridge short-decurrent along internode, ascending, resembling a minor leaflet (on upper cauline leaves and bracts difficult to distinguish), asymmetric ovate to obovate, to 26 × 11 mm, crenate-serrate on margins, with sinuses occasionally greater than half to midvein, palmately veined, short-pilose with scattered hairs and on margins, persistent; petiole hemicylindric to broadly channeled, to 75 mm long decreasing upward, soft-hairy; rachis broadly channeled, soft-hairy; blades of simple leaves inversely heart-shaped to broadly ovate, of leaflets rhombate or ovate to obovate, to 60 × 50 mm, leaflets heteromorphic, terminal leaflet ± symmetric, major lateral leaflets asymmetric with trailing half > leading half >> minor lateral leaflets, broadly tapered to tapered at base (lateral leaflets oblique), coarsely toothed on margins, minor leaflets sometimes < 5 mm long, pinnately veined with principal veins sunken on upper surface and raised on lower surface, soft-hairy. **Inflorescence:** leafy cyme, terminal, several–many-flowered, bracteate, soft-hairy and with inconspicuous, minute stalked glandular hairs; bract subtending branch 3-foliolate or 1-foliolate, leaflike and having a pair of ovate stipules; bractlet subtending pedicel = a reduced bract; bracteoles 5–6, fused to hypanthium rim alternate with sepals, narrowly elliptic-oblong to linear, 1.5–2.7 × 0.3–0.4, not lobed, 1-veined, green, puberulent but with 1–3 longer hairs at truncate tip also with an inconspicuous gland; pedicel to 15 mm long increasing 2–4× in fruit. **Flower:** bisexual, radial, 15–22 mm across, dish-shaped; receptacle (torus) hemispheric to 7 mm across aging cylindric, with needlelike hairs (bristles) surrounding base of torus (interior to filaments) and on surface between ovaries, the hairs to 2.3 mm long, persistent even after fruits abscise; hypanthium dishlike, ca. 4 mm across, nectar-producing; **nectaries** 5–6, opposite petals to the inside of each arc of stamens; **sepals** 5–6, triangular to acuminate triangular-ovate, at anthesis widely spreading, equal to subequal, in range 6–9 × 2.5–3 mm, aging downward-leaning and later reflexed, upper surface green (paler at base), 3-veined from base, with puberulent margins extended to upper surface and having a fleshy tip, lower surface green, short-hirsute and hirsute with minute stalked glandular hairs; **petals** (4–)5–6(–7), widely spreading, obovate, in range 5.5–8 × 2.8–4.8 mm, in range < sepals, white, rounded at tip, pinnately veined, easily abscised; **stamens** ca. 80–100 in several close series, arising from hypanthium, not fused in sets, outer series ascending when releasing pollen while inner

series hooked inward, later all stamens ascending with filaments persistent surrounding torus; filaments  $\pm$  equal, 2.5–3 mm long, cream-colored aging yellowish; anthers dorsifixed, dithecal, 0.8–1 mm long, cream-colored, longitudinally dehiscent; pollen pale yellow; **pistils** many (50+), helically alternate on a central mound (torus), with needlelike hairs of torus and ovaries collectively hiding ovaries, ca. 3 mm long; ovaries superior, ovate-discoid compressed side-to-side,  $\pm 0.8 \times 0.6 \times 0.2$  mm, with short hairs and also some longer, needlelike hairs above midpoint, 1-chambered with 1 ovule; style bent near midpoint (jointed), below bend pale green and lacking hairs, bend region green with ascending short hairs, above bend pale green and lacking hairs; stigma terminal, minute, aging reddish. **Fruits:** achenes, each with hooked beak (persistent style), many helically arranged on cylindrical torus having persistent, radiating, needlelike hairs to 2.3 mm long, each achene  $\pm$  obovoid compressed below midpoint, when fertile 2.5–3  $\times$  1.5 mm, dark brown, with short hairs and also some ascending, needlelike hairs above midpoint; on top of fruit with beak = lower half of style below bend (joint), upper portion 1.5–2 mm long and pubescent abscising during fruit development, beak 3.5–4 mm long indistinct from top of ovary, brown, terminal portion becoming a short hook, glabrous base-to-top.

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