

Vascular Plants of Williamson County

Solidago nemoralis subsp. *decemflora* – PRAIRIE GRAY-STEMMED GOLDENROD
[Asteraceae]

Solidago nemoralis Aiton subsp. *decemflora* (DC.) Semple, PRAIRIE GRAY-STEMMED GOLDENROD. Perennial herb, inconspicuously clonal, rhizomatous, fibrous-rooted, each shoot initially rosetted, several-stemmed at base (per clone), each shoot unbranched below terminal inflorescence but at flowering having unexpanded axillary shoots, ascending, in range < 40 cm tall; gynomonoecious; shoot with to 15 basal leaves and many cauline leaves, basal leaves often withered and absent on flowering shoot but present on any young vegetative shoot on clone at flowering, foliage short-strigose (not velveteen), lacking glandular hairs; rhizomes horizontal, cylindrical, to 5 mm diameter; adventitious roots on lower side of rhizome. **Stems:** somewhat angular and ridged, to 5 mm diameter, with 1 dominant and to 5 ridges descending from each leaf, tough, tannish with angles sometimes aging purple-red, densely short-strigose with upward-pointing hairs. **Leaves:** helically alternate, simple, subsessile short-petiolate but appearing petiole (= narrow long-tapered base of blade), without stipules; “petiole” crescent-shaped in \times -section, < 2–9 mm long but basal leaves appearing to 35 mm long decreasing upward, flared close to base, blade with narrow wings nearly to base, without stipules; blade oblanceolate (the lowermost cauline leaves) gradually changed to narrowly elliptic-linear to linear-oblanceolate to linear to narrowly obovate (subtending inflorescence), in range (< 7–)10–70+ \times (1.5–)4–17 mm, long-tapered at base, minutely toothed to entire on margins, with 1–several ovoid teeth above midblade on margin with small sinus, blunt-acute at tip, pinnately veined appearing with 1 principal vein (midrib) slightly raised on surfaces (midrib including inconspicuous lateral veins), surfaces with abundant, uniform short-hirsute hairs and conspicuous minor vein network, midvein sometimes purple-red, leaves within inflorescence subtending branches ascending, linear and minutely toothed, < 25 \times 2 mm decreasing upward. **Inflorescence:** heads, in terminal, paniclelike array, array narrowly ovoid, in range to 100 mm long, with helically alternate, spreading lateral branches at nodes, the lowest branch in range with < 10 heads and to 20 mm long, other lateral branchlet decreasing upward, heads mostly spreading with diminutive leaflike bracts subtending each fork and axis, head radiate, in range of 4–6 pistillate ray flowers and 4–7 disc flowers, bracteate, short-hirsute and puberulent, sessile to subsessile glandular hairs inconspicuous on green tissues; principal axis with shallow furrows, short-hirsute; bract subtending peduncle awl-shaped and half-sheathing, 1–2 \times 0.8 mm, greenish yellow to yellowish green, puberulent-ciliate on margins; peduncle < 3–5 mm long, light green, puberulent to short-hirsute with upward-pointing hairs, vein not reaching tip; **involucre** bell-shaped, 3.5–7 \times 1.6–2.3 mm (rarely 2 heads fused), phyllaries 13–17(–21), outer phyllaries 4–5, blunt-triangular to obtuse-ovate, 1.5–2.5 mm long, light yellowish green, 1-veined and enlarged, short-ciliate on margins, sometimes having several minute glandular-hairs on back below midpoint, middle and inner phyllaries obtuse ovate-oblong to rounded-oblong ca. 3–4 \times 1 mm; receptacle lacking bractlets (paleae), with a winglike crown separating ovaries of disc flowers, lacking hairs. **Ray flower:** bilateral, 1 mm across; **calyx (pappus)** of ca. 40 capillary bristles in 2 series on short rim, subequal to unequal, 3–4 mm long, white; **corolla** minutely notched with 2–3 minute teeth (rarely unequally 2-lobed), 5–6 mm long, lacking nonglandular and glandular

hairs; tube cylindric, $1.5-3 \times 0.2$ mm to corolla midpoint, > pappus, greenish to yellowish green, with several hairs at top of tube; limb spreading to ascending, oblanceolate or elliptic to narrowly obovate, in range $1.5-3 \times 0.7-1.1$ mm, bright yellow on both surfaces and faintly 3-veined; **stamens** absent; **pistil** 1; ovary inferior, inversely conic, ca. 0.8×0.4 mm, translucent but greenish at base, inconspicuously ribbed, sparsely short-hirsute with ascending white hairs, 1-chambered with 1 ovule; **nectary disc** not evident (corolla somewhat thickened at base; style exerted, 2-branched, 3–3.8 mm long, colorless at base, the stigmatic branches ascending and fully exerted, linear, ca. 0.7 mm long, light yellow. **Disc flower:** radial, ca. 1 mm across, to 4.5 mm long, appearing short-stalked; **calyx** (**pappus**) of 35–40 capillary bristles in 2 series on short rim, unequal and shorter in inner series, mostly 3–4 mm long, white; **corolla** (4–)5-lobed, to 5 mm long, lacking nonglandular and glandular hairs; tube cylindric, ca. 1.8 mm long, yellowish; throat narrowly bell-shaped, $\pm 1 \times 0.7$ mm, yellow; lobes blunt triangular, $0.7-0.8 \times 0.35$ mm, bright yellow; **stamens** (4–)5, attached to top of corolla tube; filaments ca. 0.5 mm long, translucent; anthers fused into cylinder surrounding style, basifixed, dithecal, often fully exerted, 1.5–1.7 mm long incl. yellowish triangular appendages ca. 0.3 mm long, lacking tails, sacs light orange to orange-yellow, longitudinally and inwardly dehiscent; pollen orange-yellow; **pistil** 1; ovary inferior, inversely conic, ca. 0.4×0.3 mm, translucent, sparsely short-hairy with ascending white hairs, 1-chambered with 1 ovule; **nectary disc** not evident, thin nectar filling bud; style in range ca. 2 mm long, 2-branched, colorless at base to yellowish above, the stigmatic branches ca. 0.4–0.5 mm long, light yellow, flat on inner surface, papillate on outer (lower) side. **Fruits:** cypselae (achenes), of ray and disc flowers, monomorphic, inversely narrow tapered from top to base, 1.5–2+ mm long, brown, weakly ribbed, short-strigose with upward-pointing hairs; pappus capillary bristles in 2 series, spreading, in range 3–4 mm long, off-white.

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