

Vascular Plants of Williamson County

Artemisia ludoviciana subsp. *mexicana* – MEXICAN SAGEBRUSH, WESTERN MUGWORT
[Asteraceae]

Artemisia ludoviciana Nutt. subsp. *mexicana* (Willd.) D. D. Keck, MEXICAN SAGEBRUSH, WESTERN MUGWORT. Perennial herb, clonal, rhizomatous, fibrous-rooted, not rosetted, 1–several-stemmed from rhizome at base, branched in canopy, having unexpanded axillary shoots in canopy, erect to ascending, in range 30–95 cm tall; gynomonocious; shoots with cauline leaves with the lower ones often absent at flowering, tomentose with surfaces of foliage gray-green and similar or bi-colored with upper surface green and lower surface nearly white with thick tomentum, glandular hairs scattered beneath nonglandular hairs, subsessile with colorless heads, aromatic when crushed. **Stems:** angled and \pm 8-ridged, with 3 ridges descending from each leaf, tough, light green densely white-tomentose and gland-dotted. **Leaves:** helically alternate, simple to pinnately lobed or having toothlike lobes, lobes to 6, short-petiolate to sessile, without stipules; petiole 3-ridged, to 1 mm long, with midrib strongly raised and densely white-tomentose on lower surface; blade with lobes or teeth obovate to broadly elliptic in outline (lower cauline leaves on new shoots) and mostly acuminate-linear to elliptic-linear or lanceolate-linear in reproductive canopy and on expanded axillary shoots, in range to $55 \times < 3-21$ mm, long-tapered at base, mostly entire and somewhat inrolled to the lower side (generally not strongly revolute), acute to acuminate at tip, pinnately veined with midrib slightly sunken on upper surface and with midrib strongly raised and lateral veins slightly raised on lower surface, upper surface when mostly green loosely tomentose or cobwebby-tomentose and having scattered glandular hairs, lower surface typically densely white-tomentose so no green visible. **Inflorescence:** heads, in terminal, of many heads, in ascending, leafy, paniclelike arrays, with a racemelike series of short-stalked heads at top of array, behind having 2 or more heads in racemelike to cymelike short branchlet, and with longer axillary branches or paniclelike branches to the base of array having cymelike ultimate branchlets of heads, bracteate with a leaflike bract subtending each axis, tomentose and with scattered glandular hairs, head ca. 2 mm across, disciform, in range mostly having 5–6 pistillate peripheral flowers subtended by inner phyllaries and 9–10 central, bisexual disc flowers, stigmatic branches of peripheral flowers exerted before anthesis of disc flowers (proterogynous), bracteate; axes ridged, tomentose and glandular-hairy; bracts linear or oblanceolate-linear, decreasing upward, greenish on upper surface; bract subtending peduncle of head lanceolate, to 2 mm long; peduncle of head short–1.5 mm long; **involucre** bell-shaped to urn-shaped, in range ca. $2.5 \times 1.7-2$ mm, of < 10 phyllaries in 3–4 series, outer 1–2 phyllaries sometimes lanceolate, 2×0.5 mm (sometimes this is a bract subtending a subsessile head), middle and inner phyllaries cupped and ovate, broadly elliptic, and obovate, 2.2–2.5 mm long, central panel green and densely white-tomentose, midvein visible, margins wide, colorless, and often jagged mostly lacking hairs; receptacle narrow, domed, having glandular hairs with colorless heads and also several short, weak hairs. **Peripheral flower:** \pm radial, ca. 0.3 mm across (excluding spreading style branches); **calyx (pappus)** absent; **corolla** minutely 3–4-lobed, 1–1.2 mm long, with scattered subsessile glandular hairs including at top; tube cylindrical tapered to top, 0.3–0.35 mm diameter at base, in range pale green; lobes short, purplish, in range top often somewhat split by emergence of style branches; **stamens** absent; **pistil** 1; ovary inferior, somewhat

wedge-shaped and \pm 3-sided, $0.6 \times 0.3\text{--}0.35$ mm, colorless, lacking hairs, 1-chambered with 1 ovule; style 2-branched, lower portion ca. 1 mm long, colorless, the stigmatic branches fully exerted from corolla and eventually widely spreading, ca. 0.8 mm long, greenish or with rose midline aging red, rounded at tips, minutely papillate. **Disc flower:** radial, ca. 0.7 mm across, ca. 2.5 mm long; **calyx (pappus)** absent; **corolla** 5-lobed, with scattered subsessile glandular hairs; tube cylindric, 0.5×0.35 mm, greenish; throat narrowly funnel-shaped, in range reddish purple above midpoint; lobes widely spreading, triangular, ca. 0.4×0.3 mm; **stamens** 5, attached at top of corolla tube; filaments somewhat compressed front-to-back, ca. 0.3 mm long, reddish; anthers fused into cylinder surrounding style, tips of appendages scarcely exerted, sacs ca. 1 mm long, light yellow to nearly white, the appendages acuminate, 0.5 mm long, and white, longitudinally and inwardly dehiscent; pollen light yellow to yellowish white; **pistil** 1, included; ovary inferior, somewhat wedge-shaped and \pm 3-sided, $0.6 \times 0.3\text{--}0.35$ mm, colorless, lacking hairs, 1-chambered with 1 ovule; style 2-branched, 1 mm long, lower portion reddish above midpoint, the stigmatic branches ascending, 0.3 mm long, style aging red base-to-tip. **Fruits:** cypselae (achenes), monomorphic, oblong truncate at top and slightly tapered to blunt base, $0.5\text{--}0.7 \times 0.3\text{--}0.35$ mm, brownish, sometimes appearing somewhat angled with several weakly defined ribs, cells in longitudinal files, glabrous and not resinous; embryo during development rose (translucent phase).

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