

*Artemisia douglasiana* Besser, MUGWORT. Perennial herb, winter-dormant, clonal, rhizomatous, fibrous-rooted, 1-stemmed from each rhizomelike root, clump-forming, typically unbranched below inflorescence, erect to ascending, 90–210 cm tall; shoots with only cauline leaves, with matted, crooked hairs or woolly and with short glandular hairs having colorless heads, strongly fragrant like sage (*Salvia*); rhizomes  $\pm$  horizontal, same diameter as lower stem of shoot, with brown bark and projecting, purplish buds. **Stems:** strongly ridged, to  $\pm$  10 mm diameter, with 3 ridges descending from each leaf, loosely matted and with scattered glandular hairs. **Leaves:** helically alternate, unlobed to coarsely 3–6-lobed,  $\pm$  sessile, without stipules; petiole 0– < 5 mm long, flared at base, 3-veined with conspicuous midrib and smaller lateral veins; blade of lower cauline leaves obovate, 90–175  $\times$  40–80 mm, sometimes with 1 or 2 tiny lobes near base, commonly toothed on margins above lobes,  $\pm$  acute at tip, pinnately veined with principal leaves slightly sunken on upper surface and raised on lower surface, upper surface dark green and sparsely tomentose, lower surface whitish gray and densely matted-woolly; blade of upper cauline leaves and on unexpanded axillary shoots typically lanceolate or elliptic to obovate (large leaves), 25–145  $\times$  4–55 mm, lobed (large leaves) to entire, acute to acuminate at tip, pinnately veined with principal leaves slightly sunken on upper surface and raised on lower surface. **Inflorescence:** heads, terminal, usually in nodding, leafy, paniclelike arrays, array 100–450  $\times$  30–120 mm, principal lateral branches ascending (spreading) and 10–140 mm long, the shorter ones typically spikelike, the longer ones racemelike at base and spikelike approaching tip or with secondary spikelike branchlets at base, head disciform, typically with 5–6 pistillate peripheral flowers and 7–13(–25) bisexual central flowers, bracteate, woolly and glandular-hairy like shoot; bract subtending branchlet 5–20  $\times$  1–5 mm; bracts subtending peduncle or head awl-shaped, < 1.5 mm long; bract subtending principal branch 7–65  $\times$  1–15 mm, leaflike at base of inflorescence; branchlets having 3–10 heads, 3–25 mm long; peduncle short or absent; **involucre** bell-shaped to ellipsoid, 3.5–4  $\times$  2–2.5 mm, becoming top-shaped and broader in fruit, phyllaries 10–12(–14) in several series, overlapping, tightly appressed, ovate, 1.4–3  $\times$  0.4–2 mm, green along midvein, membranous on margins, tomentose especially on exposed surfaces and on margin approaching tip; receptacle narrow, without bractlets (paleae). **Peripheral flower:** pistillate, bilateral, 0.3 mm across, 2–2.8 mm long; **calyx (pappus)** absent; **corolla** 2–3-toothed, narrowly cylindric, 1–1.5 mm long, pale yellowish green, oblique at orifice, the teeth unequal and membranous, glandular with sessile spheric hairs; **stamens** absent; **pistil** 1; ovary inferior,  $\pm$  0.8 mm long, whitish to pale green, weakly striped, glabrous, 1-chambered with 1 ovule; style  $\pm$  2 mm long, 2-branched, the branches exerted, spreading,  $\pm$  1 mm long, reddish brown, short-hairy. **Central flower:** bisexual, radial, 0.4–0.7 mm across; 2.4–2.8 mm long; **calyx (pappus)** absent; **corolla** 5-lobed, cylindric, 1.8–2.2  $\times$  0.4–0.7 mm; tube green aging brownish, throat and lobes yellow to pale yellow, sparsely glandular with sessile spheric hairs; lobes equal, acute,  $\pm$  0.3 mm long; **stamens** 5, fused to base of corolla throat; filaments  $\pm$  0.5 mm long, expanded and flattened above midpoint and then tapered to anther; anthers fused into cylinder surrounding style, included, basifixed, dithecal, 0.7–1.2 mm long, yellow, with pointed sterile appendage at tip, longitudinally dehiscent; pollen yellow; **pistil** 1, ovary inferior, inversely conic,  $\pm$  0.6 mm long, whitish to pale green, blunt at tip, glabrous, 1-chambered with 1 ovule; style included,  $\pm$  1.7 mm long, 2-branched, the branches  $\pm$  0.4 mm long, stigmatic, papillate-

hairy at truncate tip. **Fruits:** cypselae, monomorphic, ellipsoid, (0.5–)1–1.2 mm long, golden, glabrous. Late July–mid-November.

Native. Perennial herb common in range, especially on edges of southern oak woodland. *Artemisia douglasiana* spreads via rhizomes and occurs in clumps, and its foliage is strongly aromatic due to the presence of small glandular hairs beneath the densely matted hairs. Heads of mugwort form during summer growth, and the flowers begin to open usually by early August but can even be found open during November, when few native species are active.

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