

Vascular Plants of Williamson County

Teucrium canadense – AMERICAN GERMANDER, WOOD-SAGE [Lamiaceae]

Teucrium canadense L., AMERICAN GERMANDER, WOOD-SAGE. Perennial herb, clonal, rhizomatous, fibrous-rooted, not rosetted, 1-stemmed per node arising from creeping rhizome, mostly unbranched below inflorescence but having unexpanded axillary shoots, ascending to erect (decumbent), in range 40–125 cm tall; shoots with only cauline leaves, puberulent with curved nonglandular hairs and short-stalked glandular hairs with minute, cloudy heads, foliage aromatic when crushed; rhizome horizontal, relatively shallow, and spreading, internodes initially 4-ridged and 4-sided, $< 25 \times 5$ mm, white aging light orangish brown and hollow (pith destroyed), with a pair of scales at each node, the scales opposite decussate, appressed, obtuse-ovate to deltate, 1.1–3 mm long, nongreen, outer (lower) surface of scales and rhizome lacking nonglandular hairs but having minute stalked glandular hairs to 0.1 mm long; adventitious roots arising from nodes of rhizomes. **Stems:** 4-sided with 4 well-defined angles, to 4 mm across, tough, green, with a pair of ledges across node, internode with short hairs arching downward and with minutely stalked glandular hairs, ledges with longer, villous hairs. **Leaves:** opposite decussate, simple, petiolate, without stipules; petiole broadly channeled to sessile in canopy, to 12 mm long, with short nonglandular hairs arching downward and inconspicuous glandular hairs; blade ovate to lanceolate, $35\text{--}115 \times < 10\text{--}38$ mm, tapered to broadly tapered or subtruncate at base, serrate on margins and margins on some teeth somewhat inrolled under, acute to acuminate at tip, pinnately veined with most veins conspicuously sunken on upper surface and raised on lower surface, upper surface green to dark green with widely spaced, straight, \pm short hairs, lower surface somewhat velveteen with dense, short hairs arching downward along veins and on green tissue short-villous + minutely stalked glandular hair with minute, cloudy heads. **Inflorescence:** raceme or panicle of 3 racemes with lateral racemes diverging at base, terminal, each raceme many-flowered, to 330 mm long, while flowering ca. 30 mm across, flowers several open each day, flowers and buds dense, mostly alternate but opposite or whorled at the lowest 1–2 nodes or on long racemes at some nodes having opposite or pseudowhorled flowers, flowers \pm ascending with central lobe of corolla lower lip closer to horizontal, bracteate, green structures densely puberulent and with glandular hairs having minute cloudy heads and occasional other types of hairs; peduncle 4-sided and stemlike, to 35 mm long, opposite faces descending from bracts more narrow than the other pairs of faces, puberulent hairs curved downward; rachis conspicuously ridged, having ridges descending from bractlets; bractlet subtending pedicels at the lowest node leaflike and short-petiolate, to 15×5 mm and low serrate, at other nodes sessile, acuminate-lanceolate, and entire, $5\text{--}7.5 \times 1.1\text{--}1.5$ mm, often 3-veined at base, base and sometimes margins purplish-red; pedicel ascending, cylindric, 2.5–4.5 mm long. **Flower:** bisexual, bilateral, ca. 7 mm across (corolla lower lip); sweetly fragrant; **calyx** \pm 2-lipped, 5-lobed, green, outer surface covered with short hairs curved nonglandular hairs and sessile glandular hairs having cloudy heads, on inner surface above midpoint with finely stalked glandular hairs having colorless heads; tube \pm bell-shaped, ca. 4×3 mm, green or blushed red on exposed side, 10-veined to lobes and sinuses; upper lip 3-lobed, lobes ovate, 2 mm long, lateral lobes blunt-acute to obtuse at tip, central lobe with margins slightly recurved; lower lip 2-lobed, lobes acute-triangular, $\pm 3 \times 1.6\text{--}2$ mm; **corolla** appearing 1-lipped with 5 lobes, ca. 18 mm long (irregular to measure), white to midpoint above white with light

pink-purple, in bud exposed surface greenish with finely stalked glandular hairs; tube + throat mostly concealed by calyx tube, ascending, horn-shaped curved upward and compressed side-to-side, ca. 5–5.5 × 3 mm, mostly lacking hairs; lower lip lower portion folded upward, ca. 3 × 1.7 mm, white, at top with a pair of lobes conspicuous in bud, at anthesis ± triangular, ca. 4 mm long, cupped and leaning backward, mostly white with persistent stalked glandular hairs on greenish tips, second pair of lateral lobes spreading, ovate, ca. 2 × 1.6 mm, those lobes and between them mostly pigmented, central lobe extension from central floor, initially scooplike, ca. 6 × 3–3.5 mm, mottled white and light pink-purple but floor having a design of purple-red spots in nectar lines, upper surface with finely stalked glandular hairs and lower surface on scoop also having subsessile glandular hairs with milky heads; **stamens** 4 in 2 pairs, fused to corolla tube and arising ca. 4 mm from base; filaments conspicuously exerted, unequal, 8–8.5 mm long (short stamens) and 10–10.5 mm long (long stamens), greenish in bud but white at anthesis and aging darker, curving toward lower lip with 1 or more anthers at level of stigma; anthers basifixed, dithecal with sacs back to back, 0.6–0.7 mm long, light orange aging darker and eventually brownish, at base of sacs with numerous white glandular heads, longitudinally dehiscence; pollen light orange, discharged in bud; **nectary disc** surrounding base of ovary (separated by short space), ca. 0.25 mm long, green, producing copious thin nectar; **pistil** 1; ovary superior, 4-lobed to midpoint, 0.7 mm long, green, covered with milky head of glandular hairs, 2-chambered, each chamber with 2 ovules; style in depression at top of ovary (gynobasic), ca. 14 × 0.2 mm, white, curved within cluster with filaments, glabrous, 2-branched at tip, the stigmatic branches acute, 0.5 mm long, with V-shaped sinus. **Fruit:** nutlets, set to 4 fully developed (fertile) or with smaller aborted nutlets, initially fused below midpoint then splitting, before splitting set of 4 bulging calyx, 3–3.5 mm across, individual fertile nutlets obovoid 3-sided, mostly 2–2.4 × 1.5 mm, light brown to reddish brown, rounded on back and with 2 flat faces or with only 1 flat face (= only 2 fertile nutlets), before drying with scattered glandular hairs on rounded side, after drying with a network of shallow ridges and wrinkles.

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