

## Vascular Plants of Williamson County

*Verbena halei* – SLENDER VERVAIN, TEXAS VERVAIN [Verbenaceae]

*Verbena halei* Small, SLENDER VERVAIN, TEXAS VERVAIN. Perennial herb, taprooted, 1(–2)-stemmed at base, not rosetted, often unbranched below flowering canopy, in range <30–60(–90) cm tall; shoots with short-lived basal leaves and below canopy having to 6 nodes with pairs of cauline leaves. **Stems:** of lower stems 4-sided, to 3 mm diameter, tough, green or exposed sides purple-red, internodes to 85 mm long, having a pair of curved ledges across node between pair of leaves, with a pair of principal veins descending from each leaf for 1 internode, leaves widely spaced and << internode, short-strigose with appressed hairs along veins and angles and short-hirsute hairs along ledges; in canopy stems conspicuously 8-ridged and slender, < 1 mm diameter. **Leaves:** opposite decussate, mostly deeply pinnately-lobed, toothed and unlobed (basal leaves), and simple (in canopy), sessile (appearing petiolate), without stipules; blade on lower plant appearing ovate in outline but with petiolelike base, or basal leaves mostly obovate, slender base with narrow blade tissue along midrib inrolled to lower surface, lower cauline leaves primary lobes not paired, obovate to oblanceolate or fan-shaped in outline with sublobes and toothed margins, to 30 mm long, terminal lobe the largest, teeth acute to obtuse, with enlarged translucent cells at sinuses, pinnately veined with principal veins sunken on upper surface and raised on lower surface, short-hirsute; leaves of canopy most = petiolelike base 10–30 × < 1 mm or sometimes with short lobes or with teeth above midblade. **Inflorescence:** spikes in panicles, terminal, often > 100-flowered, at the lowest nodes ascending lateral branches opposite decussate, of upper branches alternate, flowers helically alternate, bracteate; rachis ridged, ca. 1.5 mm diameter, with 3 veins descending from each bractlet, green-striped, with swollen base; bractlet subtending flower tightly appressed to calyx, cupped awl-shaped and ± keeled, 2–3 mm long, green or initially purple at tip, from glossy green base, body short-strigose with upward-pointing hairs, persistent; pedicel < 0.4 mm long. **Flower:** bisexual, ± radial, 3–4 mm across; **calyx** 5-lobed, 3–3.6 × 1 mm, not increasing in fruit; tube narrowly funnel-shaped, ridged with green to reddish ridges connected by membranous panels, short-strigose on ridges, membranous colorless or pale violet and short-ciliate at top; lobes unequal, narrowly conic, 0.3–0.5 mm long, central one slightly longer and 1 distinctly shorter, green or purple, initially with inconspicuous, colorless, short-stalked glandular hairs; **corolla** slightly 2-lipped, short trumpet-shaped, ca. 5.7 mm long; tube cylindric, 2 × 0.7 mm, colorless, glabrous or with short hairs; throat with lower portion and widely spreading upper throat, lower throat cylindric, ca. 1 mm long, white and light blue-violet, outer surface with sparse, short-hirsute hairs, inner surface with white, beadlike hairs and a ring of hairs hiding the orifice; upper throat wide funnel-shaped, 1.5–2 mm long, light blue-violet to lavender; upper lip 2-lobed, lower lip 3-lobed, ca. 1.5 mm long, lavender, with several scattered short hairs on lower surface; **stamens** 4, fused at 2 different levels at top of corolla tube and midpoint of lower throat; filaments < 0.5 mm long, colorless; anthers dorsifixed, dithecal, included, 0.4 mm long, pale yellow, longitudinally dehiscent; pollen colorless (yellowish); **nectary disc** beneath pistil; **pistil** 1, ca. 2 mm long; ovary superior, 4-lobed, ca. 0.6 × 0.4 mm, lobes half sausage-shaped, light green, glabrous, each lobe with 1 ovule; style at top of ovary in depressed center, ca. 1.2 mm long, pale green at base and translucent above, somewhat compressed side-to-side, flared approaching top and pale purple at tip, unforked at top with

short fork lacking stigma. **Fruit:** schizocarp (microbasarium), of 4 dry, 1-seeded mericarps (nutlets), nutlets outer portion sausagelike and inner portion indented, 1.8–2 ×0.35 mm, glossy light brown with fine, with numerous whitish angular papillae on inner face, outer side angled with several pits in rows above midpoint.

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