

Vascular Plants of Williamson County
Verbena rigida – VEINY VERVAIN [Verbenaceae]

Verbena rigida Spreng., VEINY VERVAIN, TUBER VERVAIN. Perennial herb, rhizomatous, fibrous-rooted, not rosetted, 1-stemmed arising from rhizome, erect, in range to 40 cm tall; shoots with only cauline leaves, short-hispid, hispid, and conspicuously scabrous, stiff hairs with enlarged bases (pustulate), vegetative shoot lacking glandular hairs; rhizome horizontal, long, and shallow, to 4 mm diameter, tough, not green and generally not 4-sided, internodes to 50 mm long, lacking hairs, at nodes with a pair of leaves reduced to scales and fused across node, scales triangular, 3–4 mm long; adventitious roots on rhizome at nodes and sometimes along internodes. **Stems:** 4-sided, to 4 mm diameter, green aging purple-red, internodes to 80 mm long, each channeled, mostly short-hispid. **Leaves:** opposite decussate, simple, sessile, without stipules; blade oblanceolate or oblong to lanceolate, mostly 35–105 × 15–27 mm but the lowest pair of leaves diminutive (e.g., 18 × 10 mm), with a pair of basal lobes, with widely spaced teeth on margins (< 5 teeth per edge), acute at tip, pinnately veined with principal veins sunken on upper surface and raised on lower surface. **Inflorescence:** panicle of spikes, terminal, having terminal, erect spike and commonly a pair of decumbent lateral spikes at base, each spike 25–50+ mm long, many-flowered, flowers helically alternate, conspicuously bracteate, short-hispid and with stalked glandular hairs on bracts and calyx; bracts 2 at base of lateral branches not fused, acuminate, ca. 11 mm long, 1-veined; peduncle 4-sided, 10–45 mm long, of central spike << lateral spikes, short-hispid; rachis hidden by flowers and bractlets, ridged and with short internodes, short-hispid (hirsute); bractlet subtending flower acuminate, to 7 mm long, green, 1-veined with vein raised on lower surface, hispid, short-hispid, and with stalked glandular hairs. **Flower:** bisexual, bilateral, 6–6.5 mm across (corolla); **calyx** 5-lobed, ca. 3 mm long, short-hispid and hispid with some stalked glandular hairs; tube with 5 green ribs and white between but purplish at top; lobes toothlike with purple points and purplish membranous margins; **corolla** 2-lipped, 5-lobed; tube angled, 2.5–3 × 0.7–1 mm, white, outer surface glabrous, inner surface short-pilose above midpoint approaching filaments; throat lower portion cylindric, 4.5–7 × to 1.2 mm, purple-red, outer surface short-hispid, inner surface short-hairy around stamens, upper portion funnel-shaped, 1.5 mm long, 2.5 mm wide at orifice, purple, outer surface glabrous, inner surface with scattered, minutely beadlike, pale lavender, straight, short hairs; lips indistinct, lobes subequal, widely spreading, somewhat flag-shaped and shallowly notched, 2.2–2.4 × 1.8–2.1 mm, purple, lacking hairs; **stamens** 4 in 2 pairs, all fertile, pairs fused to corolla at slightly different levels, 2 short stamens arising on floor at top of corolla tube and 2 longer stamens arising nearby; filaments ca. 0.4 (short stamens) and 1.2 mm long (long stamens), greenish, glabrous; anthers dorsifixed, dithecal, 0.5–0.6 mm long, light yellow-green, longitudinally dehiscent in bud depositing a cluster of pollen grains on top of pistil; pollen colorless; **pistil** 1, 4 mm long; ovary superior, shallowly 4-lobed, squarish, ca. 0.8 × 0.65 mm, light green, glabrous, 4-chambered, each chamber with 1 ovule; style erect, arising from ovary base in center of lobes, whitish at base to reddish above midpoint, asymmetrically 2-branched with an expanded stigma and a shorter ascending point, stigma light purple, short-papillate. **Fruit:** schizocarp (microbasarium), of (2–)4 dry, 1-seeded mericarps (nutlets), nutlets 3-sided oblong, ca. 2 × 1 mm, red-brown and rounded on outer

side with several longitudinal ribs + cross ribs above midpoint, 2 flat faces with numerous yellowish angular papillae, with white scar on base.

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