

Vascular Plants of Williamson County
Muhlenbergia lindheimeri – LINDHEIMER MUHLY [Poaceae]

Muhlenbergia lindheimeri A. S. Hitchc., LINDHEIMER MUHLY. Perennial herb, bunchgrass, inconspicuously rhizomatous (“not rhizomatous”), fibrous-rooted, 100+-stemmed at base, cespitose, densely branched belowground ground, upright with airy inflorescence in range to 140+ cm tall; shoots with strongly distichous leaves, with several basal leaves and to 3 cauline leaves, foliage not glaucous; perennating stems highly condensed; adventitious roots at base of each shoot. **Stems (culms):** cylindric, to 3 mm diameter, light green, smooth; internodes hollow. **Leaves:** alternate distichous, simple with sheath; prophyll 2-keeled, acuminate-triangular, to 16 mm long, the keels winged and short-ciliate with ascending hairs; sheath open and overlapping (sometimes coherent margins above node), fibrous, stiff, and tough and somewhat hard where supporting weaker stem, low-ridged, sometimes purplish red at base and lower sheath often puberulent between ridges, margins lobelike at top continuous with conspicuous membranous ligule; ligule lobes to 5 mm long and above membranous and acuminate, membranous portion 10–39 mm long; blade slender (filiform) base-to-tip, in range mostly $125\text{--}700 \times < 3\text{--}4.2$ mm, green to light blue-green, folded upward from midrib, long-tapered to base, parallel-veined with veins raised on both surfaces, upper surface minutely scabrous along veins and puberulent, lower surface minutely scabrous along veins. **Inflorescence:** spikelets, in open, aging somewhat feathery, erect to ascending, terminal, paniclelike array, array mostly $300\text{--}625 \times 40\text{--}75$ mm (basal portion often concealed by sheath of flag leaf and blade of flag leaf parallel within array), with many alternate principal lateral branches along central axis unequally spaced, 1 per node to several nodes clustered and other internodes much longer, branches in bud suberect later ascending to 50 mm long, branching mostly of 3–4 orders, axes often strawberry red and minutely scabrous, with single, stalked spikelets, spikelet with 1 bisexual floret, short-awned (lacking awn on some spikelets); rachis straight, ridged and lobed, with a ridge descending from each principal branch, pale green, lacking hairs, minutely scabrous; principal branches with pulvinus at base on upper side, pulvinus to 0.5 mm long, pale yellow-green to light strawberry, minutely scabrous; lesser axes whitish or pigmented, stalk below spikelet to 4 mm long. **Spikelet:** narrowly fusiform (in bud), in range 2.5–3.5 mm long + short awn, slightly gapped when flowering and in fruit, breaking above glumes; **glumes** 2, subequal to equal, white-membranous, lanceolate, ca. $2\text{--}2.7+ \times 0.6\text{--}0.7$ mm, often lower glume < upper glume, 1-veined, not tinged purplish, often minutely notched at tip, midvein white, back minutely scabrous; callus greenish with a tuft of short hairs; **lemma** mostly awned, membranous, ovate ca. 2 mm long, with margins somewhat overlapping palea, initially colorless or blushed yellowish with 3 fine green veins, midvein scarcely raised or flattish and scabrous to awn, the awn in shallow notch from sinus, persistent, fine, and \pm straight, in range (0)0.1–1.5(–4) mm, purplish red; **palea** membranous (not yellowish), rounded elliptic, ± 1.8 mm long, < lemma, faintly 2-veined, veins colorless. **Flower: perianth (lodicules)** 2, wedge-shaped, ca. 0.2 mm long, translucent; **stamens** 3, free; filaments threadlike, 2.5–3 mm long, colorless; anthers dorsifixed, dithecal, exerted from near not top of spikelet, in range 1.3–1.6 mm long, purple-red to burgundy, longitudinally dehiscent; pollen colorless; **pistil** 1, ± 1.5 mm long; ovary superior, ellipsoid, ca. 0.3×0.2 mm, pale green, 1-chambered with 1 ovule; styles 2, touching at top of ovary, lower

portion colorless and slightly exerted below midpoint of spikelet, stigmatic upper portion fully exerted and spreading, bushy, ca. 0.5 mm long, purple-red. **Fruit:** achene (caryopsis), fusiform, 1.2–1 mm long, reddish brown.

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