

Vascular Plants of Williamson County

Echinochloa muricata var. *microstachya* – AMERICAN BARNYARDGRASS [Poaceae]

Echinochloa muricata (P. Beauv.) Fern. var. *microstachya* Wieg., AMERICAN BARNYARDGRASS. Annual, lacking rhizome, fibrous-rooted (sometimes densely so), not rosetted, several-stemmed at base, cespitose, spreading to decumbent, in range to 60 cm tall; shoots with ca. 3 basal leaves and several cauline leaves, axes often bent (geniculate), essentially glabrous with several prominent hairs on collar at the base of certain blades, foliage scabrous. **Stems:** compressed-cylindric, to 7 mm diameter, tough, eccentric node often knoblike, internodes smooth and sometimes tinged red; internodes solid, core white. **Leaves:** alternate distichous, sessile with sheath; prophyll tucked into leaf sheath of axillary shoot, conspicuously 2-keeled, to 50 mm long, membranous and greenish with parallel veins, short-ciliate on keels only at and approaching tip; sheath closed, > internode often splitting from top to the nearest enlarged node, keeled, with membranous margins, typically smooth and glabrous, without lobes (auricles) at top; ligule absent; collar sometimes having hairs to 3 mm long with enlarged base (pustulate); blade acuminate-linear to lanceolate-linear, in range < 90–220 × 6–13 mm, the widest near base, flat, minutely toothed on margins, long-tapered at tip, parallel-veined with midrib deflexed on lower surface most of blade, upper surface conspicuously scabrous. **Inflorescence:** spikelets, in terminal panicles, panicle 100–150 mm long, of several ascending, spikelike primary branches, spikelets in subsessile clusters of 2–4 along a ridged, zigzagged axis restricted to outer faces of primary branches, spikelet 2-flowered with flowerless lower floret and only upper floret fertile and bisexual, in range unawned to short-awned, bracteate; main axis ridged, with a tuft of long stiff hairs at junction of each primary branch, short-hirsute along many ridges; primary branch mostly < 30 mm long, upper sides with dense spikelets, axis with a 3-ridged axis, internodes short–2 mm long short-hirsute and scabrous along ridges, on lower side having pustulate long hairs near the nodes to 5 mm long, pair of spikelets commonly sessile and subsessile, with a disclike tip for each abscised spikelet. **Spikelet:** ovoid with 2 narrow tips (short and awnlike to a short awn), breaking below glumes; **glumes** 2, dimorphic, lower glume acuminate-ovate, 1.2–1.5 mm long, membranous with 5 green veins having midvein to narrow tip and a pair of lateral veins converging to midvein before entering the tip, minutely ciliate on margins, minutely puberulent on exposed surface and raised veins with stiffer hairs, upper glume cupped-ovate with narrow tip, 3–3.5 mm long, with 7 raised veins short-hirsute, veins converging into narrow tip, sometimes blushed red-purple especially above midpoint, tip scabrous too short to be an awn; **lemma** of lower floret resembling upper glume but flat to concave on back, 3–3.5 mm long, 7-veined but only 2 pairs of green lateral veins raised and short-hirsute, tip with several green, scabrous veins, inrolled on margins to 0.4 mm wide, tip scabrous without an awn or occasionally with awn to 3.5 mm long; lemma of upper floret cupped-ovate, ca. 2.7 mm long, tough, opaque off-white, faintly 5-veined (inner surface), having a stiff acuminate tip often with 3 green veins, tip scabrous and short-hairy but lacking a line of short hairs at base of tip; **palea** of lower floret conspicuous, membranous, 2-veined near margins, ovate, ca. 2 × 2 mm (flat 2-folded), short-ciliate along margins; palea of upper floret membranous, 2-veined, ovate, ca. 2.5 × 1.3 mm, after pollination becoming locked in place by inrolled margins of lemma. **Flower:** bisexual; **perianth (lodicules)** fleshy, inverted pyramidal, ca. 0.4 × 0.6 mm, translucent, top 3-sided; **stamens**

3, free; filaments slender, 3–3.3 mm long, colorless; anthers dorsifixed, dithecal, 0.7–1.2 mm long, dull light orangish yellow, longitudinally dehiscent; pollen yellow; **pistil** 1; ovary superior, broadly ellipsoid, 0.5×0.35 mm, translucent, 1-chambered with 1 ovule; styles 2, widely spaced on top of ovary and divergent, ca. 2 mm long, lower portion slender, 1 mm long, colorless, upper portion exerted and bottlebrushlike, 0.8–1 mm long, red-purple, after pollination remaining exerted from lemma near tip. **Fruit:** achene (caryopsis), enclosed within floret and spikelet; floret \pm hemi-ovoid, ca. 2.5×1.3 mm with tip to 0.4 mm long, body glossy, immature colorless aging speckled with red-purple cells on lemma and palea, lemma with fine veins and no hairs below scabrous tip of lemma; achene tightly covered by lemma and palea.

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