Vascular Plants of Williamson County

*Bouteloua hirsuta* — HAIRY GRAMA [Poaceae]

*Bouteloua hirsuta* L., HAIRY GRAMA. Perennial herb, fibrous-rooted, many-stemmed at base, principal shoots not branched above base, in range < 40 cm tall; shoots with several basal leaves and to 4 cauline leaves, axes somewhat jointed at nodes (geniculate), having some long, stiff, straight hairs having an enlarged, nipplelike base. **Stems:** somewhat compressed on 2 sides and concave on a third side, to 1 mm diameter, smooth or slightly ridged approaching node with microhairs along ridges, densely puberulent at sheath-node junction; internodes solid. **Leaves:** alternate distichous, simple with sheath; sheath open, mostly ridged, to 50 mm long, with membranous margins, mostly short-hairy between ridges, without lobes (auricles) at top; ligules short-hairy, 0.3–0.5 mm long; collar short and indistinct; blade linear, to 230 x 2 mm, minutely toothed on margins and on many leaves with long hairs near the blade base or along margins, long-tapered at tip, parallel-veined with veins raised on both surfaces, having microhairs along veins, especially cauline leaving having straight hairs on surfaces either straddling midrib or more abundant in furrows between veins. **Inflorescence:** spikelets on lateral branches, 40+ tightly arranged en echelon in 2 parallel rows on lower side of rachis, the branches 1–4, widely spreading to ascending-spreading, 20–40 mm long, spikelets sessile, somewhat compressed parallel rachilla, with upper glumes on outer side, with a lower bisexual floret and 1–2 oddly structured, rudimentary, neuter florets terminal on the rachilla, bracteate, mostly with 7 fully visible awns per spikelet + concealed inner (lower) glume; peduncle of lateral branch hemicylindric flat on upper side, 2–3 mm long, canescent on lower side and densely hirsute on upper side having hairs to 0.7 mm long; rachis flat on upper side ca. 0.7 mm wide, lower side 2-channeled (winglike) where spikelets arise within channels, each row having 13–14 spikelets/10 mm, the 2 rows overlapping along center line, exposed surfaces ± puberulent, the terminal portion of rachis beyond the uppermost spikelets acuminate and 5–10.5 mm long. **Spikelet:** lacking symmetry, breaking above persistent glumes; **glumes** 2, dimorphic, lower glume concealed on inner side, linear-folded ca. 1.6 x 0.4 mm incl. short terminal awn, upper glume keeled-ovate and awn-tipped, 3–3.5 mm long, outer (lower) surface having stiff hairs 1–2 mm long radiating from purple, nipplelike base (pustulate) straddling keel in 2 rows; rachilla resting between keels of lower palea, ascending, cylindric, 1–1.2 mm long, glabrate to puberulent lacking a tuft of longer hairs at top. **Lower floret:** lemma keeled, unequally 3-lobed, and 3-awned, the body with 2-raised veins on outer (lower) surface, mostly 4–4.5 mm long, greenish and short-hirsute, short awn on short lobe sometimes 2-armed; palea 2-keeled and 2-veined ovate (boat-shaped) arching toward the outer side of the spikelet, ca. 3.5 mm long, membranous margins to 0.7 mm wide, lacking awn at tip, veins green, deeply folded between keels, with several short hairs at base and sparsely short-ciliate along keels approaching tip. **Bisexual flower:** perianth (lodicules) 2, somewhat wedge-shaped, ca. 0.3 mm long, colorless, not swollen at base; stamens 3, free, exserted and pendent, enlarging anthers forcing lemma and palea to develop spread; filaments ca. 1.2 mm long for pollination elongating and threadlike, pale yellow; anthers dorsifixed, dithecal, exserted, in range 1.7–2.5 mm long, pale green to pale yellow, longitudinally dehiscent; pollen pale to light yellow; pistil 1, 2–2.2 mm long; ovary superior, obovoid, 0.3–0.35 mm long, colorless aging greenish,
glabrous, 1-chambered with 1 ovule; styles 2 fully exposed at pollination (palea spreading from lemma), colorless, touching or slightly fused at base, above bottlebrushlike and aging greenish nearly base-to-tip. **Rudimentary floret:** flower absent; lemma at top of rachilla 2-lobed with a set of 3 ascending awns, the lobes obovate to fan-shaped, in range ca. 1 mm long, green and membranous or tinged purple-red, minutely jagged on outer margins, the awns 2–3.5 mm long, 1-veined to tip, flattened (narrowly winged) to midpoint and awnlike above; palea absent; of second rudimentary floret having diminutive lemma lobes and lacking awns. **Fruit:** achene (caryopsis), obovoid, ca. 1.7 × 1 mm, brown, early abscised with short stalk from spikelet.

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