

Vascular Plants of Williamson County
Panicum virgatum – SWITCHGRASS [Poaceae]

Panicum virgatum L., SWITCHGRASS. Perennial herb, bunchgrass, rhizomatous, fibrous-rooted, several-many-stemmed at base, cespitose, principal shoots not branched above ground level and ascending, 80–130 cm tall; shoots with scalelike basal leaves, blade-bearing basal leaves and cauline leaves, glabrous; rhizome shallow, spreading, to 7 mm diameter, internodes 1–2 mm long having some appressed hairs approaching node, with enlarging axillary buds, covered with overlapping scales, the scales sheathing overlapping at base, deltate, mostly 6–10 mm long, tannish, fibrous with 25+ veins at base. **Stems:** cylindric, to 4 mm diameter, internodes to 200 mm long and mostly > sheath, glabrous, on upper plant often purple-red around nodes and conspicuously glaucous on exposed surface approaching node. **Leaves:** alternate distichous, simple with sheath; sheath open, low-ridged, to 110 mm long, exposed only several mm from collar, ridged, outer margin often purple-red, hidden margin membranous, glabrous, without lobes (auricles) at top; collar whitish with purple-red margins, ciliate on margins and with hairs on collar on inner (upper) surface; ligule membranous and ciliate, truncate, 1.7–3.5+ mm long, hairs from midpoint; blade linear, in range 100–520 × (2–)5–17 mm, the widest approaching midblade, tough, bluish green, minutely toothed and scabrous on margins, parallel-veined and finely ridged on both surfaces, surfaces somewhat glaucous especially lower surface, upper surface sometimes hairy at base and beardlike next to collar and midrib translucent and flat to concave, lower surface glabrous. **Inflorescence:** spikelets in appressed pairs on unequal stalks, in large, terminal, open paniclelike array ovate in outline, (290–)400–850 × 200–480 mm with mostly spreading or weeping primary branches and at the lowest node or sometimes an inflorescence ascending, spikelet 2-flowered with lower floret staminate to sterile and upper floret bisexual, lacking awns, glabrous; principal axis with to 10 nodes and 1–3 primary branches per node with 1 at the lowest node often 3-forked, primary branches to 270 mm long decreasing upward, with 4 orders of branches, glabrous; axes ridged, slender and flexible, primary axis with concave side, primary branches spaced mostly 40–60 mm apart, primary and secondary branches with axillary pulvinus, fertile branchlets to 20 mm long, 3-angled and scabrous along edges, ca. 0.2 mm diameter, stalk of spikelets unequal, 3–10 mm long, the larger spikelet on the longer stalk, breaking below glumes. **Spikelet:** lower floret neuter to appearing staminate and upper floret fertile and bisexual, overall lanceoloid to narrowly lanceoloid (lower glume somewhat diverging), 3.5–5.5 × ca. 1 mm, the narrow spikelets having neuter lower floret, breaking below the glumes as 1 unit; **glumes** 2, unequal, with conspicuously raised veins, lower glume sheathing, cupped-ovate and acuminate, mostly to 3.2 mm long, often blushed purple-red above midpoint with 7 raised green veins scabrous approaching tip; upper glume = spikelet and concealing lower lemma, with 7 raised green veins and red-purple at tip, in fruit glumes midvein = keel; **lemma** of lower floret < upper glume, membranous with 5 raised green veins, the tissue colorless at base and tinged red-purple above midpoint; membranous, < upper glume, in range with 5 or 7 green veins with some veins raised above midpoint; lemma of upper floret fully membranous, elliptic-ovate inrolled, 2.5–2.7 mm long, faintly veined; **palea** of lower floret often present, 2-folded, 2-veined, lanceolate ca. 1.8 × 0.5 mm (folded and flattened); palea of upper floret membranous, elliptic inrolled,

< upper lemma. **Flower:** bisexual, staminate, or neuter; **perianth (lodicules)** 2 (of fertile staminate and bisexual flowers), fan-shaped, 0.3–0.4 × 0.3–0.55 mm, translucent, convex on 1 surface and flat on other surface, depressed on top; **stamens** 3, free; filaments slender and threadlike, colorless; anthers (fully developed) dorsifixed, dithecal, 1.5–2 mm long, red or with some orange, longitudinally dehiscent; of infertile lower flower filaments short, anthers slender, 0.5–0.8 mm long, red and red-orange, not dehiscent; pollen orangish; **pistil** 1 (bisexual flower); ovary superior, ovoid, ca. 0.5 × 0.25 mm, translucent, 1-chambered with 1 ovule; styles 2, separated at top of ovary, ca. 2 mm long, lower portion slender, upper portion = feathery stigmas (plumose), exserted, to 1.2 mm long, purple-red. **Fruit:** achene (caryopsis), tightly enclosed in hard-walled lemma and palea, lacking rachilla, dispersed within entire spikelet 5–6 mm long with keeled glumes but floret easily dislodged from spikelet, ovoid, 2.5–2.8 × 1–1.3 mm, glossy minutely textured (lemma and palea cells), with color of achene showing through bracts, lemma finely (5)7-veined, palea with 2 fine, widely spaced veins; achene fitting tightly within bracts, appearing greenish to gray.

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