

**Vascular Plants of Williamson County**  
*Bromus japonicus* – JAPANESE BROME [Poaceae]

*Bromus japonicus* Thunb., JAPANESE BROME. Annual, fibrous-rooted, 1–several-stemmed at base, mostly unbranched, ascending to erect, in range 20–50+ cm tall; shoots with a few basal leaves and to 6 cauline leaves, main axis sometimes bent at nodes (geniculate), pilose. **Stems (culms):** cylindric, to 2 mm diameter, internodes to 55 mm long and mostly glabrous but short-hairy approaching node, nodes often glossy and purplish red when exposed; internodes hollow, nodes solid. **Leaves:** alternate distichous, simple with sheath; sheath closed to within 3–8 mm of ligule, ridged, narrowly membranous and often long-ciliate on margins of throat, pilose (glabrate on sheaths of some upper leaves), without lobes (auricles) at top; ligule membranous, obtuse, in range 1–2 mm long, jagged-fringed on margin, glabrous; collar narrow; blade linear, < 50–120+ × 2–4 mm, the widest near the base, flat, minutely toothed on margins, acuminate at tip, parallel-veined with midrib raised on lower surface, upper surface densely pilose, lower surface often glossy and short-pilose. **Inflorescence:** spikelets, in terminal panicles, panicle fully exerted from leaf sheath of flag leaf, ± open, to 130 mm long, mostly with 4–5 nodes, in flower with lax and spreading lateral branches (never drooping), becoming stiffer and more ascending in fruit, branchlet with 1 terminal spikelet, spikelet mostly with 6–8(–12) florets but at least terminal floret = reduced lemma with shorter awn, bracteate, awned; rachis 50–80 mm long, minutely scabrous, lateral branchlets 1–3 per node, < 65 mm long (to tips of awns), axis below spikelet wiry, 12–35 mm long, minutely scabrous. **Spikelet:** narrowly lanceoloid slightly compressed side-to-side, in range mostly 15–22 mm long + awns, not ribbed, essentially glabrous, breaking above glumes and between florets; **glumes** 2, unequal, ovate rounded on back (not keeled), in range lower glume 4.5–7 mm long and 3-veined or 5-veined, upper glume 5–8 mm long and 5-veined or 7-veined, veins reddish and short-scabrous above midpoint and lateral veins converging toward tip but terminating before merging with midvein, slightly ridged above midpoint, with membranous margins; **lemma** awned, lanceolate notched at top, 7–9 mm long (excluding awn), > glume, rounded on back, with membranous margins, 5-veined, not keeled but midvein raised approaching awn, the veins converging but not merging with midvein, tip 2-toothed and completely membranous, the teeth to 1 mm long, the awn arising at notch as extension of midvein, initially essentially straight later divergent or twisted, 5–13 mm long, aging purplish red; **palea** somewhat narrowly elliptic, mostly 4–5 mm long and < where awn arises on lemma (absent in sterile florets), 2-veined, 2-keeled, folded strongly inward along veins, flat between keels, membranous with keels green and short-ciliate, ± truncate at tip, surfaces glabrous, margins minutely toothed above midpoint. **Flower:** bisexual; **perianth (lodicules)** 2, acute-ovate, 0.6–0.7 mm long, translucent, at anthesis not bulbous at base thus flat, persistent; **stamens** 3, included; filaments slender, ca. 1 mm long, white; anthers basifixed, dithecal, 1.2–1.5 mm long, light yellow, longitudinally dehiscent; pollen light yellow; **pistil** 1; superior ovary, inversely obovoid, ca. 0.7 × 0.5 mm, translucent white, with a translucent, large terminal lobe, with short, ascending hairs, fleshy, 1-chambered with 1 ovule; styles 2, included, 1 mm long, colorless, threadlike with many wavy lateral branches. **Fruit:** achene (caryopsis), dispersed as floret tightly enclosed within adherent palea and awned lemma + a rachilla segment, awned dispersal unit commonly 16–18 mm

long (straightened); achene elongate, relatively thin, and cupped-inrolled, ca.  $5.4\text{--}5.8 \times 0.7$  mm, amber light brown, light brown, or pinkish light brown, acute at base, rounded at top with flap and tuft of short hairs on tip; lemma veins mostly not raised, surface minutely scabrous and scarious; palea conspicuously short-ciliate along keels with stiff hairs, scarious, adherent to achene, surfaces appearing glabrous; rachilla segment  $\pm$  appressed, flattened on inner side and rounded on back, 1.6–1.9 mm long, scabrous on exposed side and glabrous on flat side; awn curved away from floret axis, 5–13 mm long.

A. C. Gibson