

Vascular Plants of Williamson County

Hordeum pusillum – LITTLE BARLEY, MOUSE BARLEY [Poaceae]

Hordeum pusillum Nutt. (syn. *Critesion pusillum*), LITTLE BARLEY, MOUSE BARLEY. Annual, fibrous-rooted, not rosetted, 1–3-stemmed at base, erect to ascending, in range 14–60 cm tall; shoots at flowering with several basal leaves (e.g., 5) and to 5 cauline leaves, short-pilose on foliage as well as sheaths of basal leaves. **Stems (culms):** cylindric, to 1.5 mm diameter (swollen nodes), ± tough, light green to pale yellowish green, nodes often reddish to brownish, internodes increasing upward, often striped red and pale green, smooth, glabrous, sometimes glaucous; internodes hollow. **Leaves:** alternate distichous, simple with sheath; sheath closed 1–2 mm, at base of plant often splitting downward but for cauline leaves remaining intact, green with pale green, raised veins especially above midpoint as leaf dries, glabrous (most cauline leaves) to densely short-pilose slightly downward-pointing along veins, membranous on overlapped margin, without lobes or with membranous extensions at top from sheath margins and short–0.4(–0.8) mm long; ligule membranous, truncate, 0.2–0.8) mm long, entire or splitting in age, semi-transparent and whitish, continuous with sheath margins, minutely jagged on margin; collar wavy on margins, to 0.5 mm long, whitish, often glabrous; blade narrowly triangular to linear, in range 15–115 × 1–4 mm, the shortest = flag leaf, flat, entire, parallel-veined with veins raised on both surfaces, upper surface glabrous or short-pilose along veins with hairs to 0.3 mm long, lower surface short-pilose with hairs to 0.3 mm long. **Inflorescence:** spikelets, in terminal, dense “spike” (spikelike panicle), spike erect, cylindric, when fully exerted from flag leaf in range 30–80 × 8–13 mm (including ascending awns) but at anthesis (often confined by sheath of flag leaf = shorter, narrower, and more compact), of 13–40 nodes, spikelets in alternate distichous clusters (lateral branches) having 3 sessile spikelets per node, lateral branches 14–20 mm long, each spikelet stalked and with 1 floret but only central spikelet fertile, initially appressed aging suberect, bracteate, conspicuously awned; peduncle 70–170 mm long, green, glabrous; bract subtending the lowest node = oblique rim with minute hairs, sometimes the lowest 1–2 vestigial of diminutive awns; rachis segments wedge-shaped ± flat on inner side and convex on outer side, in fruit internodes ca. 2 mm long, mostly with short ascending hairs along 2 edges (ridges), pulvinus obscure; stalks of spikelets 0.3–1.1 mm long, with the 4 broad glumes oriented to outer (lower) side of branch; at maturity inflorescence fragmenting at each node = branch + rachis internode. **Central spikelet:** floret 1 + rachilla internode appressed to palea of the floret; **glumes** 2, monomorphic and equal, 14–18 mm long (including awn), on lemma side of spikelet, short-stalked, the stalk to 0.5 mm long, whitish, glabrous or puberulent, glume body elliptic-lanceolate to elliptic, mostly 5–6.5 × 1.4–1.5 mm, 3-veined, initially pale green with colorless margins aging darker and drying tan, rounded on back, veins not raised, nearly glabrous or with scattered, minute hairs nearly from base to just approaching awn, the awn ± straight; rachilla extension above floret awnlike, 4–5.2 mm long, prolonged behind palea, smooth or appearing sparsely barbed; **lemma** awned, 13.5–16 mm long (including awn), body lanceolate, 6–7 × 2–2.3 mm (flattened), 5-veined, initially colored like glumes, somewhat rounded on back having faint veins, sometimes with a line of short hairs near each membranous margin incurved and embracing palea, acuminate and tapering into awn, at base glabrous changing

to scabrous above, the teeth upward-pointing, the awn 7–9 mm long; **palea** lanceolate minutely 2-toothed at tip, = lemma body \times 1.5–1.6 mm, entire, 2-veined to tip, colorless and green, veins raised in fruit (not keeled). **Flower:** bisexual, floret never open; **perianth (lodicules)** 2, free, lanceoloid, ca. 0.8×0.25 mm, translucent, at anthesis fleshy at base, unlobed, minutely ciliate approaching tip; **stamens** 3, free; filaments threadlike, ca. 1 mm long, colorless; anthers basifixed, dithecal, oblong, 0.9–1 mm long, pale yellow or whitish, longitudinally dehiscent; pollen pale yellow; **pistil** 1, to 1 mm long; ovary superior, wedge-shaped compressed front-to-back, ca. 0.5×0.25 mm, translucent, with a fleshy, short-pilose, 2-lobed, terminal appendage, 1-chambered with 1 ovule; styles 2, distinct to base, ca. 0.5 mm long, whitish, feathery (plumose) with kinky stigmatic hairs. **Lateral spikelets:** sterile; **glumes** 2, dimorphic, awned, short-stalked, lower glume like and adjacent to glumes of central spikelet, 14–18 mm long (including awn), body with somewhat scabrous on margins above midpoint, upper glume = only awn, oriented on inner side of floret, to 14 mm long; rachilla absent; **lemma** lanceolate, at anthesis of spike 3 mm long increasing to 5.5 mm long, light green, 5-veined, rounded on back with a short, awnlike tip < 1 mm long, incurved with overlapping, entire margins, glabrous; **palea** absent. **Fruit:** achene (caryopsis), dispersed as unit = awned branch with rachis internode, achene enclosed within lemma and palea, ovoid or ellipsoid to oblong compressed front-to-back, ca. $2.5\text{--}3.3 \times 1\text{--}1.5$ mm, rounded at base, convex on lemma side, with longitudinal grooved on side facing palea, densely short-pilose on broad appendage at tip.

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