

Pennisetum villosum Fresen., FEATHERTOP. Perennial herb, rhizomatous and ± stolon-bearing, fibrous-rooted, many-stemmed from just below surface, ± caespitose, decumbent with ascending to spreading branches having ascending inflorescences, 35–70 cm tall; shoots with > 10 cauline leaves closely spaced and having overlapping sheaths + 1 prophyll on inner side at base of each lateral branch, with long straight hairs principally on leaf margins; stolons grading into rhizomes, tough, with internodes 15–25 mm long, to 5 mm diameter at nodes, whitish, flat-channeled opposite diverging lateral shoots, with leaf having sheath + reduced linear blade and developing axillary shoot at each node; rhizomes with scalelike leaves lacking blades (cataphylls), each leaf = open sheath (often split by adventitious roots), appressed, cupped-deltate to cupped-triangular, 7–15 mm long, brownish, tough, with veins converging at tip, sometimes sparsely strigose; adventitious roots 1–several at each node of rhizome and stolon. **Stems (culms):** ± cylindric, 2.5–3 mm diameter, the lowest internodes of each shoot comparatively long (associated with a short sheath without blade), most internodes only 3–5 mm long (associated with a long sheath + conspicuous blade), glabrous; internodes solid, core white and spongy. **Leaves:** alternate distichous, simple with sheath; prophyll = membranous open sheath, broadly lanceolate in outline, fully developed 19–23 × ca. 7 mm, strongly 2-keeled with infolded wide margins and not depressed between keels, keels long-ciliate at base with appressed hairs to short-ciliate above midpoint, margins membranous and glabrous; sheaths of green leaves open and overlapping, 20–80 mm long, somewhat keeled approaching blade, low-ridged, wide-membranous on margins with exposed margin long-ciliate most of length, mostly without lobes (auricles) at top; collar green, pilose-ciliate with hairs to 2.5 mm long having swollen bases; ligule narrowly membranous with dense, unequal straight hairs, the longest 1–1.2 mm long; blade linear, 50–400 × 3–5.5 mm (flattened), when young folded upward along midrib but maturing flat, in range entire with margins finely long-ciliate within 5 mm of base and remotely toothed approaching tip, parallel-veined with thickened midrib and principal veins raised on upper surface, glabrous, lower surface remotely toothed on veins above midpoint. **Inflorescence:** spikelets, in terminal, erect panicles, panicle lanceoloid to ellipsoid or ovoid in outline, 40–115 × 40–60 mm, appearing creamy pale yellow to tawny white, having 20–40, alternate, short, bristly branchlets (fascicles, resembling awns), each branchlet with 1–4 spikelets (later readily abscising), spikelet with 2 florets, lower one sterile or staminate and upper one bisexual, bracteate, soft-hairy; peduncle with many low ridges, 60–100 mm long, in fruit conspicuous above spreading blade of flag leaf, finely pilose to villous especially 15–25 mm approaching inflorescence; rachis angular; branchlets 7–10 per 10 mm of rachis, puberulent and with occasional long hairs; bract subtending only the lowest branchlet, acuminate, to 1.5 mm long, with a broad, decurrent base, silky hairy; branchlet short-stalked, each with 11–23 bristles (= reduced, sterile branchlets), 25–38 mm long, axis to 2.5 mm long, with terminal spikelets, the stalk 0.8–1.8 mm long, densely pilose at hardened base; outer bristles 0–4(8), 2–16 mm long, minutely toothed with upward-pointing projections; inner bristles typically 12–19, 13–28 mm long, feathery (plumose) nearly to midpoint and minutely toothed above; terminal (primary) bristle 1 or indistinct, if present adjacent to spikelet and thicker than inner bristles, in range 23–33 mm long, plumose from base and mostly minutely toothed; stalk of spikelet 0.2–0.5 mm long. **Spikelet:** lanceoloid, in range 9–10 mm long, lacking awns; **glumes** 2, unequal, membranous, lower glume deltate to ovate, 0.5–0.9 mm long, veinless,

upper glume lanceolate to triangular, 3–5 mm long, with 1(–3) green veins, sparsely puberulent, midvein only minutely toothed; **lemma** lanceolate, glabrous, minutely toothed on margins approaching tip, of lower floret 7.5–8 mm long, narrowly acute to acuminate at tip, with 7 green veins, of upper floret 8.6–9 mm long, membranous, with 5–7 green veins; **palea** of lower floret absent or ca. 2 mm long (sterile floret), delicately membranous, obscurely 2-veined, with margins infolded along veins and appressed to central part, unequally 2-toothed to truncate and jagged at tip, of fertile floret lanceolate, 8–8.5 mm long, with margins partially enveloping ovary, 2–4-veined with central 2 green veins more prominent and converging toward tip but remaining distinct, long-tapered but short 2-spined at tip. **Flowers:** bisexual or staminate, protogynous; **perianth (lodicules)** typically absent (2), narrowly lanceolate, \pm 1 mm long, membranous, glabrous; **stamens** 3, free, exerted from tip of lemma; filaments when elongated to 6 mm long, whitish; anthers basifixed, dithecal, 3.3–4.3 mm long, yellow-orange to yellow speckled red, with sacs separated at base and tip $>$ 1 mm, longitudinally dehiscent; pollen pale yellowish; **pistil** 1, 12.5–17 mm long, with erect, exerted, persistent style; ovary superior, oblanceoloid, ca. 1 mm long, light green to yellowish, glabrous, 1-chambered with 1 ovule; style 1 (= 2 fused at base), greenish white, 2-branched from midpoint, the branches exerted from tip of lemma, glabrous for basal 1.5–2.5 mm, densely villous and stigmatic on branches. **Fruit:** achene (caryopsis), concealed within spikelet bracts and surrounded by feathery bristles of branchlet, compressed-obovoid, ca. 2.2×1 mm + short beak (persistent style base), light brown, often with stylar branches, embryo blackish. Mid-summer–late September.

Naturalized. Rhizome-forming, stolon-bearing, clump-forming perennial bunchgrass cultivated in gardens, and in range becoming established in isolated places along roadsides and neighboring slopes. *Pennisetum villosum* is scarcely observed in SMM, whereas north of our range, e.g., in the city of Ventura, it has become a widespread weed. Its panicle is white and feathery. Feathertop, as characteristic of fountain grasses, has many “bristles” on each lateral branchlet; grass experts call this a fascicle, and each bristle is a highly reduced, sterile branchlet. The fascicle is the unit of dispersal, including many, slender and plumose bristles, and it abscises easily from the rachis to be carried by wind. Usually one, but up to four, spikelets are formed on a fascicle. A spikelet of *P. villosum* has two glumes, two lemmas, and one or two paleae, but just one fruit develops from the upper floret, whereas the lower floret is either neuter or staminate. Some plants in range do not perfectly match a formal description for this species; this is a common condition with many cultivated plants that have been selected for desired horticultural qualities, so that the plants escaping are cultivars differing from wild types.

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