

Agrostis gigantea Roth, REDTOP. Perennial herb, rhizomatous, fibrous-rooted (not rooting at nodes), several-stemmed at base and somewhat tufted, decumbent with ascending to erect inflorescences, in range 30–100 cm long; shoots glabrous; rhizomes shallow, horizontal, in range to 60+ mm long. **Stems (culms):** cylindric, < 2.5 mm diameter, tough, nodes straight to bent 70°, internodes 25–160 mm long, striped with slightly sunken, green strips (aging reddish brown) alternating with pale green ridges, the stomates ± visible whitish specks on the green strips; internodes hollow. **Leaves:** alternate distichous, simple with sheath; sheath open, 40–140 mm long, mostly < internode, with ca. 25 ridges, margins overlapping 1/2 to 3/4 of length, the margins membranous but wider on outer margin, without lobes (auricles) at top; ligule erect, membranous, ovate and truncate to rounded often becoming cut, in range 1–4.5 mm long (basal leaves) and 2–5 mm long (cauline leaves), minutely scabrous on hidden surface; blade linear, in range 40–220 × 2–8 mm, the widest near midblade, flat, minutely scabrous on margins, parallel-veined with veins raised on lower surface, upper surface minutely scabrous along veins. **Inflorescence:** spikelets, in terminal, open panicles, panicle lanceoloid to narrowly ovoid, in range 120–160 × 50–100 mm long and becoming ovoid in fruit, branching distinctively alternate distichous, having 24–40 branches with (1–)2–7 unequal branches per node = a 1-sided arc (verticil), spikelet with 1 floret, bracteate, lacking awns; rachis straight, internodes 5–28 mm long, clearly visible at anthesis as branches spread, striped (corrugated), ± scabrous; principal branches at anthesis ascending-spreading later widely spreading, 5–60 mm long with the long branches decreasing approaching top of panicle, with axillary pulvinus, striped, scabrous; stalk of spikelet < 2.5 mm long, minutely scabrous. **Spikelet:** = glume length, breaking above glumes; **glumes** 2, subequal, lanceolate to boat-shaped, 2–2.7 mm long, 1-veined, green with membranous margins aging scarious and coppery or reddish brown, short-strigose, minutely scabrous along vein; rachilla not prolonged beyond palea; **lemma** membranous, 1.7–2 mm long, slightly < glumes, faintly 3-veined, minutely 3-toothed at tip, glabrous but minutely scabrous along veins approaching tip, persistent around fruit; **palea** membranous, 1.1–1.3 mm long, < lemma, not obviously 2-keeled, 2-veined, truncate or slightly 2-toothed at tip between veins. **Flower:** bisexual; **perianth (lodicules)** 2, ovate to rhombic, 0.6 × 0.2 mm, transparent, bulbous at base, flattened and asymmetrically acute or ± mitten-shaped above bulbous base; **stamens** 3, free; filaments threadlike, 1.1–1.2 mm long, transparent or whitish; anthers versatile, dithecal, 1–1.3 × 0.25–0.35 mm, light yellow, longitudinally dehiscent; pollen pale yellow; **pistil** 1, 0.7–1.3 mm long; ovary superior, ovoid to obovoid, 0.3–0.5 × 0.3 mm, glabrous, pale yellowish green, glabrous, 1-chambered with 1 ovule; styles 2, 0.7–0.8 mm long, colorless, separated by 0.1 mm, bearing stigmatic hairs from base to tip, the stigmatic hairs ca. 0.2 mm long at base decreasing to tip. **Fruit:** achene (caryopsis), ellipsoid, ca. 1.3 × 0.5 mm, dull grayish brown, with longitudinal groove on side facing palea, rounded or with short point at tip, slightly and minutely textured, sometimes with shriveled remnants of styles persisting at tip.

Naturalized. Perennial herb known from one dense population in creek bed next to a footbridge across Zuma Creek, occurring there with native plants and also escaped horticultural species *Mentha spicata* and *Genista monspessulana*. *Agrostis gigantea*, originally from Europe, fairly closely matches descriptions in the literature, but ours may

have also been a horticultural form (turfgrass) with several atypical features. This rhizomatous species has been confused commonly with *A. stolonifera*, which has instead stolons; these two types of modified shoots are not always distinctive, but *A. gigantea* has a wider and more open panicle. It is possible that the closely related species occurs in range, because it also is used as a tuftgrass.

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