

Stipa coronata Thurb., CRESTED NEEDLE GRASS. Perennial herb, coarse, rhizomatous, fibrous-rooted, cespitose, many-stemmed at base, shoots ascending, in range 50–180 cm tall; shoots with 4–5 blade-bearing basal leaves and 3–5 long cauline leaves, the cauline leaves often twisted 180° so the more glossy upper surface functionally is the lower surface. **Stems (culms):** cylindric, to 3 mm diameter (hidden entirely by leaf sheaths), glabrous; hollow. **Leaves** alternate distichous, simple with sheath; sheath open, with many low ridges, striped green with paler green ridges becoming purplish red or straw-colored between ridges and straw-colored or pinkish along ridges, glabrous, margins overlapping most of length when young, short-ciliate above midpoint of exposed margin, densely villous at throat with hairs to 3 mm long, without lobes (auricles) at top; ligule cartilaginous, truncate, in range 0.4–0.8 mm long and conspicuously ciliate on margin with hairs to 1 mm long, glabrous on outer surface, sericeous on inner surface; blade linear, 80–700+ × 2–10 mm, the widest near base, flat or becoming inrolled, scabrous and minutely toothed on margin, parallel-veined with many ridges (14–30) visible on both surfaces, “upper surface” (actually lower surface) weakly ridged, semi-glossy bright green with light green ridges, “lower surface” (actually upper surface) with deep grooves separating ridges, dull grayish green, densely puberulent. **Inflorescence:** spikelets, in terminal panicles, panicle 150–500(–600) × 15–40 mm, with many branches, spikelet with 1 floret, bracteate, awned; peduncle 235–550 mm long; lateral branches of panicle suberect to ascending or widely spreading, at node typically 3 and unequal, 45–195 mm long (including awns); stalk of spikelet 1.5–8 mm long. **Spikelet:** = glume length, breaking above glumes; **glumes** 2, unequal, narrowly lanceolate, 16.5–19.5 × 1–1.3–1.6 mm and 3-veined at midpoint (lower glume) and 13.5–16.5 × 1.1 mm and 3–5 veined at midpoint (upper glume), membranous on margins, rounded on back but with prominent veins, narrowly acute to acuminate and appearing awnlike with inrolled margins at tip or sometimes lower glume with awn to 0.5 mm long, glabrous at base and minutely scabrous approaching tip, becoming light tannish or purplish but with green persisting around base of each vein; callus in range narrowly acute, 0.8 mm long, with ascending hairs; **lemma** awned, narrowly lanceolate with 2 teeth at tip, 7.7–10.8 × 1–1.3 mm (excluding awn), open at base but with overlapping margins at tip, pilose with ascending hairs from 1 mm long at base to 3.5 mm long at tip, the teeth triangular and membranous, 0.7–1.2 mm long, the awn in range 30–45 mm long, twisted with 0–2 bends (typically 2 bends when mature) having first bend 10–15 mm above base, second bend 16–21 mm above base, twisted portion dark brown, greenish or tan at base, tannish at tip, scabrous entire length but scabrous-strigose between bends; **palea** membranous, oblanceolate, in range 4.8–7.2 × 0.8–1.3 mm, delicate and transparent, 2-veined, thinly pilose between veins. **Flower:** bisexual; **perianth (lodicules)** 2, erect, lanceolate, (2.1–)4.8–7.2 × 0.2–0.3 mm, fleshy, translucent with yellowish base; **stamens** 3, free; filaments threadlike, ca. 3 mm long, white or translucent; anthers exserted, somewhat versatile, dithecal, narrowly arrow-shaped, in range 5–5.5 mm long, red and pale orange, longitudinally dehiscent; pollen orangish; **pistil** 1; ovary superior, inversely conic, 1.2 × 0.5 mm, yellowish, glabrous, 1-chambered with 1 ovule; styles 2, exserted from one side between lemma and palea, feathery (plumose) and stigmatic most of length but naked on basal 0.3 mm. **Fruit:** achene (caryopsis), tightly enclosed by lemma and palea, narrowly fusiform, 5–7.7 × 0.7–1.1 mm, orange-brown, with embryo obliquely position at base, 2-lobed at tip with fleshy, triangular-cordate lobes to 0.2 mm long, with a midstripe beneath palea and extending nearly to tip, the midstripe ±

flat and ca. 0.2 mm wide, weakly ridged on margins; embryo ellipsoid, ca. 1.7×0.8 mm. Late January–late June.

Native. Perennial bunchgrass occurring throughout the range especially around sandstone boulders along ridges, e.g., near Castro Peak and SMMNRA Arroyo Sequit (SMM) and Oak Park (SH). *Stipa coronata* is also treated as a species of *Achnatherum*, when the genus *Stipa* is more narrowly defined by those authors. Crested needle grass has long, ascending inflorescence axes on which the panicle is very long and can be six hundred millimeters. This species has the unusual feature that the long cauline leaves in nature are twisted near the stems (180°) so that the lower surface is sunward and actually functions as the exposed, somewhat glossy upper surface, whereas the grayer upper surface faces toward the ground.

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