

conduplicate, $\frac{3}{4}$ -3 inches long, less than 1 line wide: panicle 1-1 $\frac{1}{2}$ inches long, oblong, loosely-flowered, with a pale silvery hue: spikelets oblong-linear, 3-4 lines long, 3-5-flowered: empty glumes subequal, 2-2 $\frac{1}{2}$ lines long, 3-, 4- or 5-nerved, obovate, with shining scarious margins: flowering glumes nearly 3 lines long, oval or ovate, denticulate, 5-7-nerved: palea lanceolate, about as long as the glumes. On the top of Ashland Butte in the Siskiyou Mountains, Oregon.

P. macrantha Vasey Bull. Torr. Bot. Club. xv, 11. Stems stout, smooth, 15-20 inches high, from stout perennial creeping rootstocks, dichotomous: sheaths loose, equalling or exceeding the internodes: ligules $\frac{1}{2}$ -1 line long: leaves folded or involute, the lower ones with sterile branches in their axils, 6-10 inches long, blunt or abruptly acute at the apex: panicle 2-5 inches long, sometimes interrupted below, its branches in twos or threes, erect, the longest 1 $\frac{1}{2}$ -2 $\frac{1}{2}$ inches long: staminate spikelets 5-8 lines long, compressed, 4-7-flowered, yellowish: empty glumes oblong-lanceolate, the first, 4-5 lines long, 3-5-nerved, ciliate on the midnerve: second 4-6 lines long, 3-7-nerved: flowering glumes 4-5 lines long, oval or lanceolate, with soft hairs at base and minutely pubescent on the nerves, the apex notched, awnless, 3-10-nerved: palea but very little shorter than its glume, linear, ciliate on the keels: pistillate spikelets rather smaller and more compact. On sand-dunes along the coast of Oregon and Washington.

§ 2 EUPOA Glumes usually acute, more or less prominently carinate, with or without cobwebby hairs at the base of the flowering glumes.

P. ANNUA L. Sp. 68. A soft depressed or sometimes erect annual: stems weak, 2-12 inches long: sheaths shorter than the internodes: ligules 1-2 lines long: basal leaves $\frac{1}{2}$ - $\frac{3}{4}$ as long as the stem; those of the stems 3, flat or conduplicate, abruptly acute, the upper $\frac{1}{2}$ -2 inches long: panicle ovoid or pyramidal, subsecund, 1-3 inches long, its branches mostly in pairs, the longest 1-2 inches long, sometimes drooping: spikelets 2-3 lines long, 3-7-flowered, oval or ovate-lanceolate: empty glumes compressed: the first 1-5-nerved, the second 3-nerved, broadest at or above the middle, usually 1-2 lines long: flowering glumes ovate-oval, smooth, erose at the apex, 1-2 lines long, with soft hairs on the keel for half its length and on the lower part of the lateral nerves: palea about 2 $\frac{1}{2}$ lines long, ciliate or pubescent on the keels. Common everywhere: naturalized from Europe.

P. subaristata Scribn. Macoun Cat. Can. Pl. 4, 227, name only. A slender densely tufted perennial 10-20 inches high: leaves of sterile shoots conduplicate, scabrous, 2 $\frac{1}{2}$ -5 inches long: sheaths of the stem 2, smooth, the upper one nearly half as long as the stem: ligules $\frac{1}{2}$ line long: upper leaf pungent, $\frac{1}{2}$ -2 inches long: panicle linear to oval, dense, somewhat interrupted, 1 $\frac{1}{2}$ -3 inches long: spikelets linear-lanceolate, 4-7-flowered, 3-5 lines long: empty glumes subequal, linear-lanceolate, 3 lines long, 1-nerved: flowering glumes linear-lanceolate, 3 lines long, scabrous on the nerves, not webbed: palea 2 $\frac{1}{2}$ lines long, ciliate on the keels. Idaho to Wyoming.

P. cusickii Vasey Cont. U. S. Nat. Herb. i, 271. A glabrous, tufted perennial 16-20 inches high: leaves of the stem 2: lower sheaths longer than the internodes: ligules 1-1 $\frac{1}{2}$ lines long: leaves flat or involute, acute, 2-2 $\frac{1}{2}$ inches long, less than 1 line wide: panicle more or less exerted, narrow, 3-5 inches long, the branches mostly in pairs, the longest 1 $\frac{1}{2}$ -2 inches long, bearing 4-8 spikelets on the outer half: spikelets 3-3 $\frac{1}{2}$ lines long, 2-3-flowered: rachella hispidulous: empty glumes with broad charaficeo-hyaline margins, first ovate-lanceolate, nearly 2 lines long, 1-nerved, rarely 3-nerved, second oval erosely acute, about 2 lines long, 3-nerved: towering glumes keeled 2-2 $\frac{1}{2}$ lines long, scabrous, oval, subacute: palea 5 lines long, 2 toothed, ciliate on the keels. In the mountains of eastern

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