

mostly in pairs, smooth, each bearing a single spikelet: purplish, oval or linear 3-5-flowered, 3-5 lines long: empty glumes obtuse or acute, often erose-denticulate, broadly scarious-margined; the first ovate-lanceolate, 1-nerved; the second oval-lanceolate, 3-nerved, 2 lines long: flowering glumes ovate-lanceolate, 3-5-nerved, not pubescent nor webbed at base: palea curved, linear,  $2\frac{1}{2}$  lines long: 2-toothed, scabrous on the keels. On the plains of eastern Oregon and Wash.

**P. Fendleri** Vasey Grasses Pac. Slope II, 74. A densely tufted completely diocious perennial: stems erect, scabrous to nearly smooth, 1-3 feet high: sheaths rather loose, scabrous above, shorter than the internodes: ligules 1-2 lines long: leaves of sterile shoots very numerous, conduplicate, 6-12 lines long, about 1 line wide: panicle 2-4 inches long, oblong, its minutely scabrous branches in twos or threes, erect or somewhat spreading, 1-2 inches long: spikelets compressed 3-4 lines long, 3-5-flowered: empty glumes broadly ovate, acute, carinate, minutely scabrous, 1-nerved, 1-2 lines long the first slightly smaller: flowering glumes ovate-oblong, erose or emarginate at the obtuse apex, carinate, hispid on the keel above and more or less pubescent on the marginal nerves and midnerve below, 2-3 lines long: palea oblong, emarginate, pubescent on the keels. On dry hills, eastern Washington to California and the Rocky Mountains.

**P. lucida** Vasey Cont. U. S. Nat. Herb. I, 274. A slender tufted perennial: stems 18-24 inches high, smooth: sheaths equalling or shorter than the internodes, smooth: ligules 2 lines long: radical leaves 5-7 inches long 1-2 lines wide; those of the stem about 3, 2-3 inches long: panicle 4-6 inches long, narrow, its branches mostly in twos or threes, the lower ones 1-2 inches long, erect or appressed: spikelets 3-4 lines long 3-4-flowered, shining, pale green: empty glumes oblong, abruptly acute, unequal,  $1\frac{1}{2}$ -2 lines long, smooth, scarious at the apex and margins: flowering glumes 2 lines long, linear-oblong, obtuse, sparsely and minutely scabrous, slightly pubescent near the base of the keel and lateral nerves, scarious at the apex, 5-nerved: palea nearly equalling its glume. On high hills, eastern Wash. to Colo.

**P. Leckenbyi** Scribn. l. c. 2. A pale green tufted perennial: stems 2-2 $\frac{1}{2}$  feet high, smooth, often rooting at the lower nodes: sheaths smooth, all but the uppermost exceeding the internodes, the lower ones membranous, inflated: ligules about 3 lines long, acute, often fimbriately divided: radical leaves long and slender, glaucous, green, smooth beneath, rough above and on the margins, acute, flat: panicle 5-7 inches long; its branches erect, the longer ones 2-3 inches long: spikelets oblong-lanceolate, 6-7 lines long, 5-6-flowered, compressed: empty glumes subequal 3-nerved, rough-hispid on the nerves rather narrowly lanceolate, acute or acuminate 4 lines long: flowering glumes ovate-oblong, 5-nerved, 3-5 lines long, scarious-margined, often erose dentate above, hispidulous on the upper and pubescent on the lower half: palea shorter than the glumes, conspicuous, ciliate on the keels and minutely pubescent below, narrowed above to an erose ciliate apex. Dry and very sandy soil eastern Washington:

**P. Nevadaensis** Vasey Scribn. Bull. Torr. Bot. Club x, 86. A loosely tufted perennial: stems rather stout, 20-40 inches high, scabrous below the panicle: ligules shorter than the internodes; ligules about 2 lines long, scabrous: leaves of sterile shoots very narrow, flat or conduplicate, 6-12 inches long, scabrous, those of the stems usually 3, with sheaths 4-8 inches long and blades 1-4 inches long: panicle narrow rather densely flowered, 4-6 inches long, its branches 2 or more at each joint, erect: spikelets 3-5 lines long, 3-8-flowered: empty glumes 1-2 lines long, nearly equal obtuse or subacute, 3-nerved, scabrous: flowering glumes 2 lines long, oblong, obtuse, scarious-margined above with a few very short hairs at base: palea ciliate on the keels. Moist soil, Oregon to Nevada Brit. Colum: