

Probably nearest related to *Carduus oreophilus* Rydb. Collected in the canyon of the Thompson river, between the foothills and Estes Park, Larimer county, Colorado, August 16, 1905, no. 3090.

Ptilocalais tenuifolia

One to three scapose stems 1-2 dm. high from a fusiform root, surrounded at the base by narrowly linear leaves 2 mm. wide and 1 cm. or more long, entire or some of them having distant down-pointing linear lobes, the stem also bearing one or two similar leaves: each stem bearing a single head or sending out one or two branches from the axils of the leaves: the whole plant glabrous except some slight dark pubescence on the involucre: the involucre 12-15 mm. long in two series of 12-15 linear acuminate bracts, with a few calyculate ones at base: achenes striate, truncate at summit, 5 mm. long and slightly attenuate downward: pappus of 15-18 plumose sordid bristles, paleaceous at base, each bristle about 7 mm. long, the paleaceous portion a little more than 1 mm. long.

Collected at Sulphur Springs, Grand county, Colorado, June 28, 1905, no. 2998—a fruiting specimen—and in flower at the same place June 11, 1906, no. 3235. Readily distinguished from *Ptilocalais nutans* (Geyer) Greene, by the narrow leaves and sordid pappus.

Orepis exilis

Seemingly a perennial, one or two slender stems from a tap-root, cinereus pubescent, becoming glabrate: leaves mostly at the base with scarious sheaths and short petioles, lacinate pinnatifid, 1 dm. long or some of them a little longer, tapering into a rather slender prolongation, the main body of the leaf 4-5 mm. wide, the linear lobes 1 cm. long; two or three stem leaves similar but much reduced in size, and the uppermost lanceolate and entire: stem branching at the top and having 3-5 heads on moderately short peduncles: principal bracts of the in-

volucre 10-12, linear and acuminate, about 1 cm. long, grayish pubescent, a very few calyculate ones at base: achenes striate, fusiform but tapering more upward than downward, about 7 mm. long, and the bright white pappus the same length.

Seemingly somewhat related to *Crepis gracilis* (D C. Eaton) Rydb., but smaller. Collected at Sulphur Springs, Grand county, Colorado, June 28, 1905, no. 2979.

Agoseris leptocarpa

Perennial, one to four stems 1-1.5 dm. high from the root, slightly woolly pubescent at the base of the bracts: leaves linear, from entire to runcinate pinnatifid, 5-8 cm. long, 3-5 mm. wide, the lobes 3-5 mm. long, glabrous and a little glaucous or sometimes slightly villous-pubescent: heads about 2 cm. high, the bracts in three series, the outer about 7 mm. long, slightly pubescent, the inner 15 mm. long, glabrous: achenes fusiform, 5 mm. long, striate, tapering into a beak 5 mm. long, the bright white pappus 8-9 mm. long.

Related to *Agoseris gracilis*, but distinguished from it by the smaller size and the smaller achenes. No other of our Rocky mountain species, so far as I know, have achenes so small. Collected near Coulter Post Office, in Middle Park, Colorado, June 29, 1905, no. 2972.