

1900]

ROCKY MOUNTAIN HERBARIUM

195

midrib not evidently thickened, very narrowly lanceolate-acuminate, about 5^{mm} long: nutlets obscurely roughened under a lens, ovate with sub-acute apex, less than 2^{mm} long, the narrow groove forked at base but without conspicuous open areola, similar, usually only three maturing.

This species is allied to *C. Pattersoni* and to *C. ramulosissima*. In habit it is intermediate between them, but in floral and fruit characters it differs essentially from both.

The type number is 6440, from Snake river, Yellowstone park, August 13, 1899.

CRYPTANTHE AFFINIS flexuosa.—Evidently allied to *C. affinis*, but a larger plant, 3–5^{dm} high: stems loosely branched from near the base upward, the branches long and flexuous: leaves narrowly oblong, 2–3^{cm} long: fruiting spike long and open: sepals lanceolate-acuminate, densely hispid at base, the tips mostly open and spreading, 6–8^{mm} long: nutlets mottled, smooth and shining, ovate-acute, about 2^{mm} long, the ventral groove nearly closed, forked at the base but without areola.

This may prove worthy of specific rank, but until further material is secured it may best stand as a variety. The species, I think, occurs further toward the west and northwest only.

Secured in Jackson's hole, near Jackson's lake, August 17, 1899.

Mertensia amoena.—Root somewhat woody, more or less branched, surmounted by a branched caudex: branches of the caudex few to several (3–8), crowded, erect, closely covered with dead leaf-bases: stems one or more from each crown, simple, ascending, 1–2^{dm} high, pubescent with short spreading or crisped hairs: crown-leaves oblong-lanceolate, sub-acute, glabrous below, softly hispid-pubescent above and on the margins, 4–7^{cm} long, about one fourth as broad, on slender petioles which are usually longer than the blade: stem leaves rather crowded, broadly linear or narrowly oblanceolate, sessile, 3–6^{cm} long, pubescence similar to that of the root-leaves; inflorescence crowded; calyx-lobes lanceolate, sparsely ciliate-hirsute, about half as long as the tube of the corolla; corolla about 15^{mm} long, the tube scarcely longer than the campanulate limb, the lobes of the limb about half its length, crests inconspicuous; filaments

broad as the anthers, inserted in the throat, the free portion about as long as the anther; the style nearly as long as the corolla.

This is probably a part of the *M. lanceolata* (Pursh) DC. of Gray in Proc. Am. Acad. 10:53, and of the Syn. Fl. 2:201, though it is very distinct from what Pursh and De Candolle understood by that species. The original seems to have been that glaucous, glabrous (at most slightly scabrous) plant which we know from the eastern slopes and foothills of the Rocky mountains, and which extends eastward toward the Missouri in the hill regions. That has rather thick fleshy leaves and has fewer stems. I have for years been familiar with it in southern and eastern Wyoming. During the season of 1899 Montana and northwestern Wyoming, where the species now proposed is common, came under my observation. It did not occur to me that anyone could possibly have called it *M. lanceolata*, so different are they in the field. *M. amoena* may be recognized by its cespitose habit, its hirsute (almost cinereous and never glaucous) leaves and stems, and the more crowded inflorescence, which in young plants reminds one of *M. oblongifolia*. It has the habit and leafiness of *M. foliosa*, and is more clearly distinct from *M. lanceolata* than *M. Fendleri* is from that species.

Collected at Monida, Mont., June 15, no. 5413; Glen creek, Yellowstone park, June 29, 1899, no. 5556; at both of which places it was abundant.

Solidago dilatata.—Perennial, from a woody root surmounted by a branched caudex bearing a few surculiferous branches which terminate in a fascicle of leaves: stems single from the crowns, simple, or branched above, rather stout, somewhat striate, glabrous, 4–6^{dm} high: leaves glabrous, conspicuously reticulate-veiny below, minutely scabro-ciliate on the margins; basal leaves oblong-spatulate to elliptic, tapering into a broad margined petiole which is sometimes as long as the blade, either closely or remotely serrate, mostly obtuse at apex, 8–15^{cm} long; the stem leaves numerous, sessile, mostly small (2–3^{cm}): inflorescence nearly glabrous (some ciliate straggling hairs), paniculately corymbose, either compact or quite open, the lower pedunculate branches leafy bracteate: heads numerous, slender-pediceled; the disk about 6^{mm} high; involucre bracts in about three rows, the shorter outer ones very few, the two inner rows sub-equal, minutely ciliate on the margins, linear, most of them obtusish and slightly dilated upwards: rays 8–10, conspicuous; akenes short and lightly pubescent.