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BOTANICAL GAZETTE

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CONTRIBUTIONS FROM THE ROCKY MOUNTAIN HERBARIUM. V.

AVEN NELSON.

TO THOSE who have known them in the field and who have studied them carefully in the herbarium, desert plants are of peculiar interest. No other plants show so many adaptations to their environment and, as a consequence, so many variant characters that have become fixed. During the spring of 1902 Mr. Leslie N. Goodding, a student in the University of Wyoming, was sent into the field in the interest of the Rocky Mountain Herbarium. He made collections in southern Nevada, southern Utah, the Wasatch Mountains, and in the Uintah Mountains, especially on their southern desert slopes. He secured many rare species of great interest, as well as some novelties. This paper is based, in a large measure, upon his field work.

NEW GENERA AMONG THE APLOPAPPUS SEGREGATES.

Notwithstanding the attention that the genus *Aplopappus* Cass. has had in recent years, it seems that further division would tend to simplicity. The genus *Stenotus* as now constituted is nearly homogeneous. Before the recent separation of two of the species and their erection into the genus *Stenotopsis* by Rydberg (Bull. Torr. Bot. Club **27**: 617), a concise generic description was unthinkable. My attention was called to this fact recently when some material of *Stenotus interior* (Coville) Greene came into my hands for determination. To one perfectly familiar with the normal species, the possibility that this plant also was listed as a *Stenotus* did not for some time occur to me. Several other genera come to mind more readily than this, among them *Macronema*, when one has in hand only the leafy floriferous twigs that constitute the usual herbarium specimens.

The difficulties encountered in generically placing the original species of the group (*Aplopappus linearifolius* DC.) has been recognized from DeCandolle down. Greene has stated the

head: involucre turbinate-campanulate, about 1^{cm} high, shorter than the disk; its bracts in two series, the outer broadly linear, short-acuminate, minutely glandular, the inner narrower, subscarios: rays orange-yellow, obscurely 3-toothed: disk corollas with narrow minutely pubescent tube as long as the gradually dilated throat: akenes linear, dark, sparsely hispidulous.

After deliberating on this for a long time and failing to decide upon even its nearest ally, I submitted it to Dr. Greene, who replied as follows: "This I can refer to no known species; yet it is a feeble thing as to any character." Nevertheless, it seems well to place it on record and to distribute to the herbaria specimens which will enable our students to judge for themselves whether it is a species with "feeble" characters or not.

The type is no. 377, from Doyle Creek, Big Horn Mountains, Wyo., July 26, 1902; collected by Mr. Goodding.

✓ **Tetradymia axillaris**, n. sp.—A shrub mostly less than 1^m high: stems several from the base, these freely and somewhat fastigiately branched at summit, all very white with a close fine permanent pannose tomentum: spines widely divaricate but not reflexed, very straight, slender, rigid and pungently acute, 2–4^{cm} long, tomentum somewhat floccose and rather early deciduous: leaves fascicled in axils of the spines, green and glabrous, somewhat fleshy, linear subulate, very unequal, 5–12^{mm} long: heads solitary, axillary, 5-flowered, on glabrous peduncles as long as the oblong-cylindrical head: bracts of the involucre 5, about 1^{cm} long, somewhat carinate and rigid, glabrous: pappus bristles much surpassing the copious hairs of the akene.

This relative of *T. spinosa* Hook. & Arn. I was at first inclined to refer to Jones's var. *longispina* of that species. With that variety it has some points in common, but because of the relatively long internodes of the stems, the straight rigid spines which are 3–5 times as long as the fascicled leaves, the glabrous heads, and peduncles which are solitary in the axils, it seems as impossible to unite it with that variety as with the species.

The type no. 917 is from Meadow Valley, Wash., southern Nevada, collected by Mr. Goodding, May 22, 1902.

MISCELLANEOUS SPECIES.

/ **Cuscuta Anthemi**, n. sp.—Stems delicately slender-filamentous, only 2 or 3^{dm} long: flowers sessile in capitate few-flowered clusters about 5^{mm} in diameter: calyx-lobes broadly ovate, acute,

united below the middle, somewhat imbricate, equaling or at first surpassing the corolla: corolla less than 2^{mm} long; its lobes ovate, acute, equaling or longer than the broadly campanulate tube: scales oval, fringed around the summit with short processes: filaments about as long as the anthers: capsule globose, about 1^{mm} in diameter: stigmas linear, purple, as long as the distinct equal styles; stigma and style together 1^{mm} long: ovules 4, usually but 1 maturing.—On *Artemisia gnaphalodes*. Wyoming.

When Dr. Rydberg published his *Cuscuta gracilis* (Bull. Torr. Bot. Club 28: 501), founding it in part upon material that had passed for *C. epilinum*, I was at first inclined to doubt the presence of indigenous species in this country possessing the characters that Gray and Engelmann had considered as possessed only by old world species. I am satisfied now, however, that both types occur here. Species undoubtedly indigenous and having characters clearly separating them from the European forms, with which we have been wont to ally them, leave no room for doubt.

The species now proposed was collected in the Seminole Mountains, Wyo., by Mr. Elias Nelson in 1898, no. 4936. It was found on *Artemisia gnaphalodes*, but I have no doubt it will be secured on other species of the Anthemideae.

✓ **Pectocarya miser**, n. sp.—Minutely appressed-strigose, branched from the base, the several stems filiform, spreading, 5–20^{cm} long: leaves linear, imperfectly opposite, mostly less than 1^{cm} long, the floral one of the pair reduced or wanting: flowers singly at the nodes: nutlets geminate, very flat, irregularly and narrowly winged on the sides, sides and apex bordered with hooked bristles, the dorsal disk slightly keeled and glandular-hairy.

Known only from the type locality, Point of Rocks, Wyo., where it was collected by the writer, June 15, 1898, and distributed under no. 4741 as *P. penicillata* H. & A.

✓ **Orobanche xanthochroa** Nels. & Ckll.,¹ n. sp.—Glabrous, 20–25^{cm} high: stem bracteate: the bracts large (20^{mm} long and 7^{mm} broad at the base), the upper of these covering rudimentary flowers: spike 10–12^{cm} long, about 38^{mm} broad, densely flowered: floral bracts single, acuminate-lanceolate, 17^{mm} long: flowers entirely pale yellow: upper lip large (9^{mm} broad, surpassing the calyx by 7^{mm}), rounded, entire or with two slight notches:

¹The characters of this plant were worked out by Professor Cockerell from the living plant. It has had further study in the herbarium.—A. N.

anthers with a fringe of long hairs on each side, but not otherwise hairy; anther cells caudate basally: calyx with five short triangular lobes about 2^{mm} long: discoid stigma about 3^{mm} broad: capsule oval, somewhat pointed apically, 10–11^{mm} long, about 7^{mm} in diameter; style persistent, nearly 9^{mm} long, strongly curved: seeds very numerous, irregularly angular, light-brown, obscurely pitted.

The affinity of this species is with *Orobanche Ludoviciana* Nutt. It turns ferruginous on fading or after bruising. First collected, June 7, 1903, by Dr. M. Grabham, at Pecos, N. M., where it occurs as a parasite on the roots of *Quercus*.

THE ROCKY MOUNTAIN HERBARIUM,
Laramie, Wyoming.