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FOUR NEW PLANTS FROM NEW MEXICO.*

BY CHARLES LOUIS POLLARD AND T. D. A. COCKERELL.

The mountain ranges of New Mexico, numerous and largely isolated as they are, offer unusually favorable conditions for the development of local types of plants and animals. Only a few of these ranges have been explored for plants with any degree of thoroughness, and even these are still yielding novelties whenever visited. The Sandia Mountains, within sight of Albuquerque, were visited long ago by Bigelow, but have since then been strangely neglected. Miss C. Ellis recently obtained a small series of plants in these mountains, and we find among them such conspicuous novelties as the *Primula* and *Achillea* herewith described. The Las Vegas Range, being really continuous to the north with the mountains of Colorado, would not be expected to have a peculiar flora; but as a matter of fact many of the plants are quite different from their congeners in Colorado. This statement is made with some degree of confidence, because the difference is seen in many conspicuous members of the flora, and is not easily overlooked; moreover, the junior writer of this paper spent three years at the foot of the Sangre de Cristo mountains in Colorado, and became familiar with the plants of that region.

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A *Primula* and a violet are here described from the Las Vegas Range, the former from the Hudsonian zone, the latter from the Canadian zone.

Viola Wilmattae.

Acaulescent, low (5-7 cm. high at flowering), tufted, the scape barely exceeding the foliage; leaves practically glabrous, cordate in general outline, all palmately cleft and lobed with numerous divisions; stipules lanceolate, scarious; scapes bibracteate at about the middle; flowers deep violet, 2 cm. broad; sepals lanceolate, slightly scarious-margined; petals narrowly oblong, well bearded; fruit not observed.

Type No. 404,924, in the United States National Herbarium, collected in Sapello Canon, Beulah, New Mexico (altitude about 8000 feet), by Mrs. Wilmatte P. Cockerell, for whom it is named.

The species is of interest as being the only representative of the palmatae occurring in the Southwest. It is related to *V. cognata* Greene much as *V. palmata* is related to *V. papilionacea* of the Eastern States. From the compestrine *V. pedatifida* and *V. Bernardi* it may be distinguished by the color of the flowers, the much smaller, narrowly oblong leaves, and the remarkably uniform cut of the latter. In this connection it is worthy of note that Mrs. Cockerell has collected *V. pedatifida* further up the same canon.

Primula Ellisiae.

Plant about 1 dm. high, from a stout vertical caudex; leaves minutely scabrous on both surfaces, oblong-spatulate in outline, tapering to scarious-margined petioles, the upper half of the blade irregularly and sharply serrulate with salient teeth, the apex obtuse or acutish; scape barely surpassing the leaves, bearing a dense umbel of rather large flowers; calyx-teeth lanceolate, exceeding the tube, the whole calyx densely farinose, but tending to become glabrate with age; corolla tube twice the length of the calyx; limb of the corolla $\frac{3}{4}$ cm. in diameter, lavender-purple with a yellow eye, the lobes truncate and retuse.

Type No. 404,914 in the United States National Herbarium, collected by Miss C. Ellis in the Sandia Mountains of New Mexico.

This beautiful species is allied to *P. Rusbyi* Greene, the type of which was collected by Dr. Rusby in the Mogollon Mountains of New Mexico in 1881. It differs in having much larger flowers and a conspicuously farinose calyx; the leaves are also shorter-petioled, more spatulate in outline, and more distinctly serrulate on the margins. In the size of its flowers it even approaches *P. Parryi* Gray, of the Rocky Mountain region, while the white, farinose calyx resembles that of *P. farinosa*.

Primula angustifolia Helenae.

Leaves narrowly linear and remotely denticulate; corolla lobes longer and narrower than in the type; flowers white with a yellow eye.

Type No. 404,913 in the United States National Herbarium, collected on the summit of the Las Vegas Mountains of New Mexico (altitude about 11,000 feet), June 29, 1901, by Miss Helen Blake, for whom it is named. The typical *P. angustifolia* is common in the same region.

Achillea laxiflora.

Perennial, glabrous; leaves coarsely pinnatifid, the upper ones 5-6 cm. long; divisions irregularly lobed or cleft, the ultimate segments acute; inflorescence loosely corymbose, the peduncles long and inclined to droop; heads turbinate, about 8 mm. high; bracts closely imbricated, scarious, with a greenish keel; rays orbicular, usually large (5 mm. broad in the dried specimen), pure white; achene linear, the apex prominently scarious-margined, the sides scarcely so.

Type No. 404,884 in the United States National Herbarium, collected by Miss C. Ellis in the Sandia Mountains of New Mexico, at an altitude of 8000 feet. The plant attracts attention by its loose and comparatively few-flowered corymb and by the large heads with conspicuous orbicular rays. The segmentation of the foliage is also of an entirely different type from that observable in other western yarrows; and the apically margined achenes afford a conspicuous character.