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NOTES AND DESCRIPTIONS OF NORTH AMERICAN SPECIES OF  
OPUNTIA.

Since the appearance of Britton and Rose's paper entitled A Preliminary Treatment of the Opuntioideae of North America, published in 1908,<sup>a</sup> some 20 additional species, chiefly of *Opuntia*, have been described. This will require a revision of that paper, material for which is now being brought together. In the meantime it seems best to put forth a few additional species, some of which have been on hand a considerable time, others only recently collected.

*Opuntia ballii* Rose, sp. nov.

PLATE 64.

Plant low, spreading; joints obovate, 6 to 7 cm. long, thickish, pale green, spines brownish, a little flattened, usually ascending or erect, the larger ones 4 to 6 cm. long; flowers probably small; fruit about 2 cm. long, clavate in outline, glaucous, spineless.

Type U. S. National Herbarium no. 615400, collected by C. R. Ball at Pecos, Texas, August, 1909 (no. 1506). The photograph was taken in Washington.

Mr. E. O. Wooton tells me that this species is common in the eastern part of New Mexico. I have a specimen of his plant from the top of the Guadalupe Mountains collected August 3, 1909.

Not closely resembling any species known to me.

*Opuntia cyclodes* (Engelm.).

*Opuntia engelmannii cyclodes* Engelm. Proc. Amer. Acad. 3: 291. 1856.

*Opuntia lindheimeri cyclodes* Coult. Contr. Nat. Herb. 3: 422. 1896.

Since the publication of the "Preliminary Treatment" I have examined considerable material of *Opuntia engelmannii cyclodes* as well as of *O. engelmannii*, the latter in its type locality, and I am convinced that the variety deserves specific rank.

*Opuntia deamii* Rose, sp. nov.

PLATE 65.

One meter or so high, usually with a definite cylindrical trunk, branching a short distance above the base; branches few, ascending, compact; joints erect or spreading, very large, 25 to 30 cm. long, obovate to oblanceolate, rounded at apex, at first bright leaf green, later dark green, glabrous; areoles remote, often 4 cm. apart, rather small for size of joints; spines stout, white or dull yellow, somewhat flattened, 2 to 6, usually 4, spreading or porrect, 3 to 5.5 cm. long; flowers 7 cm. long, reddish; fruit short-oblong, 6 cm. long, naked except a few spines (8 to 12 mm. long) at the tip, wine-red both within and without, disagreeable in taste; seeds small, 3 mm. in diameter.

Type U. S. National Herbarium no. 535893, collected by Charles C. Deam (no. 6228) Fiscal, June 7, 1909. The photograph was taken in the field by Mr. Deam.

Of the same species are William R. Maxon's no. 8303 from near Salama, January 20, 1905, and F. Eichlam's no. 40, also from near Fiscal.

The above description is drawn from Mr. Deam's plant supplemented by a very full description kindly sent me by F. Eichlam, who states that his plant is the same, with which opinion I am in accord.

Mr. Eichlam also states that the plants grow close together forming an almost impenetrable thicket, and that the trunks are generally covered with branches from the ground up and do not usually take the cylindrical form shown in Mr. Deam's photograph because the plants are so frequently broken or cut by the passers-by. In speaking of the distribution Mr. Eichlam states that as soon as the first high road is passed after leaving Guatemala City in the direction of Fiscal the species opens the

<sup>a</sup> Smithsonian Miscellaneous Collections (Quarterly Issue), vol. 50, pt. 4.