

of herbarium specimens and selecting exhibition specimens of cacti, which were shipped to the New York Botanical Garden. From Tehuacán side trips were made along the tramway toward Esperanza and to Oaxaca city, and from the latter point Mitla was visited, where two days were spent in and about Tomellín Cañon. A short trip was made to Vera Cruz and also to Leon, after which I closed up my field work and returned to Washington.

The herbarium material collected contains more than 500 numbers (11001-11534), a full set of which has been mounted for the National Herbarium.

In addition to the herbarium material 236 specimens of seeds, bulbs, and succulents (chiefly cacti) were collected and sent to Washington. At the same time a nearly full set of the cacti was selected and shipped to the New York Botanical Garden. Many of these latter specimens were of immense size and form striking exhibition objects.

The following table will show in detail the places visited, the date of each visit, and the number of miles traveled in course of this trip:

		ITINERARY.	Miles.
1906.			
Aug.	10.	City of Mexico to Tlalpam, Distrito Federal and return.....	15
	13.	City of Mexico to Cuernavaca, by rail.....	74
	14.	Cuernavaca to pedregal and return.....	16
	15.	Cuernavaca to City of Mexico and return, by rail.....	74
	17.	City of Mexico to El Parque and return, by rail.....	114
	20.	City of Mexico to Querétaro, by rail.....	153
	24.	Querétaro to City of Mexico, by rail.....	153
	31.	City of Mexico to Tehuacán, by rail.....	208
Sept.	1.	El Riego to hills east of Tehuacán and return.....	10
	3.	Tehuacán to Oaxaca City, by rail.....	148
	5, 6.	Oaxaca city to Mitla and return, by stage.....	70
	7.	Oaxaca city to Santa Catalina, by train.....	45
	7.	Santa Catalina to Tomellín station.....	22
	8.	Tomellín to Tehuacán, by rail.....	81
	14.	Tehuacan toward Esperanza and return, by tramway.....	30
	17.	Tehuacan to Esperanza, by tramway.....	31
	17.	Esperanza to Orizaba, by rail.....	30
	18.	Orizaba to Vera Cruz, by rail.....	30
	20.	Vera Cruz to City of Mexico, by rail.....	51
	23.	City of Mexico to Pachuca, Hidalgo, by rail.....	61
	24.	Pachuca to Sierra de Pachuca and return.....	10
	24.	Pachuca to City of Mexico.....	61
	26.	City of Mexico to Kochimilco and return.....	15
	28.	City of Mexico to Leon Guanajuato, by rail.....	259
	29.	Leon to San Luis Potosí, by rail.....	244

## CYCADACEAE

### A NEW SPECIES OF DIOON.

*Dioon purpusii* Rose, sp. nov.

Trunk short, crowned by numerous leaves, these often a meter or more long, stiff and ascending; petioles somewhat 4-angled; pinnæ 5 to 9 cm. long, stiff, pungent, towards the base, 1 to 1.5 cm. apart, above closely set, entire on the lower margin,

but usually with 1, 2, or rarely 3 sharp spine-like teeth on the upper margin; male cones 15 to 20 cm. long, the bracts with recurved ovate tips; female cones ovate, 44 cm. long by 20 cm. broad near the base; bracts very woolly, 10 to 15 cm. long; seeds about 4 cm. in diameter.

Collected by D. T. MacDougal and J. N. Rose, September 7, 1906, in Tomellín Cañon, Oaxaca (*Rose* 11352, type), and by C. A. Purpus in Sierra Mixteca, Puebla, in 1908.

Type U. S. National Herbarium no. 454142.

The specimens found by MacDougal and Rose were in a deep canyon well shaded by bushes and small trees. Both male and female cones were taken and also a living plant. The latter is now growing in the conservatory of the New York Botanical Garden, where also are preserved the cones. In 1908 Dr. Purpus collected seeds and bracts.

## GNETACEAE.

### A NEW SPECIES OF EPHEDRA.

I was much surprised to find an *Ephedra* on the desert plain about Tehuacán, as none had been reported farther south than San Luis Potosí. This one is so clearly distinct from those of northern Mexico that I do not hesitate to describe it as new.

*Ephedra compacta* Rose, sp. nov.

A low very compact shrub, 30 to 50 cm. high with many numerous short spinescent branches, at first light green but becoming very pale; leaves opposite, high-connate; male flowers not seen; fruit scales in pairs, high-connate, when mature forming a small red fleshy fruit; seeds 2.

Collected by J. N. Rose and J. S. Rose near Tehuacán, September, 1906 (no. 11274, type), and at same station by Rose and Painter, August and September, 1905 (no. 10023).

Type U. S. National Herbarium no. 454055.

Nearest *E. pedunculata* Engelm., but lower, of much more compact habit, and with paler and less fluted stems.

## LILIACEAE.

### A NEW SPECIES OF BEAUCARNEA.

Since publishing my enumeration of the species of *Beaucarnea* in volume 10, page 87, of this publication, an additional species has been sent me by Mr. E. A. Goldman, of the Biological Survey, Department of Agriculture, which is here described:

*Beaucarnea goldmanii* Rose, sp. nov.

PLATE XX.

Tall slender tree with swollen base; leaves hanging, 80 to 90 cm. long, 3 cm. broad at the base, 1 to 1.5 cm. broad a short distance above the base, tapering toward the apex into a long acumination 20 to 30 cm. long, smooth on both surfaces, the margin nearly or quite smooth; inflorescence a panicle 30 to 50 cm. long; pedicels 8 to 10 mm. long, jointed near the middle; fruit somewhat glaucous, 18 to 20 mm. long, broadly 3-winged, notched at base and apex.

Collected by E. A. Goldman at San Vicente, Chiapas, April 26, 1904 (no. 887).

Type U. S. National Herbarium no. 566461.