

find that it is considered only moderately large as Brazilian ranches go. Today much of the cattle range in Matto Grosso is enclosed in fences, but these scarcely mar the landscape in a country where a single pasture may be ten miles wide.

Rheas are protected by popular sentiment in Matto Grosso and proved to be very abundant at Capao Bonita. None were nesting when I arrived early in September, but each day small flocks could be observed stalking across the *campo* in search of edible herbs and berries. The flocks generally included a male and several females, sometimes accompanied by a few juveniles of the previous year.

The first weeks of my visit were spent making general zoological collections and in preserving some of the numerous flowering plants for use in the rhea exhibit. September below the equator is early spring and at that season the *campo* becomes a veritable garden. With so much interesting material available, one's chief difficulty is in deciding what to eliminate rather than what to collect. Several hundred miles were covered by truck and horseback in studying the rheas and their most characteristic habitat for reproduction in Field Museum.

RUNNING BIRDS LASOED

Most strenuous of all, however, was the actual collecting of the adult rheas. Although flightless, and fairly tame when unmolested, they are amazingly fleet of foot when pursued. Several methods were tried, but the use of a light automobile truck proved most effective. On several occasions the racing birds were clocked at better than forty miles an hour. Rheas are no respecters of trails or motor trucks, and when pursued they always seek the roughest terrain. Only the steady nerves and practiced hand of Don Carlos, who favors the brakeless car, avoided disaster on the mad dashes across miles of prairie pitted with armadillo holes and studded with countless termite nests. A native cowboy accompanying us rode the radiator and lassoed several of the birds, but I relied on my shotgun.

Bird-life on the *campo* is surprisingly varied and abundant. Scarcely less spectacular than the rhea is the cariamá, a long-legged bird which bears a superficial resemblance to the secretary-bird of Africa. Of great interest anatomically, cariamas are the nearest living relatives of the prehistoric Phororhacos, an enormous bird which lived in the same region more than 8,000,000 years ago. Tinamous, burrowing owls, caracaras and many lesser birds contribute to the ornithological interest of the grasslands.

MANY EGGS IN NESTS

The first rhea nest, containing thirty spotless white eggs, was found and collected early in October. Each flock prepares and deposits its eggs in a single crude nest built

upon the ground on the open *campo*. As many as sixty eggs have been recorded in a single nest, but the usual number is twenty or thirty. Males as well as females take part in the incubation, but only one bird attends the nest at a time. When not on duty, the others range widely while feeding on herbs and berries, or occasional reptiles, but carefully avoid the nesting site. Young birds join the flock soon after hatching.

The birds collected by the expedition are now exhibited in a natural habitat group in Hall 20. They were mounted by Staff Taxidermist John W. Moyer, and the background was painted by Staff Artist Arthur G. Rueckert.

CULTIVATED BLUEBERRIES

BY PAUL C. STANDLEY
CURATOR OF THE HERBARIUM

Luscious blueberries from wild bushes have long been a favorite fruit in the United States. They are almost exclusively American—the European blueberries, if such the European species of *Vaccinium* may be called, have quite different and generally inferior fruits. It is only in very recent years that cultivated blueberries have reached the Chicago market, and in 1939 they have been far more plentiful than ever before. The cultivated plants are mostly descendants of strains established by Miss Elizabeth White, of New Jersey, through selection of wild bushes with exceptionally large berries.

At the end of July the writer and Assistant Curator Julian A. Steyermark visited the region of South Haven, Michigan, an important center of blueberry culture. The handsome cellophane-covered boxes of carefully graded Michigan fruit, twice as large as that of wild plants, have formed a tempting display this summer in most of the Chicago food shops.

The field visited consisted of seventy-two acres, and there are many other large plantings in the vicinity of South Haven. The bushes, all of the "high bush" (*Vaccinium corymbosum*) type, are four to five feet high, planted in hilled rows in sand that often is covered with water. The abundance of fruit was astonishing to one familiar with wild bushes. The branches were loaded with large, dense masses of blue fruits suggesting bunches of grapes.

Many native American fruits long ago became economically important, among them strawberries, some of the cultivated plums, raspberries, dewberries, and all the grapes grown in the eastern states. It was scarcely to be expected that at this late date another native fruit would become commercially important, but the blueberry already has established itself. It is noteworthy that Michigan berries are being shipped to the Atlantic coast, where they originated, because they are in season after the eastern crop has been exhausted.

FOSSIL BISON AGAIN EXHIBITED

A skeleton of a large male bison of the extinct species *Bison antiquus* from the asphaltum pools of Los Angeles, California, has been returned to exhibition in Ernest R. Graham Hall (Hall 38). This specimen, and three others, were exhibited in the open some years ago, but suffered so much from thoughtless handling by the public that they had to be removed. The bison skeleton is now protected in an individual case.

Bison antiquus is an extinct species which was common in the western United States during the Glacial Period. Fossils of it are found most abundantly in the tar pools of Rancho La Brea near Los Angeles. There, crude asphaltum, seeping up through the rocks of Miocene age, accumulated in pools at the surface. This formed a death trap, concealed by surface water during the rainy season, or by blown sand and dust during the dry season. Bison and other animals entering these pools, either in quest of water or unwarily for other causes, were caught in the mass of tarry asphaltum, and perished there. Later, their bones became saturated with the asphaltum and so were preserved. As the gas from the asphaltum evaporated and the latter became solid and covered over with earth, large masses of bones were preserved. Nearly 100 species of extinct animals and birds of all sizes and habits have been found in these old tar pools.—E. S. R.

Tree Snails from Florida

Field Museum has just received, as a gift from Mr. G. J. Kessen, of Sanibel Island, Florida, several specimens of the beautiful Sandy Key tree snails. Originally Sanibel Island had no tree snails. The stock from which these snails descended was collected on Sandy Key on the east coast of Florida by Mr. Kessen and transferred to Sanibel Island on the west coast in 1921. Since then the original Sandy Key snails have been destroyed, probably by the 1929 hurricane.

Firmly established on Sanibel Island, it is pleasant to contemplate that such an interesting form of life has been preserved from extinction and may ultimately be again transplanted to its original home.—L.L.W.

LEAFLET ON AUTUMN FLOWERS

With the arrival of September, timely reading for flower enthusiasts is offered in the Field Museum Leaflet *Autumn Flowers and Fruits*. This little book, with thirty pages of text, illustrated with a color plate, two collotype plates, and twenty-eight half-tones, is by J. Francis Macbride, Associate Curator of the Museum Herbarium. At the BOOK SHOP of FIELD MUSEUM—25 cents.



Standley, Paul Carpenter. 1939. "Cultivated Blueberries." *Field Museum news* 10(9), 2-2.

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