

AVERY BOTANICAL EXPEDITION REPORTS SUCCESSFUL WORK

Letters received recently from Curator Paul C. Standley, in charge of the Sewell Avery Botanical Expedition to Guatemala, report exceptional success in field work in many widely separated areas of that country. During the past three months 10,000 specimens of plants have been collected, at altitudes varying from sea level to more than 12,000 feet. While vegetation is not so luxuriant during the dry winter months as during the wet summer season, at all times there is a great abundance of flowers to be found in favorable areas, Mr. Standley states.

Some of the richest regions for plants that Mr. Standley has visited have been the slopes of the volcanoes, which form such a conspicuous element of the magnificent Guatemalan scenery. He has collected plants on the slopes of the volcanoes of Pacaya, Agua, Fuego, Acatenango, and Zunil, and on March 6, with an Indian guide, he ascended on foot to the summit of the volcano of Santa Maria (12,560 feet), near Quezaltenango in western Guatemala. Santa Maria, one of the most celebrated volcanoes of Central America and perhaps the most symmetric and majestic of them all, has been almost unknown botanically, and is rarely visited by foreigners.

Mr. Standley reports that the work of the Guatemalan expedition has been greatly facilitated through the courtesy of Dr. J. R. Johnston, Director of the National School of Agriculture of Chimaltenango, Don Mariano Pacheco, Director of the Department of Agriculture, Guatemala, and Professor Ulises Rojas, Director of the Botanic Garden of Guatemala.

THINGS YOU MAY HAVE MISSED

Relation of Soil to Rock in the Chicago Area

With the approach of spring, interest in the soil rises to its annual high point. As the first shoots of green come up through the ground surface, it may be interesting to recall some of the unusual and characteristic features of the soils of the Chicago area and their relation to the rock surface beneath. In Hall 36 of the Department of Geology there is a model on which these relations are strikingly shown. It might be expected that in digging deeper the soil would become increasingly rocky until quite gradually it would grade into the unweathered rock, and quite likely this would be the case had Chicago not been visited by the great glaciers of the Ice Age.

If we could go back to the time before the ice came, we would find the Chicago region a country of rather steep hills and valleys covered by a soil derived from the underlying bed rock, a limestone of great age formed in the Niagara stage of the Silurian

period (about 400,000,000 years ago). Then, as the glaciers slowly advanced and receded, this soil, and with it a layer of the limestone itself, was scraped off, as if by a giant carpenter's plane, not however destroying the ruggedness of the topography. As the ice melted and the glacier receded for the last time, these valleys and hills were filled and covered by sands and gravels that we call "till"—material that the glacier had picked up on its journey, some coming from as far away as the northern part of Canada. Thus it was that the glaciers that bared the limestone bed-rock were also the agents that buried it again, but this time under its present mantle of glacial drift.

There was a time, soon after the retreat of the ice, when Lake Michigan stretched considerably to the south and west of its present shoreline, covering most of the area on which the city is now built. During this time there was deposited over the till a relatively thin layer of lake mud which comprises the top soil layer of much of Chicago today. Erosion, since the glacier and later the lake retreated leaving the country to assume its present topographic form, has in some places removed the till and exposed the limestone at the surface. Elsewhere, especially in those places where before the glacier came there were valleys, the limestone is buried by as much as 200 feet of till.

These are the conditions interpreted as bringing about the situation represented in the model. They explain why in the Chicago



Underneath "Chicagoland"

Model in the Department of Geology showing the relation of soil to rock in the Chicago area, and how this was affected by presence of glaciers in this region during the Silurian period, some 400,000,000 years ago.

area, as in all regions over which the glacier moved, there is a sharp break between the soil and the bed-rock below, and why the rugged rock surface is overlain by comparatively level terrain.

—L.B.M., JR.

Enormous palm leaves, as much as forty feet long, are shown in Hall 25.

CURATOR C. C. SANBORN RETURNS FROM EUROPEAN RESEARCH

Mr. Colin Campbell Sanborn, Curator of Mammals, who was appointed a Fellow of the John Simon Guggenheim Foundation last spring, returned from Europe on March 1. Through this fellowship he has spent the last seven months, chiefly in London at the British Museum (Natural History), working on a taxonomic revision of the horseshoe bats. In connection with this work he also visited museums in Edinburgh, Amsterdam, Leiden and Paris.

About twenty-five type skulls of bats, representing genera not in Field Museum, were photographed and measured so that these genera can be more accurately identified here, should the need arise. An exchange was arranged with the British Museum for 125 specimens, including five genera and many species new to the collection in this institution.

Mr. Sanborn spent two weeks in Scotland collecting red grouse for a proposed habitat group. Besides a dozen birds, he collected heather, bracken, and grass for accessories, and made photographs to be used for guidance in preparing the background. A few Scotch mammals were also collected.

In order to study two species of horseshoe bats in life, Mr. Sanborn made a trip to the Cheddar caves in Somerset, as the guest of Mr. J. L. Chaworth-Musters. Here, with the help of the Spelaeological Society of Bristol University, a number of caves were visited, and about fifteen specimens of bats were obtained.

The British Museum has entrusted Mr. Sanborn with the identification of some 800 bats collected in Haiti, Trinidad, and Dutch Guiana by Mr. Ivan T. Sanderson, author of *Animal Treasure*. The collection has been shipped to Field Museum for this study.

Mr. Sanborn was in London during the international crisis last September, and had to suspend his work to help pack type and other valuable specimens in the British Museum mammal collection for removal to a safer place in case of emergency.

The remainder of Mr. Sanborn's fellowship will probably be spent in the field, studying the life histories of bats, and photographing and collecting specimens.

FORESTS WITHIN A BOOK—

See *The Tree Book*, by Julia Ellen Rogers.

"An interesting, well illustrated volume," says Dr. B. E. Dahlgren, Chief Curator of Botany at Field Museum. "A popular guide to the trees of North America in nature and in cultivation, with simple and serviceable keys as an aid to their identification."

At the MUSEUM BOOK SHOP—\$5.



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