MUSEUM STAFF APPOINTMENTS

The following appointments, effective January 1, 1939, are announced by the Director:

Mr. William H. Corning—Superintendent of Maintenance. Mr. Corning joined the staff of Field Museum late in 1920 as Chief Engineer, and has served in that capacity since that time.

Mr. William E. Lake—Chief Engineer. Mr. Lake came to the Museum July 1, 1922, as an engineer, becoming Assistant Chief Engineer in 1926.

Mr. Arthur G. Rueckert—Staff Artist. Mr. Rueckert joined the staff in November, 1923, as a taxidermist. In addition to a general experience in taxidermy and the making of accessories for exhibits, Mr. Rueckert assisted the late Charles Abel Corwin in the painting of many of his more recent backgrounds, and has carried on this work since Mr. Corwin's death.

Mr. Robert L. Yule—a Preparator, in the Department of Anthropology, where he has been employed in various capacities since February 1, 1932.

Mr. W. E. Eigsti—a Taxidermist. Mr. Eigsti came to Field Museum in February, 1931, as an assistant taxidermist, since which time he has mounted many splendid specimens for the Museum collections.

Mr. Robert E. Bruce—Purchasing Agent. Mr. Bruce joined the staff in October, 1927, and served in various clerical capacities until August, 1938, when he became Acting Purchasing Agent.

Mr. Noble Stephens—Manager of the Book Shop. Mr. Stephens has been on the staff of the Museum during the past year and has been in charge of the Book Shop since it was opened in April. He is largely responsible for the splendid showing made by this new venture.

Mr. Warren E. Raymond—Assistant Registrar. Mr. Raymond joined the staff October 1, 1938, as a clerk, and is now appointed to a new position created because of the increasing volume of business in the Registrar's office.

Mr. Joseph D. Todd—Carpenter Foreman. Mr. Todd came to the Museum as a carpenter in November, 1927, after a wide experience in both exterior and interior construction, and in his new position will be of great value to the Superintendent of Maintenance.

Mr. E. S. Abbey—Captain of the Guard. Mr. Abbey joined the guard force in 1905, and became Sergeant in May, 1924. A reorganization of the guard force at the beginning of 1939 retains Mr. Abbey as the senior member of the organization with the new title of Captain.

Mr. Patrick Walsh—Sergeant of the Guard. Mr. Walsh came to Field Museum in February, 1894, in the Maintenance Division. He is one of the oldest employes in point of service. In August, 1905, he became a guard, and since January, 1930, has been Acting Sergeant on one of the night shifts.

Mr. David Conwill—Sergeant of the Guard. Mr. Conwill became a Museum guard April 1, 1931, immediately after his retirement from the United States Army.

ANIMAL LIFE IN AIR PLANTS

By Karl P. Schmidt
Curator of Amphibians and Reptiles

The environment in which animals are found is referred to as their "habitat." Within the more general types of habitat, such as hardwood forest, we distinguish restrictions to special environments as "niches." The red-backed salamander, for example, is found in the fallen-log niche in a forest habitat. When whole assemblages of animals are found in such a habitat niche, their inter-relations, extent and mode of dependence on their special environment, as well as their mode of dispersal, and the correlation of their geographic distribution with that of their habitat, become problems of more than usual interest to the naturalist.

One of the most remarkable of such habitat niches in the American tropics is that afforded by the "bromeliads," the epiphytic plants of the pineapple family Bromeleaceae, which perch upon the limbs and trunks of trees, and together with orchids and other air-plants, form a characteristic feature of the tropical forest. The bromeliads have their leaves arranged in whorls, and in the rainy season retain water at the bases of these leaf-whorls. In the cloud-forests above 4,000 feet on tropical mountains, this water may be essentially permanent, and as there is little standing water on steep slopes, animals dependent on moisture are attracted to this situation.

The salamanders, whose soft skins require a constant moist atmosphere, are represented in Central America only by the genus *Oedipus*, which has undergone evolution into a remarkable number of species. These salamanders are found under logs, within rotten logs, under stones, in the coiled leaves of many plants, under the leaf sheaths of banana plants, and most notably in the whorls of leaves of the bromeliads. The bromeliad habitat is especially characteristic in the cloud-forest zone where the constant moisture is ideal for amphibians.

The bromeliads yield a veritable harvest to the collector. Felling a small tree loaded with promising plants, he cuts through the base of each plant with the machete, and then removes the leaves one by one. Earthworms and nematodes are abundant in the moist detritus in the outer leaves; the aquatic larvae of damsel flies are almost invariably present; flattened bugs and beetles inhabit the leaves above the water level; and various arachnids are found in the drier tops of the plants.

In addition to the salamanders (of which there may be two or even three species in a single plant) the bromeliad niche is a favorite refuge for tree frogs of the genus *Hyla*. The hylas frequently make use of the standing water at the bases of the leaves for egg-laying, and frequently exhibit great modification from the normal body form and dentition. It is evident that long-continued evolution has given rise to special adjustments of the tadpole stage to the conditions of life in the bromeliad environment.

Systematic search of these plants in the cloud-forest zone in the mountains of Honduras and Guatemala has yielded a surprising number of new species of salamanders and hylas, described in technical papers embodying results of the Marshall Field Central American Expedition of 1923, and of the Mandel Guatemalan Expedition of 1933–34. This environmental complex affords a little worked and fascinating problem for ecological study.

THE CANNON BALL TREE

One of the outstanding exhibits in the Hall of Plant Life (Hall 29) is this cannon ball tree of the forest regions of northern South America, as reproduced from nature in full flower and fruit, in the laboratories of the Department of Botany. The original material upon which the reproduction is based was collected by the Stanley Field Botanical Expedition to British Guiana. The cannon ball tree is a showy large tree of the monkey pot or Brazil nut family and derives its common name from its large, round, dark brown fruits, which are seen in the above picture.

Field Museum is unique among institutions of its kind for the extent of its exhibits illustrating various phases of the plant world. Five large exhibition halls are devoted to botany, in both its scientific and economic phases. The main divisions are plant life, food plants, palms, plant raw materials and products, North American woods, and foreign woods.