GUATEMALA EXPEDITION BRINGS 38,000 PLANTS TO MUSEUM

By PAUL C. STANDLEY
CURATOR OF THE HERBARIUM

The Third Botanical Expedition of Field Museum to Guatemala began work early in October, 1940. Like two previous expeditions, its purpose was the collection of material and data for preparation of a comprehensive descriptive account of the country's vegetation.

In area about the size of Illinois, Guatemala is extremely varied as to surface and climate. Because of the great local variations in elevation and temperature, there often are abrupt modifications of the vegetation within a few miles.

Collecting was begun at Zacapa, in the relatively arid valley of the Motagua River, near the north coast. Afterwards work was conducted from Jutiapa, Jalapa, Cuilapa, and Chiquimulilla. From the last, lying at the base of the Volcano of Tecuamburro, a comprehensive collection was made of the flora of the Pacific plains in which little collecting had been done previously.

In December headquarters were moved to central Guatemala, at Finca La Alameda, near Chimaltenango, where every facility for work was supplied by Dr. John R. Johnston, Director of the Escuela Nacional de Agricultura. Extensive collections were made in that vicinity, at Fiscal, and on the Volcano of Pacaya.

REMINISCENT OF COLORADO

Dr. Johnston and the writer next moved to Huehuetenango in northwestern Guatemala, collecting along the route. The Department of Huehuetenango is a non-volcanic area along the Mexican frontier. The most distinctive and profitable region was the Sierra de los Cuchumatanes, highest portion of the northern cordillera.

An especially noteworthy portion of the season's collections, and the one richest in new species or additions to the Guatemalan flora, was gathered in the Cuchumatanes. For miles the road is bordered by alpine meadows, as in the Colorado Rockies, thickly covered with grass and decorated with dwarf plants of various families. Bearberry and gentians heighten the resemblance to the Colorado mountains, as do the dense forests of red cedar and pine that cover the bordering limestone hills. Strangely, one of the most abundant and showy plants at this high elevation, where freezing temperatures are recorded almost every night, is a huge agave or century plant, scarcely to be expected at so high an altitude. Here also was found a gooseberry, the first member of its group to be collected in Central America.

SHOWERS OF VOLCANIC ASHES

My next headquarters were at Quezaltenango, second city of Guatemala, with an elevation of almost 8,000 feet, and a climate far from tropical—heavy frost was frequent, and one night the thermometer fell to 15 degrees. From there may be reached, within one or two hours, many localities exceedingly rich in tropical vegetation. From the valley of the Río Samalá, and the barranco lying between San Martín Chile Verde and Colomba, many rare plants were obtained. The Volcano of Santa María was in eruption during February, covering some of the vegetation with a layer of ash that made collecting far from enjoyable, since every bush that was touched showered ashes upon one's head.

Several weeks in February and March were devoted to work along the Pacific foothills and upon the bordering plains. Many rare plants, especially trees, were collected in this vicinity.

WHERE ORCHIDS ABOUND

Collecting localities along the Pacific coast extended from Coatepque eastward to Escuintla and Amatitlán. Then headquarters were moved to Cobán in the Department of Alta Verapaz, which has one of the most varied and fascinating floras of all Central America. It is humid, with medium elevations, and is particularly rich in orchids, which are more abundant than anywhere in Central America outside Costa Rica. Here grows in great abundance one of the handsomest of American orchids, *Lycaste Skinneri*, whose albino variety, the *monja blanca*, is celebrated as the national flower of Guatemala.

Although Cobán is the center of a coffee region and of a rich agricultural area, it retains much accessible unspoiled forest, and profitable botanical collections may be made almost anywhere within easy walking distance of the town. Collecting trips were made in every direction, especially about Tactic, which has an apparently inexhaustible variety of plants. A previously unexplored open and forested swamp yielded a surprising number of probably new, or at least very rare species.

One day only could be devoted to collecting along the new road leading from Cobán toward Petén. The expedition left Puerto Barrios May 3, arriving at Chicago May 11. It was highly successful, more than 19,000 numbers of plants, represented by twice as many specimens, having been gathered. It is believed that a substantial number of plants new to science was collected, and it is certain that there were obtained many species which are new to Guatemalan and to Central American records.

The satisfactory results are due largely to the splendid system of automobile roads. Through the enterprise of General Jorge Ubico, President of Guatemala, the republic now possesses the most comprehensive road system, for its area, to be found in America south of the United States.

For innumerable and often very practical courtesies, the expedition is deeply indebted to Don Mariano Pacheco Herrarte, Director General de Agricultura; to Professor Ulises Rojas, Director of the Jardín Botánico; to Don José Ignacio Aguilar, Director of the Finca Nacional La Aurora of Guatemala City; and to various government officials, particularly the Director General de Aduana and the several Jefes Políticos.

It is impossible to express adequately appreciation of the hospitality and courtesies extended by Dr. John R. Johnston, by Mr. and Mrs. B. E. Lewis, and by employees of the Ferrocarril Internacional de Centro-América, the United Fruit Company, and the Compañía Agrícola de Guatemala. Special appreciation is due Mr. George B. Austin of the United Fruit Company, at Puerto Barrios.

THE ANTIQUITY OF TREPANNING

By HENRY FIELD
CURATOR OF PHYSICAL ANTHROPOLOGY

To relieve pressure on the brain a trepan, or the modern improved instrument known as the trephine, is employed to remove a portion of the bone. In tracing back the antiquity of trepanning we find that it was performed frequently about 10,000 years ago in Neolithic times, especially in western Europe and in Bohemia. Evidences of trepanning in relatively early times have also been found in Bolivia, Peru, and North and Central America. There is no evidence of the operation being performed by either the Hindus or the Chinese, or among the Greeks and the Romans. A single doubtful example is known from Egypt. Some trepanned skulls have been discovered in Gaul, belonging to an epoch corresponding to that of Roman civilization. The contemporary hill tribes of Daghestan, the natives of Tahiti, the Polynesians and Loyalty Islanders, the Kabyle tribes, Montenegrins, and the Aymara Indians in Bolivia, and probably dwellers in the highlands of Peru, still perform this operation, and thus express their belief in its efficacy.

The operation is often performed, following a depressed skull fracture, by means of a sharp knife, piece of glass, or sharp-edged stone. The trephine hole is usually located on the upper and posterior part of the parietal bone. The section of bone thus removed, highly prized by prehistoric peoples, was worn as an amulet in a necklace. Many of the skulls show evidence of more than one operation, and as many as four have been seen. The openings are often large and crudely made, and the operation, fatal in a very high percentage of cases, must have been excruciatingly painful.

Some authorities believe that prehistoric surgical trephining was performed for the relief of certain internal maladies, such as to rid the individual of a "demon" blamed for causing dreaded symptoms.

Trephining is performed as one of the standard operations in modern surgery.