animal husbandry. The third section, of technical sciences, handles problems pertaining to transportation, communications, civil engineering, colonial equipment, implements and mine exploitation.

PLANT EXPLORATION IN MADAGASCAR

DR. CHARLES F. SWINGLE, botanist of the Bureau of Plant Industry, recently returned to Washington from a plant-exploration expedition to Madagascar, bringing back a mass of plant material which the bureau hopes will prove to contain a number of useful and valuable additions to the ornamental and economic plant life of the United States. Dr. Swingle was accompanied on the expedition by Professor Henri Humbert, professor of botany in the University of Algiers, North Africa, an authority on the plant life of Madagascar. As far as there is record, Dr. Swingle is the first American botanist to visit Madagascar, an island, nearly a thousand miles long, a possession of France, lying in the Tropic and Temperate Zones of the Southern Hemisphere in the Indian Ocean off the southeast coast of Africa.

The material brought back by Dr. Swingle, consisting mainly of live plants and seeds, will be tested for adaptation in the United States, but of course it may be many years before the value of it all is known.

Numerous ornamental plants—shrubs, vines and trees—some of which are unidentified, were in the collection. Of these, 12 species of Kalanchoe seem to be the most promising, especially in the southern states. Other promising ornamentals collected are a number of specimens of elephant's foot, several aloes and a striking and rare hibiscus-like plant.

In the collection are 23 lots of plants which seem to have some value as potential sources of rubber. Ten of these are now being commercially exploited for rubber in Madagascar. Some of them have been introduced previously into the United States and are now being tested in the department's experiment garden in southern Florida, but undoubtedly several are entirely new to the United States. The southern part of Madagascar, which lies just outside the Tropics in the South Temperate Zone, is like parts of our own southwest in many respects and the bureau hopes that some of these new rubber plants may be adapted there.

Apparently the real prize of the expedition consists of live specimens of *Euphorbia Intisy,* an almost extinct species of rubber-yielding plant. Twenty-five years ago the rubber from this plant was highly prized in France for making automobile tires. But the high value of this rubber spelled the doom of the species as a commercial one, at least for the time, for the natives collected the rubber so ruthlessly that even most botanists acquainted with Madagascar feared the species had become entirely extinct. The Humbert-Swingle expedition found some of these plants growing in an arid region, subjected yearly to six months without rain and sometimes to drought lasting as many years. This plant, which is almost leafless, is able to withstand these extremely arid conditions by having a water-storing root system of unique type.

Before leaving Madagascar with the collection, much of which was obtained near Fort Dauphin on the southeast coast, Dr. Swingle left a duplicate set of the living plants at Tananarivo, the capital, in the east-central interior, as a sort of "nest egg" to provide replacements in case of losses or injury to the collection during its long journey to the United States. Another duplicate set was sent to the University of Algiers, which cooperated in the expedition.

Dr. Swingle's trip was made possible through the cooperation of the Bureau of Plant Industry with the Arnold Arboretum, of Boston, with the University of Algiers, and by the friendly interest and numerous courtesies of the French and Madagascar governments.

A PROPOSED NATIONAL MONUMENT IN THE BAD LANDS OF SOUTH DAKOTA

THIS proposed national monument, which embraces a great part of the most scenic and interesting section of the South Dakota Bad Lands, is to be established by presidential proclamation, when certain requirements provided in a bill (S. 4385), upon which the House Committee on Public Lands has voted a favorable report after amending the measure as it came from the senate, have been met.

The total area proposed to be set aside in the substitute measure comprises approximately 50,760 acres (a reduction of 18,360 acres from the area proposed in the original bill), of which approximately 3,760 acres are privately owned.

The boundaries of the monument are fully set out in the bill, in which provision is made for its administration, protection and promotion under the National Park Service act.

The following are the conditions which must be met before the proposed act shall become effective:

1. A quantum of the privately owned lands within the proposed area, satisfactory to the Secretary of the Interior, must be acquired and transferred to the United States for monument purposes without cost to the government; and

2. Construction by the State of South Dakota, in a manner satisfactory to the Secretary of the Interior, of approximately 30 miles of highway, same to extend from