On June 15, 1953, The Slovak National Council passed an important act decreeing the foundation of the Slovak Academy of Sciences (SAV). In the current year, the institution celebrates its 30th anniversary. It is impossible to enumerate and evaluate all results achieved by the Slovak Academy of Sciences in the field of botany in this short contribution and therefore this account will have to be limited to the most important ones.

The institutes of the Slovak Academy of Sciences that participate in investigation of the vegetation of Slovakia in the widest sense of the word are organized in the Centre for Biological-Ecological Sciences of the Slovak Academy of Sciences. The Centre was set up by the Presidium of the Slovak Academy of Sciences on January 1, 1980. Its concern is a complex, fundamental research on environmental problems in the field of the formation and the protection of the biological component of the plant environment. The institutes of the Slovak Academy of Sciences (SAV) belonging to this Centre are these:

- Institute of Experimental Biology and Ecology SAV
- Institute of Dendrobiology SAV - Arboretum Mlyňany
- Institute of Experimental Phytopathology and Entomology SAV

The most important successes achieved in botany are a incomplete survey of the vegetation of Slovakia to be published in the comprehensive multivolume monograph “Flora Slovenska” (Flora of Slovakia). So far, three volumes have been published. The monograph is concerned with important plant communities in various parts of Slovakia with special emphasis on the impact of human activities and subsequent changes in the vegetation structure. Of considerable importance is the Geobotanical map of Slovakia which provides a perfect basis for correct decisions to be made on appropriate agricultural measures for their introduction into forestry and agricultural practice, and for the protection of the environment of man in connection with new technical constructions set up in the landscape. Another map (1 : 500 000) was published on the potential vegetation.

In the field of ecology, both theoretical and methodical problems concerned with the biological planning of the landscape were solved on the basis of analysis.
and synthesis of the ecological conditions of the landscape. Research work on urbanistic problems is under way. Important results were achieved within the framework of the International Biological Programme (IBP) and its continuation Man and Biosphere (MAB), in studies on the productivity of ecosystems. Similarly important results were obtained in an investigation of bioindicators of ecological processes and the influence of emissions, mainly sulphur dioxide and other industrial exhalates, on plant organisms.

Good results in the field of plant physiology were achieved in an investigation of the root system of plants, the metabolism of substances and the resistance of roots to drought and cold. Attention was paid to physiological changes in diseased plants particularly to *Erysiphe graminis* and its influence on the physiology of cereals, and to studies of the factors responsible for the death of apricot and peach trees. The results provided an understanding of physiological characteristics of the pathogenetic process and its influence both on resistant and on susceptible plants.

Institute of Dendrobiology SAV — Arborétum Mlyňany

The Arboretum originated in 1892. After the foundation of the Slovak Academy of Sciences, in 1953, the Arboretum, until then managed by the Faculty of Natural Sciences of Comenian University, was assigned to the SAV, and in 1967 given the name “Arborétum Mlyňany”. It consists of a section for systematics and the ecology of trees and shrubs, and a section for their physiology and genetics.

Research work developed on the basis of a rich material of introduced plants and their growth under conditions in Slovakia. Other problems considered were those of the protection and the formation of the environment with regard to the requirements of forestry management.

Studies were made of the properties of the species and their relation to the environment; new tree species were introduced. A complex investigation was made of the distribution, biology and ecology of foreign and several native tree species in Slovakia. The knowledge gained from these studies was used in a comprehensive treatment of the cultured dendroflora, and in drawing up a list of climatically suitable localities for their culture. A comprehensive study was made of the sweet chestnut (*Castanea sativa*) owing to its economic importance with regard to its production of both fruit and wood. At present, the tree is planted in orchards in order to make use of less productive agricultural areas. Studies on the fructification process of the Tulip tree (*Liriodendron tulipifera*) resulted in an increased production of high-quality seeds. A new method was designed for the reproduction of evergreen oak in the field. An evaluation was made of the incidence of fungal diseases of *Castanea sativa* in Slovakia and the effect of insect pests on selected, economically important foreign trees. Research work was intensified on the physiology and genetics of trees, and on the ecological physiology of evergreenness, the longevity of leaves and their seasonal metabolism. The studies provided for a better theoretical understanding of these problems and made possible a prognosis of the resistance of the relevant species to conditions of their new environment. New knowledge, both theoretical and practical, was obtained about inhibiting and stimulating influences on dormant and germinating seed which, in several