

Scientific activities of the Institute of Botany

The Institute carries out basic botanical research on vegetation at the organism, population, community and ecosystem levels. This research covers various botanical disciplines: taxonomy, biosystematics and evolutionary biology of higher and lower plants (fungi and lichens), including projects Flora of the Czech Republic, Distribution Atlas of the Czech Flora and cooperating in the production of European floras; karyology, plant ecology (including population biology, study of meadow systems, root ecology, comparative and production ecology, synecology and ecophysiology, vegetation dynamics, mapping of epiphytic lichens and the effects of industrial pollution), mycorrhizal symbioses, palynology, phycology (the study of cyanobacteria and the ecology and ecotoxicology of their development, and the function of individual algal groups at sites subject to extreme conditions), dendrochronology, palaeoecology, phytogeography (including development, classification and mapping of vegetation) and geobotany (coordinating Czech efforts in the European-wide synthesis of plant communities, Vegetation map of Europe, and mapping potential natural vegetation of the CR). Currently, our research is mainly on biodiversity and evolutionary trends among plants, the invasive behaviour of species, responses of plants and vegetation to environmental changes and the co-existence of various species.

Most of the Institute is located at Průhonice, including Administration, Park Maintenance, a library, herbarium PRA, experimental gardens, and the office of the editor of Folia Geobotanica. Another four scientific departments and associated facilities are located in Třeboň and Brno. Two research centers are currently active in the Institute: Centre for Bioindication and Revitalization and Centre for Biodiversity.

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Scientific Departments

Průhonice: Department of Taxonomy, Department of Plant Population Ecology, Department of Genetic Ecology, Department of Invasion Ecology, Department of Mycorrhizal Symbiosis, Laboratory of GIS and Remote Sensing, Laboratory of Flow Cytometry

Třeboň: Centre for Algology, Department of Functional Ecology

Brno: Department of Experimental Phycology and Ecotoxicology, Department of Vegetation Ecology

Laboratories and Experimental Gardens

In the grounds of the Institute there are experimental gardens, specialized laboratories: DNA analysis, isozyme analysis, flow cytometry, optical and image analysis, three laboratories for soil sample, water and plant biomass analyses, and a palaeoecological laboratory, and two field stations (Kvilda and Lužnice).

Collections and Databases

The compilation of extensive databases and research collections of preserved and live plant specimens is an integral part of our research. This material is important for comparative studies, the selection of suitable experimental taxa and the formulation of hypotheses. The Chotobuz Botanical garden covers more than 20 hectares and maintains extensive collections of *Iris*, *Hemerocallis*, *Paeonia*, *Rosa*, *Nymphaea* and *Rhododendron*.

A walk through the Průhonice Park

Another part of the Institute is the park at Průhonice with its extensive collections of native and introduced plants all in the care of Park Maintenance.

