Проучване на избрани семейства от разред Polypodiales
(клас Polypodiopsida) в българската флора

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STUDY OF SELECTED FAMILIES FROM THE ORDER POLYPODIALES (CLASS POLYPODIOPSIDA) IN THE BULGARIAN FLORA

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(Summary)

Bulgaria is a country which despite its small area offers a rich array of ecological conditions and, respectively, considerable diversity of its flora. More than 4060 plant species belonging to 921 genera are distributed in Bulgaria. Regardless this richness, however, some plant groups are poorly represented. This is the case with the pteridological flora which is relatively poor, though sometimes widely distributed. Most probably this explains the fact that although an important element of the Bulgarian flora, ferns are often overlooked in floristic collections.

The latest taxonomic study of ferns and lycopods was published in Flora of the People's Republic of Bulgaria in 1963. Since then, ferns have been included in several guides and local floras, or were only occasionally mentioned in floristic reports. Few articles treated one or more ferns species. In addition, the data presented in the old taxonomic sources are incomplete, out of date and do not reflect the actual chorology of ferns in this country. Data of biosystematic studies are lacking. Furthermore, there have been some important nomenclature changes in the taxonomic schemes in recent years.

The main goal of the present Thesis is to reveal the diversity of taxa in the families Dryopteridaceae, Athyriaceae and Cystopteridaceae in the Bulgarian flora, their taxonomic status, distribution and ecological characteristics. The main tasks are related to the field work and collection of herbarium materials and living plants for updated taxonomic treatment of the representatives of the three families; study of the collections in the Bulgarian and some foreign herbaria; studies on the morphology, chorology, vertical distribution, ecology, cytology (chromosome numbers, ploidy levels), outlining of the main evolutionary mechanisms in these genera; compilation of determining keys for the genera and species in the Bulgarian flora.

The main achievements could be summarized as follows:

Taxonomy. The taxonomic diversity of five genera (*Cystopteris, Gymnocarpium, Athyrium, Dryopteris, Polystichum*) from the three families was studied. A total of 16 species and 3 hybrids occur in Bulgaria. Genus *Dryopteris* is represented by six species and one hybrid, genus *Polystichum* – by four species and two hybrids, while *Cystopteris*, *Gymnocarpium* and *Athyrium* are represented by 2 species each. One species (*Polystichum braunii*) and two natural hybrids (*Dryopteris ×ambroseae* and *Polystichum ×bicknellii*) are new to the Bulgarian flora. Updated determination keys for the genera and for the species of each genus are presented. Detailed morphological descriptions of all Bulgarian taxa were prepared, based mainly on my own data.

Ecology and distribution. The ecological requirements of the studied taxa were clarified. For the first time an analysis of the horizontal distribution of target taxa in Bulgaria was made. The richest in species regions were established. New floristic distribution areas were identified for 17 taxa. The available information on the vertical distribution was updated and corrected.

Cytogenetics. The chromosome numbers and ploidy levels of 15 taxa were established for the first time in Bulgarian material. The previous reports by foreign authors of the numbers of two species collected in Bulgaria (*A. filix-femina* and *D. villarii*) were confirmed. Six of the taxa studied are diploids, four – triploids (3 hybrids and 1 apomict species), six – tetraploids, and one – hexaploid.

Spore analysis. A light microscope study of mature spores from all 19 taxa, as well as additional SEM study of *D. filix-mas* and *D. borreri* spores were performed for the first time in Bulgaria.

Conservation status. Assessments were made according to the IUCN Criteria for the species *A. distentifolium* and *D. villarii* in connection with the publication of the Red List of Bulgarian vascular plants.