From Herbarium Sheet to Digital Record: Digitization of the Herbarium Collection of the Family Fabaceae at the Department of Biology (Osijek)

Od herbarijskog lista do digitalnog zapisa: digitalizacija herbarijske zbirke porodice Fabaceae Odjela za biologiju (Osijek)

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Introduction

The development of digital collections is a key step in modern botany and botanical research, as it enables the long-term preservation of original herbarium material from physical deterioration, standardised recording of data on collection localities and dates, and rapid, easy access to data for scientific and professional communities. Digitised collections are used for taxonomic revisions, monitoring changes in species distributions over time, including the spread of invasive species and the loss of threatened species, developing floristic databases, networking with international platforms, and for educational purposes as reference material for species identification and student training. The aim of this study is to present the results of the ongoing digitization of the herbarium collection of the Department of Biology in Osijek, with particular emphasis on the family Fabaceae, which is the most represented family in the collection.

Materials and Methods

The herbarium collection of the Department of Biology, J. J. Strossmayer University of Osijek, was analysed, where each herbarium specimen was photographed and entered into a digital database together with the corresponding data on locality, date of collection and collector. Nomenclature and taxonomic classification of the species were aligned with the Flora Croatica Database. For each taxon of the family Fabaceae the following data were recorded: genus, life form, conservation status (according to the Red Book of Vascular Flora of Croatia), invasive status, and medicinal and melliferous properties.

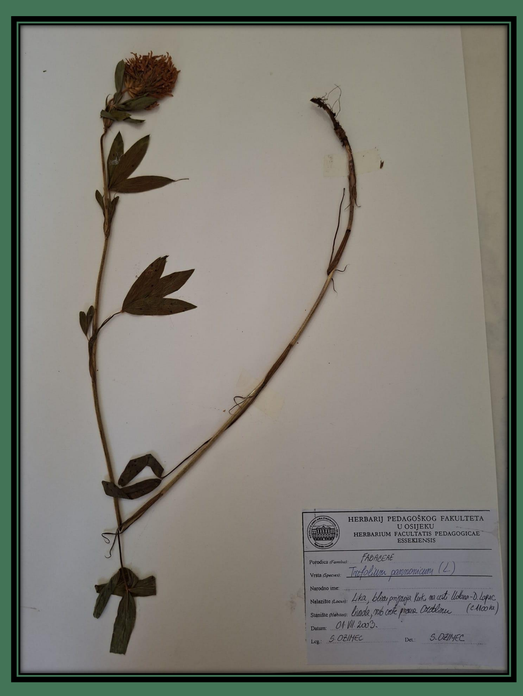


Figure 2. The species of the most representative genus *Trifolium pannonicum* L. (photo: M. Karapetrić)

Results

The herbarium collection of the Department of Biology processed to date comprises 1,036 taxa, represented by 1,361 herbarium specimens. In terms of the number of taxa, the most represented family in the collection is Fabaceae, with 55 taxa belonging to 29 genera (Figure 1).

The most represented genera are *Trifolium* (10 species) and *Lathyrus* (7 species) (Figure 2).

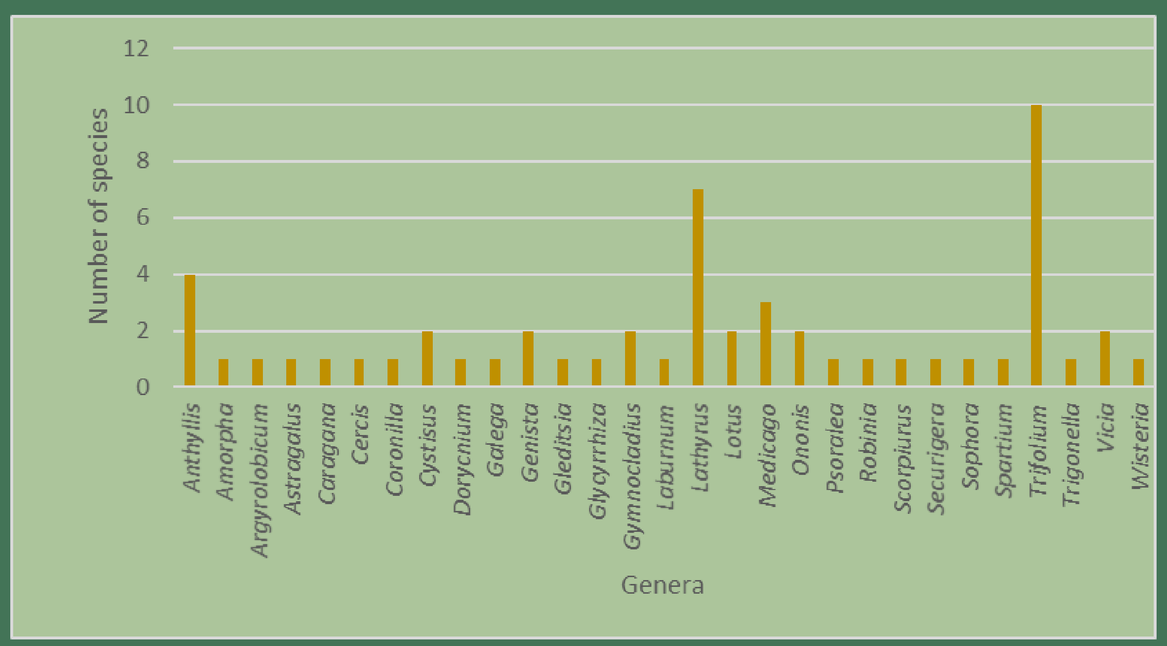


Figure 1. Number of genera and species in the family Fabaceae

Of the 55 Fabaceae taxa, 12 have medicinal properties and 15 are melliferous. Two invasive alien species were recorded: *Amorpha fruticosa* L. and *Robinia pseudoacacia* L.

The recorded life forms are predominantly therophytes (17 species) (Figure 3).

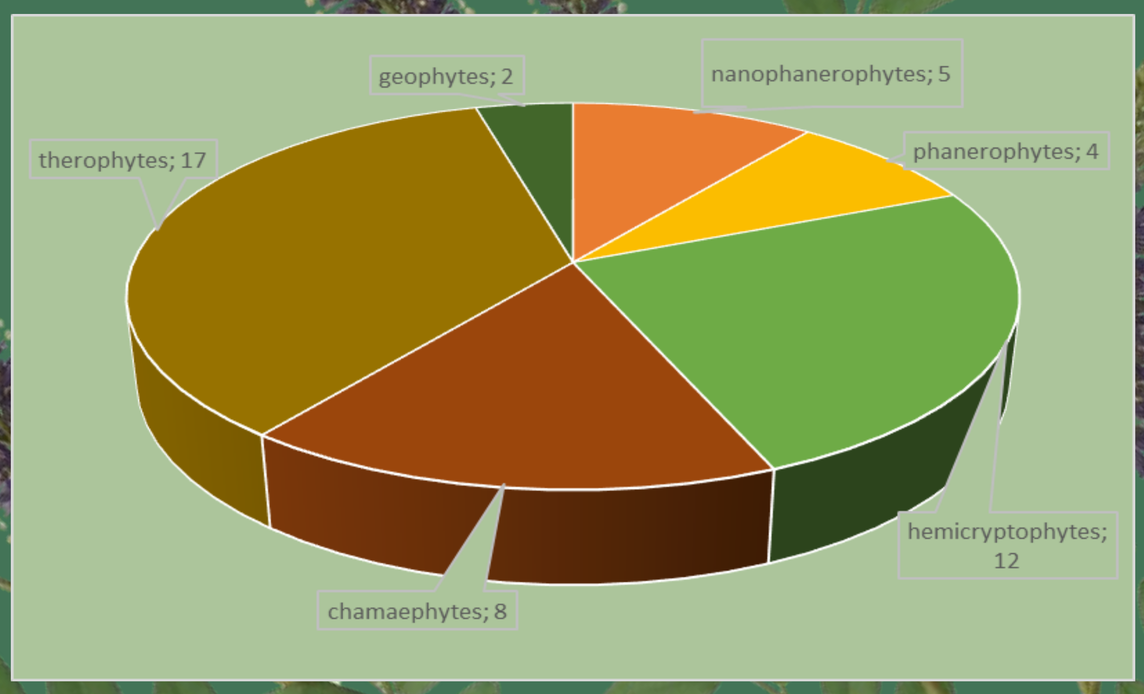


Figure 3. Presentation of life forms in the Fabaceae family

Conclusion

The results confirm the value of the herbarized material as a source of data on plant diversity in eastern Croatia and underline the importance of its systematic digitization. Further digitization of the collection represents a key step towards preserving herbarium material and establishing a foundation for future floristic, ecological, taxonomic and conservation research.