University of Kragujevac

Faculty of Science

Department of Biology and Ecology

Ex-situ biodiversity conservation of specific plant ecological groups on the Institute of Biology and Ecology, University of Kragujevac, Serbia

Lecturer: Nenad Zlatić

Department of Biology and Ecology

Department of Biology and Ecology

- Modernly equipped classrooms and
- laboratories for:
- basic and comparative physiology,
- biochemistry and molecular biology,
- genetics and animal development,
- systematics and anatomy of animals,
- microbiology and mycology,
- plant morphology, systematics and plant ecology,
- animal ecology,
- ecophysiology and ecotoxicology,
- plant physiology and
- hydrobiology.

BIOLOGY AND ECOLOGY – field and laboratory research

Botanical garden

Botanical garden

- Botanical Garden is an organizational unit of the Institute of Biology and Ecology of the Faculty of Science, University of Kragujevac
- It represents a scientific base in which research is conducted in the field of morphology, systematics, ecology, ethnobotany, phytogeography and the preservation of biodiversity in *In situ* and in *Ex situ* conditions.
- With its contents, it develops and strengthens the awareness of preservation and protection of the environment among visitors and students, promotes biodiversity - understanding its nature, but also the danger of its loss.

Botanical garden

Unity of botanical garden:

- Dendrarium and alpinetums
- Thematic collections
- Special collections

Botanical garden

Significance and role of the botanical garden:

- Preservation of the diversity
- Ex situ biodiversity protection
- Research in acclimatization and reproduction of species
- Development of ecological culture and public awareness of the preservation of biodiversity

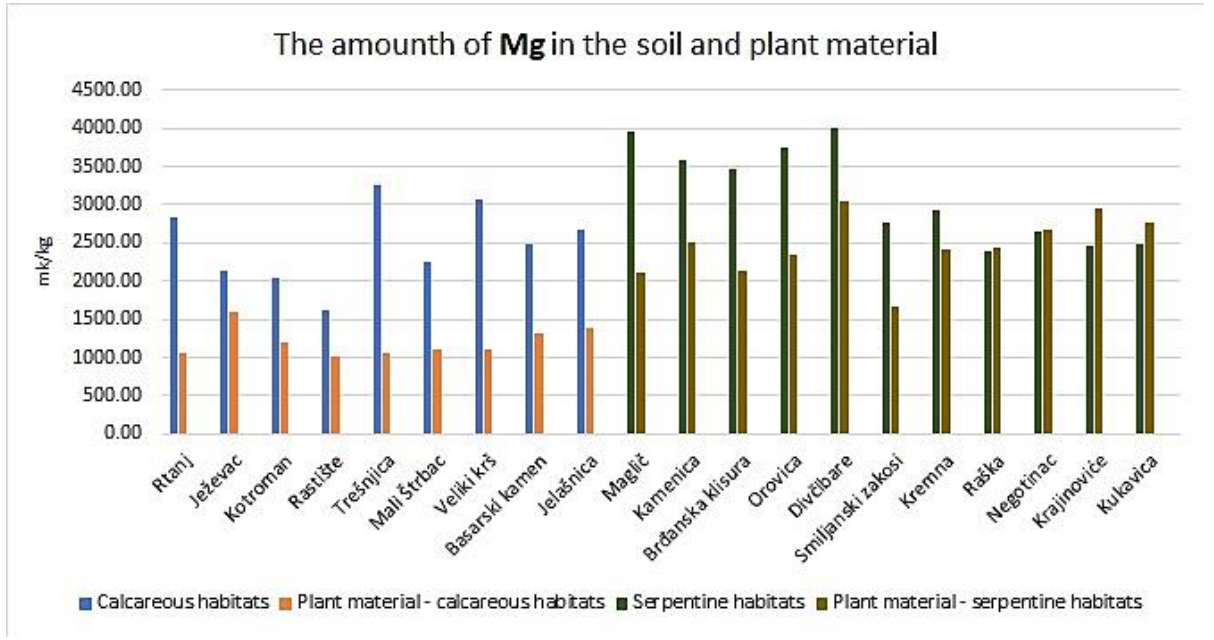
Metal content in arial parts of the species *Teucrium montanum* L. sampled from habitats with serpentine and calcareous substrate

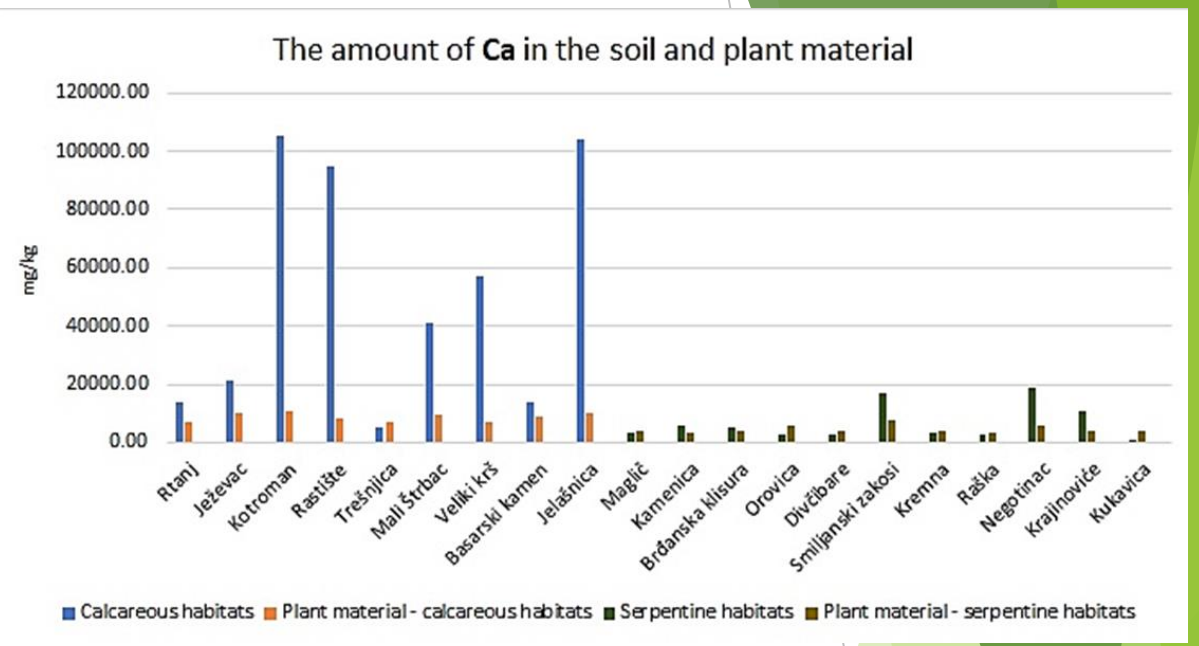
Species *Teucrium montanum* L. from different habitats

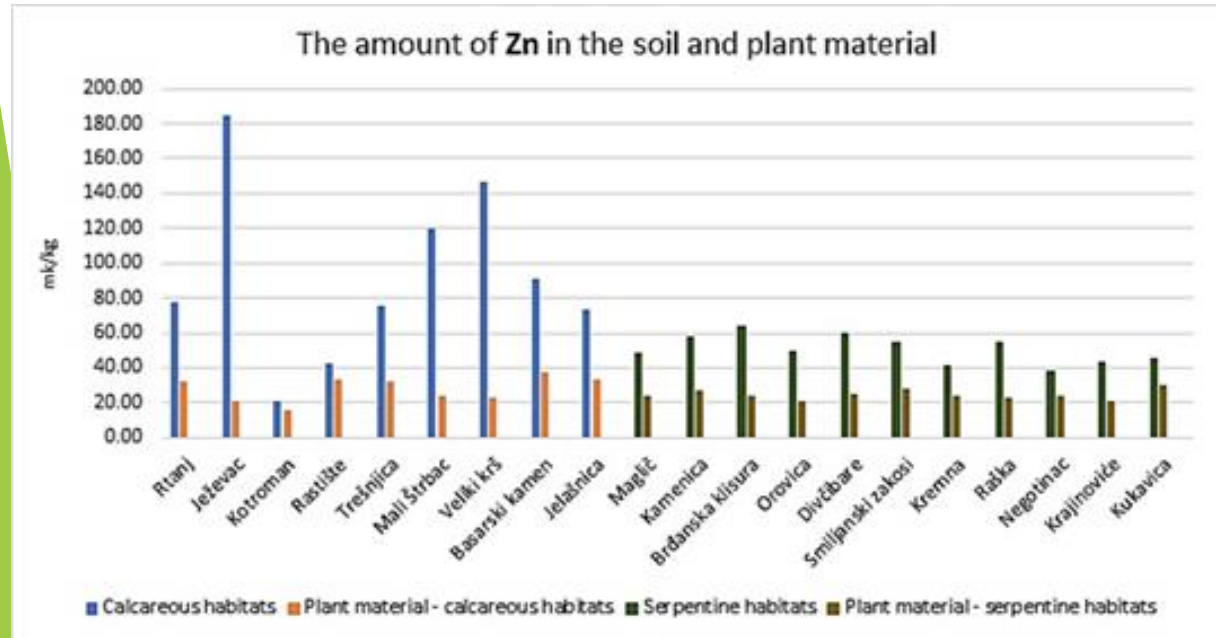
***Teucrium montanum* L.**
from serpentine habitats

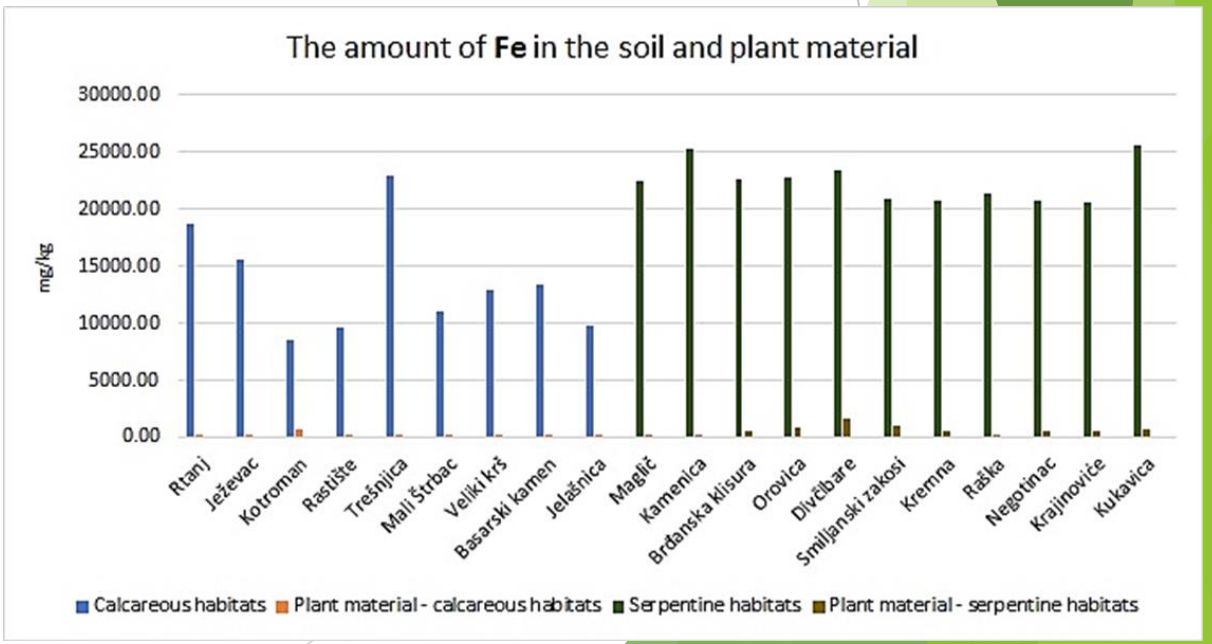
***Teucrium montanum* L.**
from calcareous habitats

Content of elements in soil and plant material

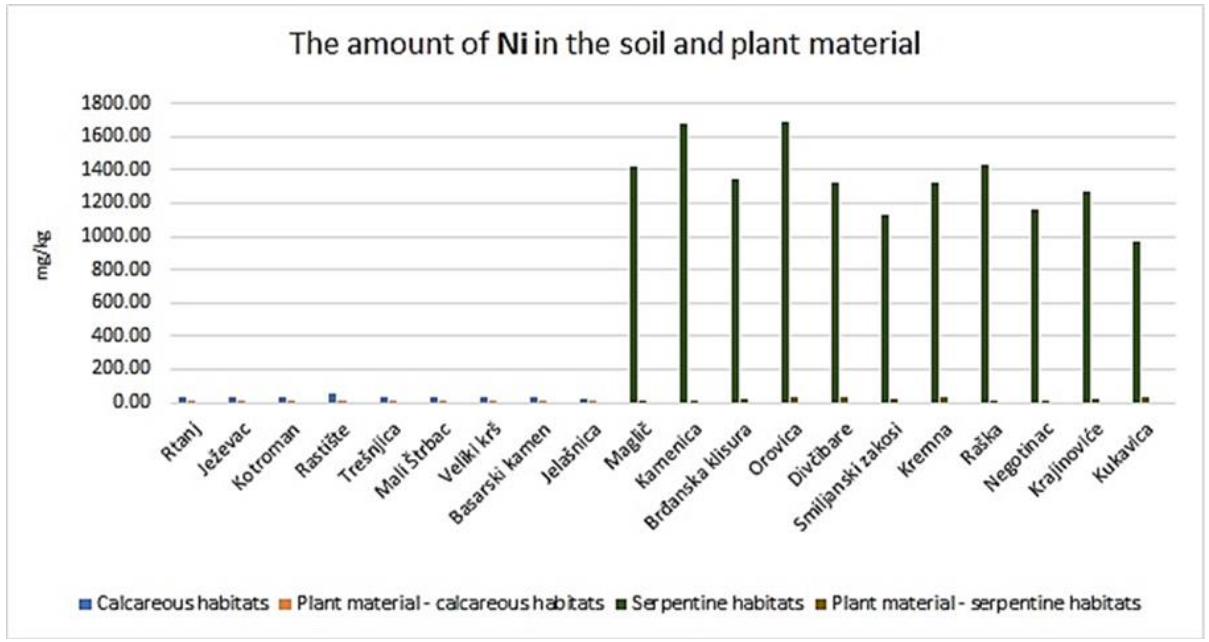


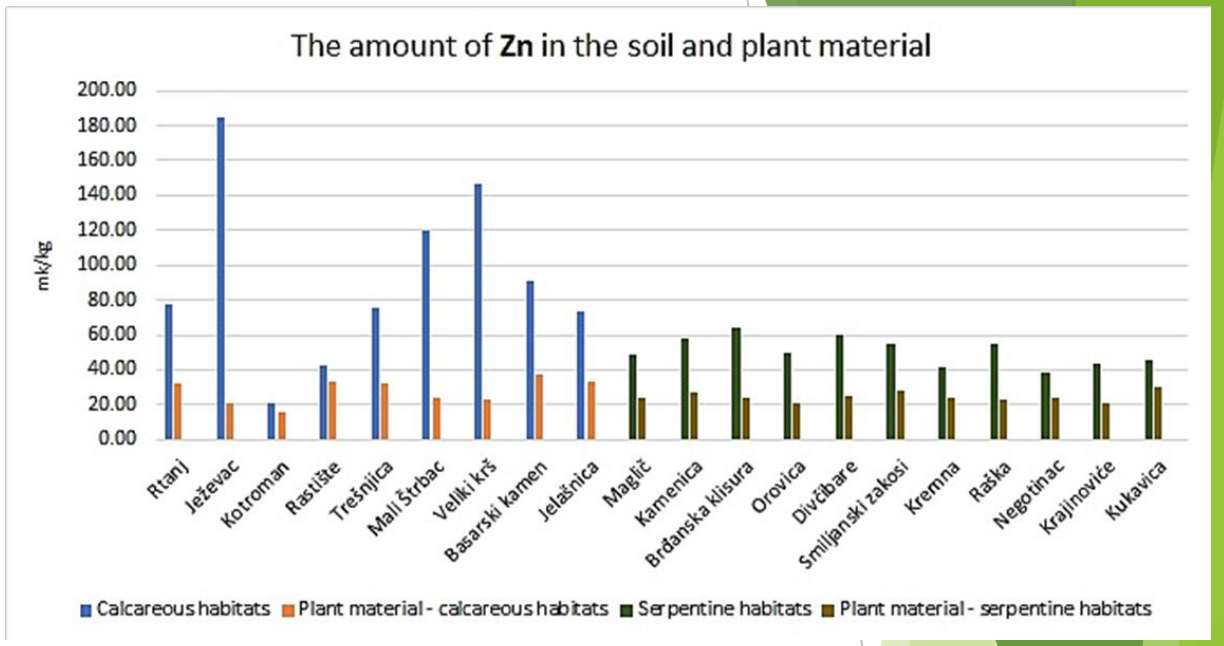


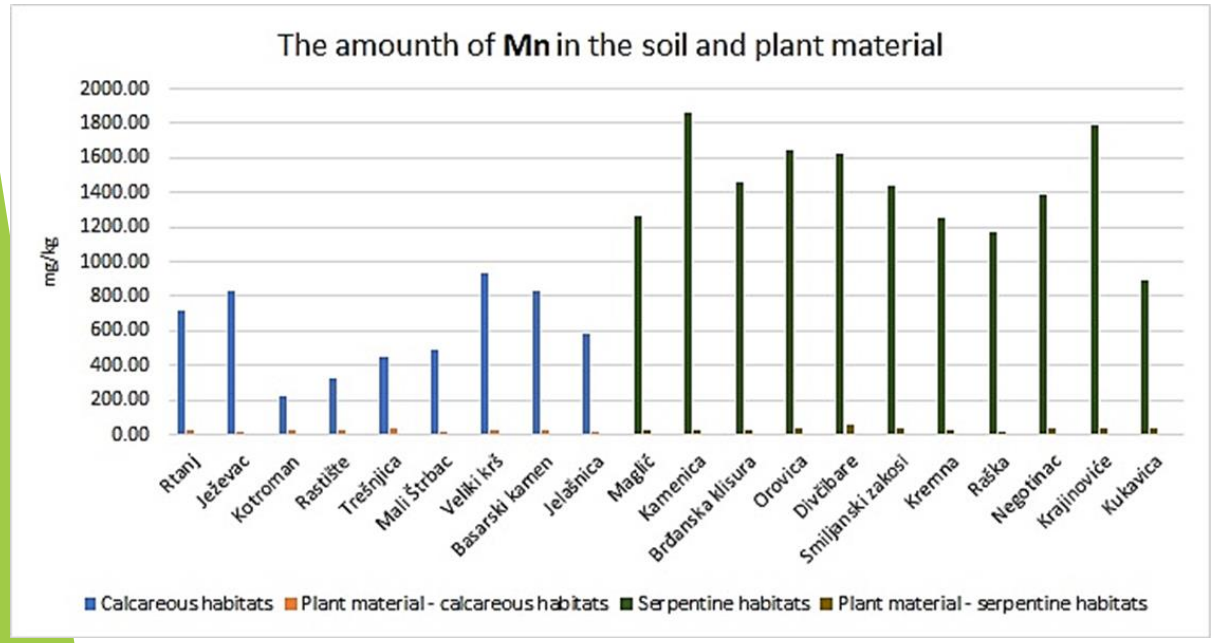


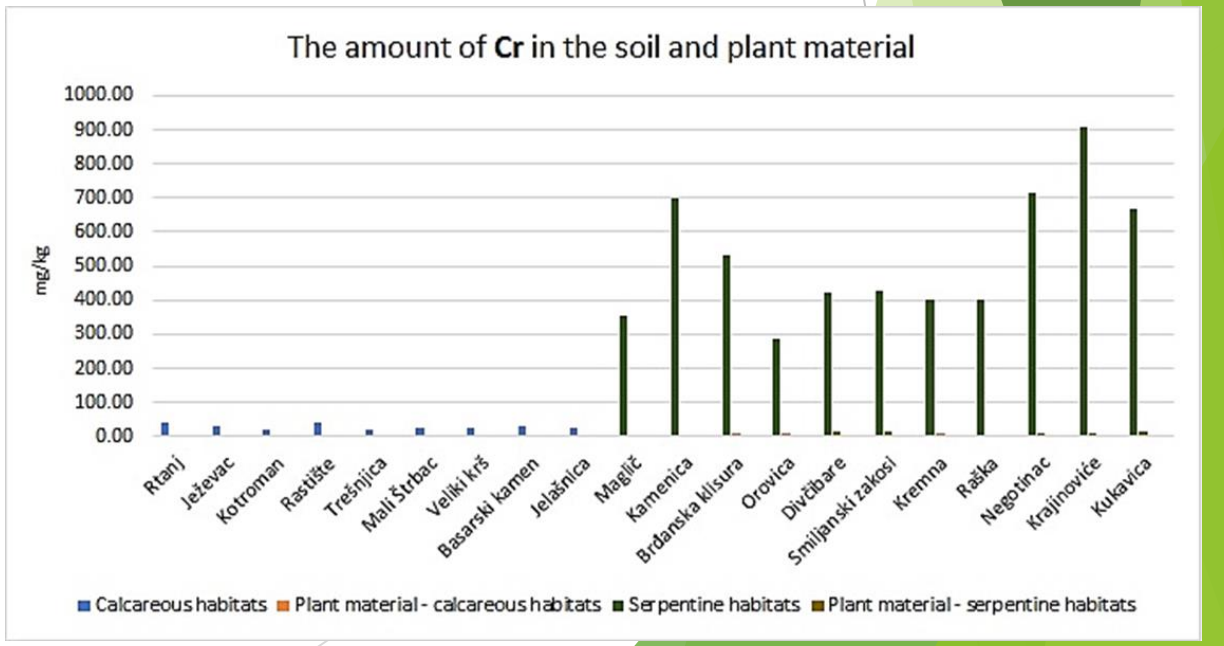


Content of elements in soil and plant material









- Serpentine soils are usually toxic to many plant taxa, which limits plant diversity compared to that on adjacent non-serpentine soils. The usually high concentrations of toxic metals in serpentine soils are considered to be the edaphic factors that cause low diversity and high endemism.
- Plant populations from serpentine habitats possess a higher content of heavy metals, like Mn, Ni, Cr, than calcareous one. Examined species *Teucrium montanum* can accumulate metals like (Cr, Fe, Ni).
- Selected plant species collected from naturally metalliferous (serpentine) soils should be avoided because of the increased concentration of heavy metals in plant tissues.
- Some plant species from serpentine habitats could be used for phytoremediation and phytoextraction.