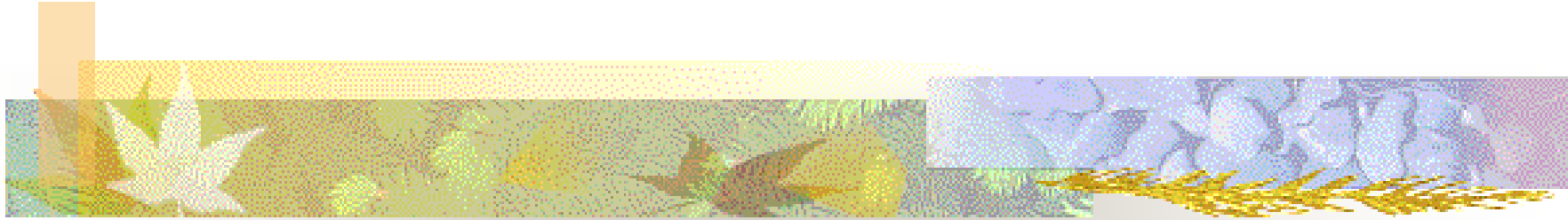


Proposed topics of master's and bachelor's theses



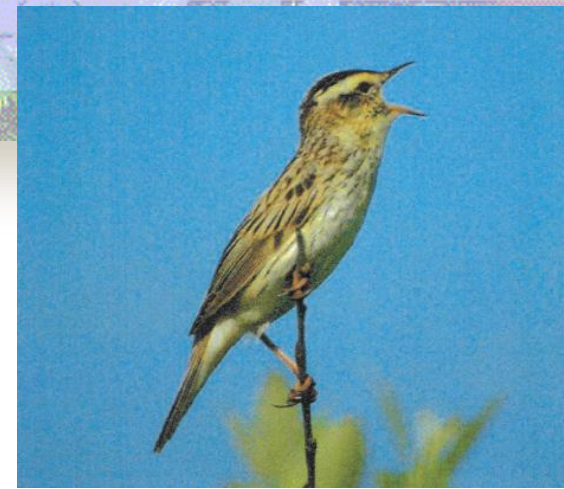
Department of Zoology and Nature Protection



Team

List of thesis supervisors:

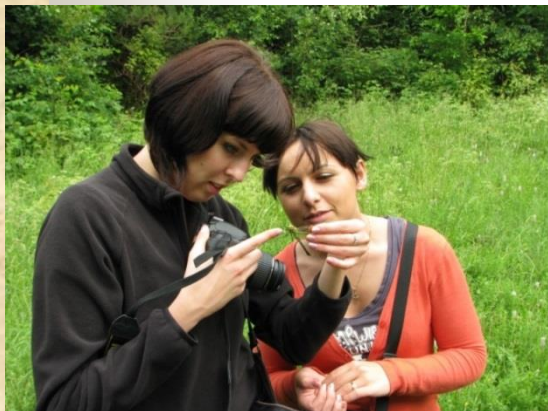
- dr hab. Paweł Buczyński, prof. UMCS (PB)
- dr hab. Rafał Gosik, prof. UMCS (RG)
- dr hab. Halina Kucharczyk, prof. UMCS (HK)
- dr hab. Marek Kucharczyk, prof. UMCS (MK)
- dr hab. Marcin Polak, prof. UMCS (MP)
- dr hab. Ewa Pietrykowska-Tudruj, prof. UMCS (EP)
- prof. dr hab. Bernard Staniec (head of the Department) (BS)
- dr hab. Jarosław Wiącek, prof. UMCS (JW)
- dr Rafał Krawczyk (RK)
- dr Grzegorz Karol Wagner (GW)



Biodiversity, with elements of zoogeography and ecology of insects, amphibians and reptiles (PB, BS, GW)

(field research or development of already collected material)

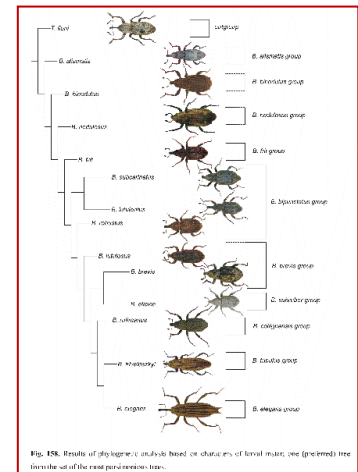
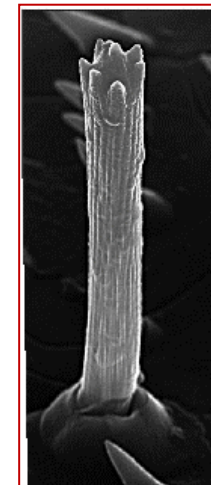
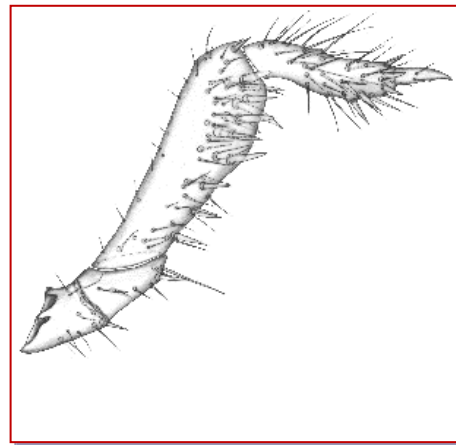
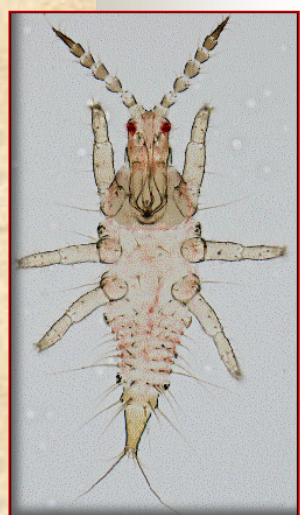
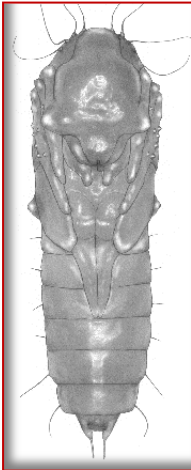
- Biological (species) diversity of selected protected areas.
- Selected issues in ecology of the above-mentioned animals.
- Valorization of protected areas.
- Monitoring of the environment, the occurrence of animals of economic and epidemiological importance and invasive species, analysis of threats.



Morphology of immature developmental stages of insects - insect taxonomy (HK, EP, BS, RG, GW)

(development of self-grown entomological material or from the Department's collections)

- External ultrastructures of early developmental stages of selected groups of insects, with particular emphasis on endangered species, model species in biotechnological or economically significant research.
- Diagnostic and phylogenetic features of preimaginal stages, their application in the construction of phylogenetic trees and verification of systematics.

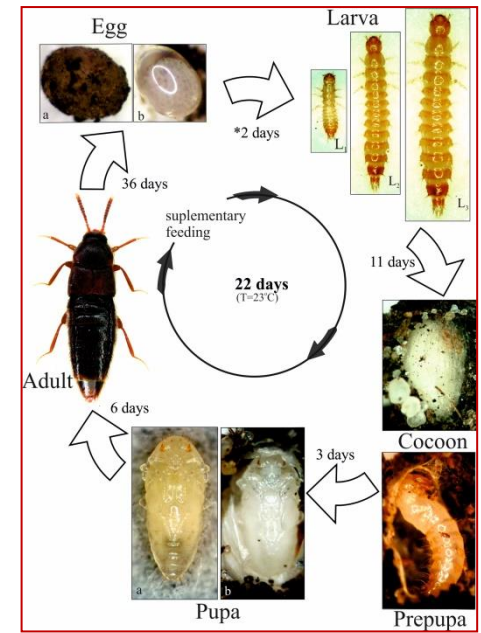
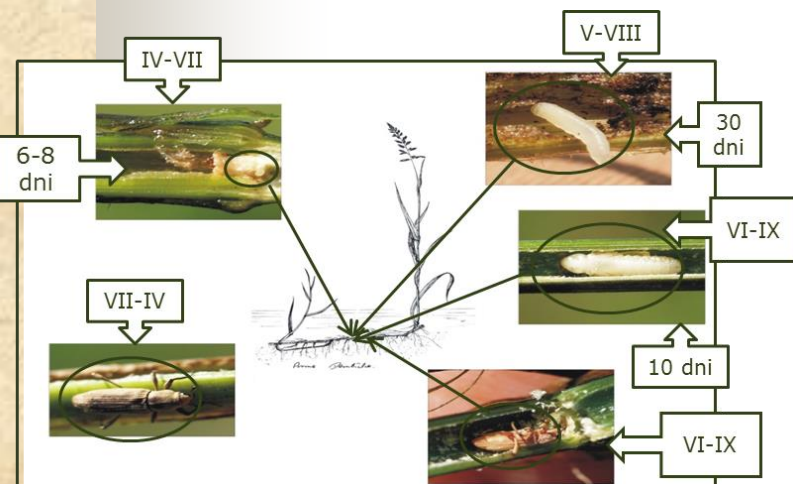


Biology of insects (HK, EP, BS, RG, GW)

(Laboratory insect breeding conducted by the student)

Life history, phenology, fertility, trophism, behavior and environmental preferences of selected insect species, including myremecophilic, necrophilic, endangered, and important for economic and/or epidemiological importance.

Development of selected insect species, including model species in scientific research.



Ecology and environmental threats and their impact on living organisms (MK, MP, JW, RK)

- Behavioral ecology and relationships between bird species.
- Invasive species - distribution, ecology, impact on ecosystems, threats to humans.
- Natural values and forms of nature protection of selected regions / areas of Poland.

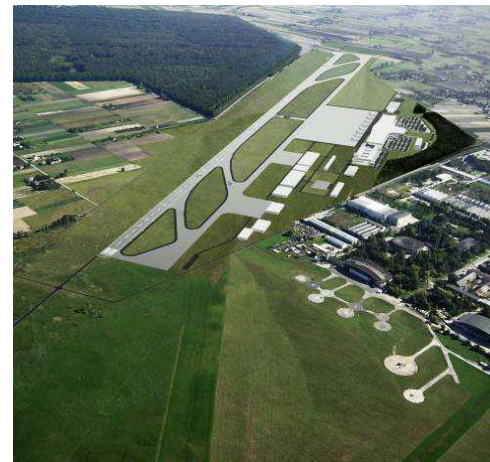


Noise as an environmental factor (JW, MP)



- ❑ The impact of road, rail and air noise on the populations of forest birds and the agricultural landscape.

- field research and / or results elaboration



Monitoring of owls on selected areas (JW)



Migration strategies of Passeriformes during autumn migration (MP)

- ❑ Biometric diversity of birds during the autumn migration.



Plant species protection (MK, RK)



- ❑ Distribution and ecology of *Primula vulgaris*, *Cypripedium calceolus*, *Veratrum nigrum* and many others.

- field and / or laboratory study

Entomological Section and Ornithological Section of the Students' Scientific Association of Biologists

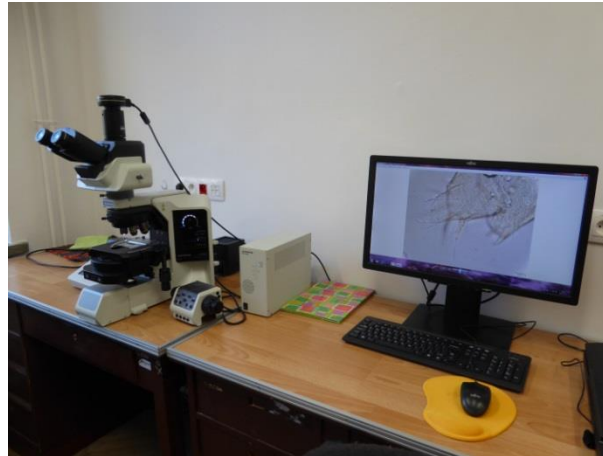
- ❑ Field research of insects during the summer research camps of students, conducted under the supervision of the Department's research staff.
- ❑ Elaboration of the results of field research on the Vistula island in Kaliszany - research camp in Kaliszany, aimed at ringing migrating birds.



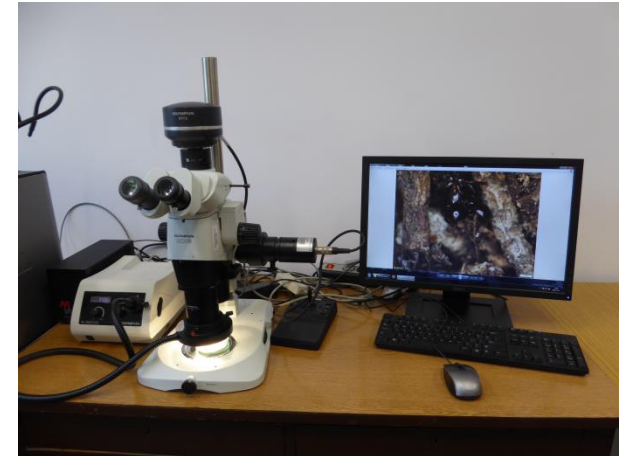
Optical equipment used in our research



Scanning microscope



Light microscope



Stereoscopic microscope



Standard stereoscopic
microscopes



Breeding chambers



Tullgren funnel

Examples of bachelor's theses topics

- Bird reproductive systems (JW)
- Contamination with petroleum compounds in water ecosystems (RK)
- Agricultural landscape bird numbers during the breeding season in the Lublin Upland (MP)
- The state of the population, ecology and selected diseases of the crane (*Grus grus*) (MP)
- Selected invasive species and their impact on the environment (HK)
- The importance of necrophagic and necrophilic insects in forensics (BS)
- Selected aspects of the impact of anthropogenic climate changes on living organisms (RK)
- Mimicry and mimetism in the world of insects (GW)
- Poisonous plants and fungi found in Poland (RK)
- Selected diseases of the honey bee (*Apis mellifera* L.) (GW)
- Viral zoonoses in medicine (EP)



Examples of master's thesis topics

- The use of nesting boxes for birds on the research plot located in the beech forest of the forest complex in Polichno (JW)
- Use of nesting boxes for birds on sampling plots located in the beech forest complex in Polichno (JW)
- Intra-species variability of human *Homo sapiens* in biological terms (MP)
- Thrips (Thysanoptera) from selected meadow, forest and shrub communities of the Słowiński National Park (HK)
- The morphology of the pupae of selected species *Xantholinus* Dejean and *Lithocharis* Dejean and notes on biology (EP)
- Dragonflies (Odonata) and water beetles (Coleoptera) of the western part of the Karkonosze (PB)
- Taxonomic diversity of insects inhabiting dead wood collected in the manor park in Krępiec near Świdnik (BS)

**We invite you to
our Department**

