

PUBLIC LECTURE EVALUATION

Masaryk University

Faculty	Faculty of Science
Procedure field	Zoology
Applicant	Doc. Mgr. Petr Bogusch, PhD.
Lecture date	October 9, 2025
Lecture topic	Wetlands as an important habitat of bees and wasps
Persons present (number)	80 (on site) + 4 (online)
Designated evaluators (board members)	prof. Mgr. Stanislav Pekár, PhD. (on-site) prof. RNDr. Oldřich Nedvěď, CSc. (online) doc. RNDr. Milan Veselý, PhD. (online)

In the beginning, the candidate emphasized that conservation of pollinating insects is currently one of the most studied and discussed entomological topics in Europe. Current projects focused on main pollinator groups – bees, hoverflies, and butterflies, showed that main knowledge gaps exist in the taxonomy and ecology of these groups. Bees and wasps usually reside in warm and dry habitats, with the highest diversity in warm and semiarid regions throughout the world. As in many other insect groups, there are exceptions; an ecologically very interesting group of species occurs in various wetland habitats.

Dr Bogusch's talk was further focused on one of the main research topics of his research group – wetland bees and wasps, their ecology and conservation. After a short introduction of bee and wasp phylogeny, classification, and ecology, his current projects on pollinators were introduced. He focused on the guild of bees and wasps nesting in empty reed galls: their ecology, occurrence in near-natural and postindustrial habitats, nest structure, parasites, and pollen/prey specialization.

The research covered description of the communities of bees, wasps but also of other groups of insects and spiders inhabiting old reed galls, their ecology, and population densities. Dr Bogusch compared the communities of species occurring in near-natural and postindustrial habitats, described the nest structure, and mature larvae/prepupae of main species of this group and some host-parasite associations. He also discussed the main conservation measures of reed beds based on his study results and methodologies of field surveys. They repeated the same study after ten years and found how the communities of bees and wasps nesting in reed galls changed especially in postindustrial habitats. He also highlighted several very interesting results of their study – discovery of a new type of progressive provision, host associations of several very rare parasitic Hymenoptera of the family Gasteruptionidae, and ecology of gall specialists, of which *Hylaeus pectoralis* can be used as an important bioindicator of well-preserved reed beds.

In the second part of his talk, Dr Bogusch moved towards insect conservation in reed beds. Mowing of edge parts of reed beds was not found to be beneficial for these species because the highest number of reed galls was found usually in the marginal parts of reed beds. The opposite is true for species nesting in reed stalks, which usually prefer mowed reed beds. His research also aimed on field wetlands and they found them extraordinarily species-rich and probably representing the diversity hotspots of bees and wasps in the landscape. Furthermore, they studied the nesting habits and cavity preferences of wetland species compared to bees and wasps occurring in steppe or sandy open habitats.

The commonest species nesting in reed galls – *Pemphredon fabricii* – was used by his research group as a model species and they measured its nesting success in habitats polluted by heavy metals or its susceptibility to frequently used pesticides in agriculture.

At the end of his talk, the main results were summarised and future research avenues were introduced.

A fruitful discussion followed, where attendees gave 15 questions, which were readily answered by the candidate. There were questions, such as: Why was the abundance of species different between two study years? Is grazing an effective measure for conservation of bees? What are the challenges in conservation of wasps? Why bees on the steppe habitats do not use reed for nests? Do *Merops* catch solitary bees? What is the most surprising finding, or the one you are most proud of? What makes your research unique?

Overall, the lecture was presented as an impressive story, with many details, however, some of them were presented superficially. All presented results were supported by Dr Bogusch's own discoveries, which also resulted in one patent. The candidate spoke with an enthusiasm showing that he is an expert in the topic. The audience found the lecture informative and attractive as the topic was of a broad interest.

Conclusion

The lecture delivered by Petr Bogusch, entitled "Wetlands as an important habitat of bees and wasps" and delivered as part of the professor appointment procedure, demonstrated sufficient scholarly qualifications and pedagogical capabilities expected of applicants participating in a professor appointment procedure in the field of Zoology.

The lecture took place on-site within the Zoological seminar at 1 PM. The above-mentioned members of the board attended the lecture and provided its evaluation. All designated evaluators are familiar with the text of the evaluation and agree with it.

Date: October 9th, 2025

Stanislav Pekár