

In Sruby, August 17, 2016

Review of Ph.D. thesis

I read carefully Ph.D. thesis of Pavel Šebek called *The effect of different management strategies on the dynamics of saproxylic insect habitats*.

The aim of his thesis was contribution to the knowledge about the role of traditional woodland habitats in supporting the biodiversity of SXs and their associates. Three papers as individual chapters cover studies on pollard trees, former coppice and solitary trees.

Two papers went through reviews in high IF journals (namely, PloS ONE and Forest Ecology and Management), thus, I have nothing to say. One is attached as a submitted manuscript and, from my point of view, appears to have at least the same publication potential as the previous two.

I just conclude that this is a high quality thesis. As Ph.D. is mainly a scientific degree, author showed that he has the full right to become a Doctor of Philosophy. I have no essential comments to his thesis. **I suggest admit Ph.D. title to Pavel Šebek.** I wish him good luck during the defense and I hope that I will read his new papers also in the future.


Jakub Horák

Questions for defense:

You dealt with quite a lot of taxa and said, namely in the title of your thesis, that you have studied dynamics of SX insect habitats. However, not all papers were primarily about SX habitats and not all of the taxa studied were SX. *Thus, what do you think about the positive response of other SX insect taxa (incl. marginal ones) to the so called traditional management ways that created dynamic SX habitats?*

Your thesis might have impact on present management strategies. *Please, let you say us something short, but crucial, about practical way how to implemented them.* Surely, you can use your own experience that can be felt from your papers (That is what I am interested the most.).

The last question is very hard, but the most important for the SX scientific community. *What is your plan toward future 2-3 years?*



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Fabrikschleichach, 10. September 2016
/mue

Review of the thesis by Pavel Sebek

The thesis by Pavel Sebek with the title "The effect of different management strategies on the dynamics of saproxylic insect habitats" focuses on the role of sunny exposed dead wood habitats including anthropogenic formed "veteran trees" by pollarding. This issue is a highly relevant topic considering the evidence that species related to sunny exposed dead wood habitats are more threatened than others in Central Europe.

The thesis comprises three chapters of which two are already published and a third which is currently almost accepted. All papers are published in good international journals. Therefore the requirements for a successful PhD thesis are fulfilled!

In the first chapter the role of pollarding trees on biodiversity and the development of hollows in pollarded has been investigated. This is an important contribution, because many conservationists do not have in mind the induction of premature senescence in their tool box!

The second paper investigates the role of gaps created in forests under different surrounding. Again the response of species composition was high, underlining the high impact of gaps to beta diversity of species in forests.

In the third paper solitary trees are compared with trees growing at forest edges and inside of forests. Again these sun exposed trees harbor a distinct fauna and provide important habitats for many threatened species. The only minor critique on this last study is the lack of a control in openings without a mature tree.

Throughout the thesis the candidate use a number of biodiversity measures ranging from species diversity to community composition. These methods are well applied. However, the candidate did not use the option with his nice data to get a deeper ecological understanding of the mechanisms behind the patterns observed in his data. Here some functional approaches or similar would have been nice to inform conservationist more about the observed patterns with many threatened species

in open habitats. Similarly the thesis seems a bit biased to the sunny habitats, keeping in mind that a number of highly threatened saproxylic prefer the shaded conditions (e.g. *Ceruchus chrysomelinus*). Nevertheless, I clearly recommend the thesis to be defended!

A handwritten signature in black ink, appearing to read 'Müller', written in a cursive style.

Prof. Dr. Jörg Müller