

**Review on Ph.D. thesis of Javier Rivas Salvador on the topic „Habitat specialisation as determinant of species response to the Global Change“**

The presented study includes sectioned Introduction and four manuscripts of which two have been already published in *Ecological Indicators* and two have been submitted to *Oikos* and *Global Ecology/Landscape Ecology* (?). Since the two studies have been already published, I will mainly focus on the resting parts of the thesis. In my opinion, the topic is valuable and recently fill the particular gap in our knowledge on changes of bird abundances. I have following comments and questions on the thesis:

1) Introduction – I found the text interesting with many relevant suggestions included. If I should have some comments, I would mention that some parts are under cited, e.g. page 5, 6 and 9. The introductory text further forms only half of the whole Introduction and the rest is description of attached manuscripts. However, I don't know, which policy is recommended at Charles University. Overall, I have good feeling from the text and I was broadly introduced to the topic. There are only several mistakes that are obvious for such texts.

2) Manuscript I – The study is based on detailed mapping dataset for European birds and brings interesting result that most of specialized species occupy quite extreme habitats in Europe. In discussion, I found some examples of specialized species that occupy the first hotspot in Scandinavia. Can the author also specify the second hotspot in steppe region north of Caucasus by some bird specialists? Alternatively, are some of these examples valid for both areas? It is further not clear to me, who performed statistical analyses (GLSs controlled for geographical position) that needed quite deep insight into statistical procedures. This question can be also applied for other studies, where the author's contribution is not mentioned.

3) Manuscript II – This study brings a positive information that species listed in Annex I in EU member states have increasing population trends compared with non EU member states. Further, the study shows that species with slow reproductive strategy and living on wetlands are less influenced by global changes. The authors explain this result by ability of these species to wait for more suitable conditions for reproduction and increased effort in wetland conservation. My question is how many species with such trends can be found for example in the Czech Republic and please, give me also some examples.

4) Manuscript III – I found the topic interesting, since invasive black locust represents a real potential problem in our nature. The results of the study confirmed my personal opinion that black locust woodlots are of different vegetation structure than natural woodlots. Especially, the absence of shrub layer was responsible for decrease of species richness. I have only few comments that can improve the manuscript. Especially, I would add some graphs that would show the relationships between the vegetation structure and bird species richness, and divided also for generalists and specialists. At this moment, the differences in vegetation structure between natural and black locust woodlots are clearly shown, but differences in avian communities are not easy to catch since the differences are shown in Tables of statistical models only. Similarly, it would be nice to show the relationships between the woodlot area and bird diversity for natural and black locust woodlots separately. Finally, I would like to know, densities of which specialist bird species were positively influenced by vegetation structure of black locust woodlots.

5) Manuscript IV – This study is probably the most impressive for me, since the authors show the differences between using geographical (overall) and ecological (only suitable habitats) density. Moreover, the authors tested the effect of various ecological traits on these densities controlled for phylogeny that is probably first time in the Czech Republic. Especially, I found interesting the result that habitat specialization was negatively correlated with geographical density, but did not correlate with ecological density. This result may change the view of traditional ornithologists on mapping procedures and I wish good luck with this manuscript. In the results, there are mentioned also particular correlations with other ecological traits. In my opinion, there is still space for more straightforward presentation of these results, especially in the Discussion. Particularly, I would shorten the text on additional or potential effects (e.g. the text on the effect of body mass).

Above mentioned comments were intended to improve the study. My overall opinion on the thesis is positive, since the author showed his ability to perform reasonable statistical analyses of gathered material and present his results in the light of already published studies. Therefore I fully recommend the presented study for defence. I also suggest that the study is suitable for obtaining the Ph.D. degree.

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doc. Mgr. Jan Riegert, Ph.D.