

Evaluation of Master's thesis of Karthik Thrikkadeeri on the topic „Habitat selection in post-breeding temperate forest birds“

The thesis deals with interesting and less frequently studied topic on bird community changes during the non-breeding period with regards to changing environmental conditions and within different habitats and feeding guilds. Gathered dataset covered a sufficient time (13 weeks) for further analyses that brought answers for the main proposed questions. The number of count-points was also sufficient ($n = 32$). In fact, the dataset was gathered by two persons, but the author brought most of data ($> 70\%$) that were further analysed. The gained dataset was much bigger than analysed dataset due to low probability of detection after radius 30 m. This seems reasonable, especially when considering low vocal activity of most of species during the non-breeding season. The thesis is quite well written with low frequency of typographical mistakes. I have following specific questions and comments:

- 1) Introduction – This chapter well introduce the reader to the study topic. Since the number of questions is quite wide, I had sometimes to read some parts twice to get the realistic view which part belongs to which aim. Since aims were not structured, this was quite difficult. For further publication, I would recommend shortening the Introduction and define aims more precisely. Minor point is for example that on page 5, second paragraph ends with incomplete sentence “Habitat features and quality” that probably may be a title of new chapter. Some references in brackets are not ordered according to year.
- 2) Methods – Field procedures are well described. The statistical analyses are sometimes difficult to follow. For example, author states that PCA was used for ordinations of species, but in graph 6 I can see also some explanatory variables. So, this seems that RDA (redundancy analysis) or CCA (canonical correspondence analysis) was used, but no P-values are presented (results of envfit function). For this analysis, I rather recommend using more suitable multivariate analysis removing biases caused by geographical variability (e.g. principal coordinate analysis for neighbour matrices, PCNM). Regarding the graph, there are some names of variables that cover each other and are not clearly visible. For the analysis on bird predation experiment, the author states that binomial response variable was used, but further I read that this variable was number of caterpillars attacked by birds. It would be also helpful to clearly state for each analysis what was a data unit, how many rows and which independent and random variables were included. This information I lack for some analyses. Lastly, in some models (e.g. Table 2), there is a random variable “day” that I did not find in description of analyses. Does it

refer to a Julian day? As I understood, this variable was used to avoid biases between the observers. Why do not include directly random variable “observer”?

3) Results – Multivariate analyses could be better presented. Only part of results that are visible from the graphs are noted. For example, I lack information on how much variability is explained by each axis or correlation coefficients of each forest variable with each ordination axis. There is also grouping variable habitat class (edge, interior and road) that’s effect or no effect is not mentioned. Further, there were chosen eight species to represent two feeding guilds and I lack the justification of this selection. Were these species also most common or other criteria has been applied? I also would like to see a summarizing table at the end of the thesis with abundances of each recorded species. This would allow the detailed view into bird community. It would be also nice to perform analysis for all species to see their connectivity with habitats.

4) The author explains the increase of bird detections in the autumn mainly by arriving winter migrants from the North. I agree with this explanation, but I suggest that this result may be also caused by presence of full-grown young birds from previous breeding season that often form large flocks before wintering or migration. However, I cannot more deeply expand this suggestion, since detailed data are not available from the thesis. Based on own experience from my study in Šumava Mts., I always record at the end of summer and beginning of autumn large flocks e.g. of *Fringilla coelebs*, *Carduelis carduelis*, *Carduelis spinus*, *Pyrrhula pyrrhula* or *Loxia curvirostra* and their increase in abundance is statistically significant. Therefore, can You show us some of species that is responsible for abundance autumn increase within Your study area?

Despite of my comments I highly appreciate the choice of the topic as well as the sufficient effort during the field work, complicated study design, amount of following statistical analyses and meaningful explanation of results. Therefore, my comments may be mainly used as inspiration for preparing a manuscript on this interesting topic. Thus, I fully recommend the thesis for the defence and I suggest evaluation “výborně” or “velmi dobře” based on the defence.

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doc. Mgr. Jan Riegert, Ph.D.