

The manuscript “Interaction network structure maximizes community-level plant reproduction success via niche complementarity” by Magrach et al. published as a pre-print on bioRxiv deals with pollinator community level effects on plant reproduction. The experimental effort and the data analysis are state of the art and beyond, however, some of the assumptions and interpretation of the results are not well thought about and are overemphasizing what could be interpreted from it.

The assumptions that are made are very clear, all plant species in the study rely to 100% on insect-mediated pollination. This is rarely the case. Most plant species show a mixture among the three most common plant reproduction mediating effects (self-, wind-, insect-mediated pollination). Even if a high number of plant species (approx. 75% are dependent on insect-mediated pollination) still are number of these species might be able to use self- (often a lower extent) and wind-pollination alongside with insect-mediated pollination. For me it is not understandable why this has not been considered, as taking into account the effects of wind-pollination might strengthen some of the results.

Most of the results can be explained by Model1 which incorporates individual-based metric like number of flower visitations. Thus, the title claiming that community structure is heavily important is just overemphasizing the results.

That pollinator species diversity is known to enhance delivery of pollination services. For me it is not understandable why this is again studied here without adding more information, e.g. why diversity is enhancing delivery of pollination services, which could be due to complementarity or redundancy in function of pollinator species. This would really add value when considering such ideas instead of studying species diversity over and over again.

Based on these two issues, I think the manuscript, although robust in all parts of the methodology and data analysis, should be critically revised incl. a change of the title.

Minor issues:

L117-121 capturing rare observations outside of the observation period

This needs some explanation and I suggest to even include some analysis in order to show that there is no effect induced by including such observations. However, my understanding is that plots are selected in order to study plant-pollinator interactions in reliable and replicable spatial areas using a time frame (here 30 min) that will allow to have comparable data. Although the field sites were exactly set-up to have comparability this is then weakened through adding additional “rare” observations. Usually we are interested in the major effects that occur in (eco)systems, then I would like to understand more clearly what the value of “rare” observations is and why they will improve my dataset and subsequently my analysis.

L227-230 how did you derive these thresholds of 0.25, 0.5, and 0.75? Could be nice to apply tools to derive such a threshold directly from the data (the distribution of the original data).

L262/263 ...1472 pollinator individuals belonging to 57 species of plants... there is something wrong some rewording is needed

L290-292 both models are equally good but model 2 is more complex and hence you decide to report data for this model only.

This for sure needs more explanation than what is given here. I think it is generally accepted to go for the simplest possible explanation which would be the less complex model. Also known as Occam's Razor.

L297-299 please when you mention such things then show the analysis (or at least link to it in some supplementary material)

L308-309 the negative relationship between equity and pollinator species diversity using a threshold of 0.75 what does it mean considering that the threshold is set arbitrarily? This is not really clear, needs explanation. See also my comment above about choosing these thresholds.