

Abstract: ... asymmetry has a contrasting effect on the stability of asymmetric metacommunities ... due to asymmetric transmission of perturbations caused by the asymmetric distribution of biomass ... Quite a lot of asymmetries here makes the message a bit buried and confusing as regards causes and consequences.

Page 2, lines 38-40: Though the cited models relied on neutral or competitive communities, there are classic models exploring unstable predator-prey dynamics in patches connected by dispersal, showing regional coexistence of both species provided prey are better dispersers than predators. So, the claim here is not entirely correct.

Page 2, lines 47-48 (also page 3, lines 75-76): ... did not identify the mechanisms underlying this asynchrony ... Isn't the asymmetry of interaction strength and the ensuing asymmetry of energy flow just the mechanism the authors call for? Isn't this exactly what the authors propose as the mechanism a few pages later and in the abstract? I admit I am a bit lost here in the arguments. Specifically, the whole page 3 is interwoven by the words "asymmetry" and "asynchrony" which needs quite an effort to decipher and imagine. I admit I have troubles to dig the mechanism also from the concluding paragraph on lines 209-214. Please consider rewriting this hard-to-read part of the text.

Model: please provide a justification for choosing  $d_1 = r = 0$ . Also, I consider assuming  $\gamma = \omega$  quite strange, could not the relationship between  $\gamma$  and  $\omega$  be motivated by some realistic examples e.g., from Rooney et al. (2006)?

Model: Also, you claim that the negative effect of predator on prey is captured by ' $m a$ '. This sounds like  $\epsilon$  and  $m$  determine different processes. But due to scaling,  $m$  affects all terms in the predator equation, including the positive effects of prey on predators " $\epsilon a$ ", so I view this claim as somewhat misleading.

Page 6, lines 125-126: The authors are right that the perturbation scaling in model (2) is akin to that of demographic stochasticity. But demographic stochasticity affects species much more at low abundances than at large ones. It is rather environmental stochasticity that has an even effect regardless of population abundance. Why the perturbation scaling in model (2) is chosen as it is? Does it follow from some first principles? Please provide some reasons for the selected form?

Another issue I have with both Methods and Results is flooding by supplementary information. One needs to go there and back, and the amount of information is really inhibiting.

Figure 1 does not have two panels, but in the text, it is referred to as Figure 1A and Figure 1B.

Is there a need to give over 60 references?

In conclusion, I view the text ... I see the topic as interesting and the take-home message as clear and convincing. But I do find the study as quite heavy, with many detours and a load of supporting information that in my opinion decreases impact of this study. I would suggest streamlining the study and making the study more straightforward.

Finally, the authors have already considered a similar system in Quevreux et al. (2021a) and many figures presented here are at a first glance analogous to those presented here. It is therefore more than needed to clearly discuss a difference between Quevreux et al. (2021a) and the current study. The only text in this direction appears to be that on lines 246-249, but I find this insufficient. I would like to see a paragraph in which the authors would say that this study is a sort of follow up to

Quevrex et al. (2021a) (is it indeed so?), what Quevrex et al. (2021a) found and what is new and important in this study. This would I think set this study in the context even better.