REVISION 2 OF THE PAPER "IMPACT OF A BLOCK STRUCTURE ON THE LOTKA-VOLTERRA MODEL" BY CLENET, MASSOL AND NAJIM.

Dear Editor,

We are excited to submit a revised version #2 of our manuscript, "Impact of a block structure on the Lotka-Volterra model" by Maxime Clenet, François Massol and Jamal Najim. We appreciate the opportunity to improve our manuscript by incorporating the feedback provided by the Reviewers. These revisions have helped us improve the clarity of the manuscript.

Please find the revised manuscript attached, and a detailed point-by-point response to all comments below.

Sincerely,

Maxime Clenet, on behalf of the Authors.

Note: Reviewer comments are in blue. Please be advised that the code has been updated and the number of the figures has been updated.

Reviewer #3

Comments.

(1) *Section 3.2: The explanation is still unclear, particularly the sentences "this assumption is part of the heuristics" and "as an argument of the heuristics.". It seems that the authors are assuming that the estimators are converging and that the limits are expressed as $P(x_k > 0 \mid k \in \mathcal{I}_1)$, possibly using intuition from the chaos hypothesis, as mentioned at the beginning of this section. With this, they are able to derive equations (13) and (14). If this interpretation is correct, the authors should clarify this point in their manuscript, perhaps using a similar approach to the one at the beginning of Section 3.2, where they write, "We assume that asymptotically the x's are independent from the B_{kl}'s, an assumption supported by the chaos hypothesis."*

We have revised the two sentences that were unclear to provide greater clarity to the text. Additionally, we have consolidated the main assumption about the converging quantities to a single point in the main text by:

- removing the sentence: "this assumption is part of the heuristics",
- changing the paragraph: " Notice that the fact that $\mathrm{Var}_{\boldsymbol{x}^*}(\check{Z}_k)$ only depends on $\hat{p}_1$, $\hat{p}_2$, $\hat{\sigma}_1$, $\hat{\sigma}_2$ which are converging quantities when $n \to \infty$, as an argument of the heuristics. Their limits are p_1^*, p_2^*, σ_1^*, σ_2^*. "
  to
  " Notice that the fact that $\mathrm{Var}_{\boldsymbol{x}^*}(\check{Z}_k)$ only depends on $\hat{p}_1$, $\hat{p}_2$, $\hat{\sigma}_1$, $\hat{\sigma}_2$. It is assumed that the estimators, namely, $\hat{p}_1, \hat{p}_2, \hat{\sigma}_1, \hat{\sigma}_2$, are converging quantities when $n \to \infty$ to their respective limits, $p_1^*, p_2^*, \sigma_1^*, \sigma_2^*$. This assumption is consistent with the chaos hypothesis and is fundamental to the derivation of the heuristics.".

(2) *Heuristics (13)-(14) p.12: < should be >.*
This has been rectified.

(3) *p.30 "using RMT theory": please give a precise reference.*
The precise reference used is [1] which has been incorporated into the main text.

(4) *Section C.3: I have the impression that the λ_i's should not be there.*

We agree with the reviewer that the use of λ_i in the distribution of the surviving species is an error. This has been rectified.

References

[1] O. H. Ajanki, L. Erdős, and T. Krüger. Universality for general Wigner-type matrices. *Probability Theory and Related Fields*, 169(3):667–727, 2017.