

Dear Editor,

On behalf of my co-authors, Sonia Kéfi, Serge Morand, Michal Stanko, Pablo Marquet and Michael Hochberg, I would like to submit the manuscript entitled “An interaction networks perspective on specialist–generalist coexistence” for publication consideration in PLoS One.

Theoretical and experimental studies focusing on the coexistence between specialists and generalists consistently reported that the range of conditions allowing both type of strategies to coexist is narrow. However, these studies mostly focused on simplified communities, and it is not obvious how our understanding of specialist–generalist coexistence will change in large, realistic communities. In this article, we present an analysis of a large dataset of bipartite ecological networks, representing parasitism, pollination, and herbivory, to show that the co-occurrence of species with different levels is widespread in complex communities.

Our main conclusions are that (i) the extent to which specialists and generalists co-occur can be predicted from connectance, and (ii) the empirical communities display consistently more co-occurrence than expected at random. This bears an important consequence, namely that the study of specialist-generalist coexistence should not be disconnected from network approaches, allowing to account for emerging properties at the community level.

We believe that our paper is of interest to the broad readership of PLoS One, as we show that it is possible to cast a new eye on a longstanding question in evolutionary ecology through the use of network theory. We discuss these results in the context of cross-system comparisons, and show that they help define new research questions.

We hope that our submission will be viewed favourably by the editorial board,  
On behalf of the authors,

T. Poisot