

Peer Review

Review of: "Social and Spatial Drivers of the Multitiered Structure of Zebra Finch Social Networks"

Balint Kovacs¹

1. HUN-REN-PE Evolutionary Ecology Research Group, University of Pannonia, Hungary

The authors modeled multitiered social networks of four groups in zebra finches (*Taeniopygia guttata*). The problem statement is up-to-date, and the strength of the manuscript lies in its technical approach to data collection.

Major comments:

1. Lack of discussion on the effect of captivity. Forty birds in a 5m x 2.0m x 2.5m aviary were likely affected by the limitations of the available space. Observing wild populations with this method is nearly impossible, but is there any data available on wild populations for comparison? 2. The definition of tiers was not completely clear to me. When two birds maintain 'clumping', which defines the actual tier between the individuals, it includes all of the affiliative interactions. But what about 'random spacing' due to the aviary limits? During active observation periods when the barcodes were tracked every two seconds, errors may have occurred if a bird simply wanted to rest or could not find enough space. There is no explanation of this type of possibility. Was there a time limit for these interactions (e.g., 4 seconds of staying together) to count as a tier? 3. Inconsistency in statistical analyses when comparing the number and type of male and female tiers. In the Materials & Methods section (page 14/21), the 5th and 6th sentences discuss a mixed-effect linear regression. However, in the Supplementary Materials (page 7, Figure S2), two-sample t-tests are mentioned.

Minor comments:

1. The use of the term 'tier' instead of 'edge' or 'tie' can be a little confusing. However, this is subjective, and it didn't detract from the manuscript overall.

2. Supplementary Material Figure S2. The differences in the medians of the closest tiers were not visible at all. Rescaling the "Number of Relationships" y-axis could improve the figure.

Summary of the Revision:

The manuscript reflects a high-value piece of work. It is excellently written, coherent, and understandable. The chapters follow each other logically, the references are in order, and the issue is examined with strong sampling and statistical methodologies. In my opinion, the conclusions are appropriate, and the results strongly support them. With the comments above, I would give a 'Minor Revision' rating.

Best Regards,

Balint Kovacs

Attachments: available at <https://doi.org/10.32388/EYD2Y6>

Declarations

Potential competing interests: No potential competing interests to declare.