

I have read the revised version of the manuscript. As suggested in the PCI recommendations for the second revision, I primarily reviewed the authors' responses to all reviewers' comments.

I believe all the reviewers' comments, including mine, were adequately addressed. However, some additional details were missing. Clarifying these would enhance the real impact of the MS. The most important concerns to details on your discussion. In the present paper, you tend to discuss the overall finding of your MS and why your results agree or disagree with your predictions. There is also a very detailed search for alternative explanations when a result was unexpected. However, I think that the discussion can be reorganized to emphasize the implications of your findings with respect to current knowledge of flexibility and the misuse of proxies during comparative studies. In the present version, the paragraph that discuss it correspond to the second paragraph (the one begging with: "The finding that the manipulated birds..."). As this thematic is presented in the first part of the discussion, and the next paragraph resume whether your finding support or not your predictions and the possible causes when they do not, that important conclusion is lost. I think most of your actual second paragraph should be moved and would be the last paragraph of the true discussion (i.e. the one just before your last "conclusion" paragraph) in the new version. Finally, I suggest adding somewhere in the discussion, a comment about what is known about Grackles before the large habitat modification by humans. See my specific comments.

As there are not line numbering in the MS, I will refer to the page, subtitle, and line within the subtitle.

### **Specific comments**

1)Page 8, "5)" in the list, line 2-3 within the "5)": "To equalize". I think perhaps it would say: "To standardize". Anyway, I think you must clarify what do you mean with "equalize" (or standardize).

Another doubt. Idem page and also "5)", but lines 9-12 (**it's in bold in the text**). If the analyses used were GLMs, the usual method to correct for different observation times when the response variable is a count, is to include time as an offset. With an offset, you don't want to see the effect of different observation times on your response variable. However, you know it has an effect and you want to correct for it. I do not know if this or something similar is appropriate with Bayesian analyses.

2)Page 11, "Reversal learning", line 2. The (Fig 1a). I think that you refer to the one within the protocol of reversal learning whose Link you list in the bottom lines. I suspect that when you send the MS to a Journal, that "Fig 1a" would be part of Supplementary Materials. Without such information, readers tend to look within the main text of the MS. The same doubt applies to your "Fig 1b" (page 12, second line).

Page 14, "Open materials". The two Links listed are not more available. You have moved them to other Links displayed later places within the text.

### **Discussion**

Please see my general comments. The last paragraph of the new discussion (i. e. the one before your conclusions) would emphasize the implications of your findings concerning

current knowledge of flexibility and the misuse of proxies during comparative studies. Aside from the bias introduced by attempting to conduct comparative analyses, what implications does the finding that flexibility is not directly related to foraging technics, habitat use, or sociability?

Finally, I think that it would be very interesting to give information within the discussion, about the original habitats and food habits of the Grackles in their native areas. Best if there is information before important habitat modification due to European colonization or the implementation of more intensive land uses. There are at least three reviews that you can consult: Jaramillo & Burke (1999), Fraga (2011), and Winkler, et al. (2020). Or you have access to some of the original papers listed there. It would be very interesting if you discuss briefly yours finding on flexibility in Grackles and how do you think such flexibility would be maintained in their original habitats before the new human modify habitats and food sources were abundant to Grackles.

Jaramillo, A., Burke, P. (1999). *New World blackbirds: the icterids*. Princeton, NJ: Princeton University Press.

Fraga, R.M. (2011) New World Blackbirds. In Handbook of the birds of the world. Volume 16. Tanagers to New World blackbirds. Del Hoyo J, Elliott A & Christie D (Eds) Lynx Edicions, Barcelona.

Winkler, DW, SM Billerman & IJ Lovette (2020). Troupials and Allies (*Icteridae*), vers. 1.0. In Birds of the World (SM Billerman, BK Keeney, PG Rodewald & TS Schulenberg, Eds). Cornell Laboratory of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.icteri1.01>