Occupy patterns in superorganisms: a spin-glass approach to ant exploration

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Review timeline
Original submission: 14 July 2020
Revised submission: 10 November 2020
Final acceptance: 23 November 2020

Note: This manuscript was transferred from another Royal Society journal with peer review.

Review History
RSOS-201250.R0 (Original submission)

Review form: Reviewer 1 (Jacob Davidson)

Is the manuscript scientifically sound in its present form?
Yes

Are the interpretations and conclusions justified by the results?
Yes

Is the language acceptable?
Yes

Do you have any ethical concerns with this paper?
No

Have you any concerns about statistical analyses in this paper?
No

Recommendation?
Accept with minor revision (please list in comments)
Comments to the Author(s)

The motivation of the approach is much more clear in the revised version - in particular, that the paper is a Methods-focused paper, and that the experiment is done for the sake of being able to fit the model to it, and not to provide particular biological insight. With the addition of statistics, changes in wording, and changes in the comparison of the null model (also fitting the time constant), I think the comparisons are presented more clearly, and previous concerns have been addressed.

A minor point: whereas in other places statistical tests were added, in Fig 10 there is no test, so remove the wording 'significant'.

Decision letter (RSOS-201250.R0)

We hope you are keeping well at this difficult and unusual time. We continue to value your support of the journal in these challenging circumstances. If Royal Society Open Science can assist you at all, please don't hesitate to let us know at the email address below.

Dear Mr Cristin

On behalf of the Editors, we are pleased to inform you that your Manuscript RSOS-201250 "Occupancy patterns in superorganisms: a spin glass approach to ant exploration" has been accepted for publication in Royal Society Open Science subject to minor revision in accordance with the referees' reports. Please find the referees' comments along with any feedback from the Editors below my signature.

We invite you to respond to the comments and revise your manuscript. Below the referees’ and Editors’ comments (where applicable) we provide additional requirements. Final acceptance of your manuscript is dependent on these requirements being met. We provide guidance below to help you prepare your revision.

Please submit your revised manuscript and required files (see below) no later than 7 days from today's (ie 09-Nov-2020) date. Note: the ScholarOne system will ‘lock’ if submission of the revision is attempted 7 or more days after the deadline. If you do not think you will be able to meet this deadline please contact the editorial office immediately.

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Thank you for submitting your manuscript to Royal Society Open Science and we look forward to receiving your revision. If you have any questions at all, please do not hesitate to get in touch.

Kind regards,
Royal Society Open Science Editorial Office
Royal Society Open Science
openscience@royalsociety.org

on behalf of the Associate Editor and Professor Pietro Cicuta (Subject Editor)
openscience@royalsociety.org
Editors’ Comments to the Author(s):

Please accept our apologies for the delays experienced during peer-review of your paper. Unfortunately, it was unusually difficult to secure referees for your paper; mostly owing to the COVID-19 crisis. Nonetheless, we eventually managed to secure one of the original referees from your Interface paper, who is now largely happy with your manuscript. Please address the minor revisions suggested by the referee.

Thank you for your patience with this process. We look forward to a finalised version in due course.

Reviewer comments to Author:

Reviewer: 1
Comments to the Author(s)

The motivation of the approach is much more clear in the revised version - in particular, that the paper is a Methods-focused paper, and that the experiment is done for the sake of being able to fit the model to it, and not to provide particular biological insight. With the addition of statistics, changes in wording, and changes in the comparison of the null model (also fitting the time constant), I think the comparisons are presented more clearly, and previous concerns have been addressed.

A minor point: whereas in other places statistical tests were added, in Fig 10 there is no test, so remove the wording 'significant'.

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Your revised paper should include the changes requested by the referees and Editors of your manuscript. You should provide two versions of this manuscript and both versions must be provided in an editable format: one version identifying all the changes that have been made (for instance, in coloured highlight, in bold text, or tracked changes); a 'clean' version of the new manuscript that incorporates the changes made, but does not highlight them. This version will be used for typesetting.

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2) A 'clean' version of the new manuscript that incorporates the changes made, but does not highlight them.

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-- A copy of your point-by-point response to referees and Editors. This will expedite the preparation of your proof.

At Step 6 'Details & comments', you should review and respond to the queries on the electronic submission form. In particular, we would ask that you do the following:

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Author's Response to Decision Letter for (RSOS-201250.R0)

See Appendix A.

Decision letter (RSOS-201250.R1)

We hope you are keeping well at this difficult and unusual time. We continue to value your support of the journal in these challenging circumstances. If Royal Society Open Science can assist you at all, please don't hesitate to let us know at the email address below.

Dear Mr Cristín,

It is a pleasure to accept your manuscript entitled "Occupancy patterns in superorganisms: a spin glass approach to ant exploration" in its current form for publication in Royal Society Open Science. The comments of the reviewer(s) who reviewed your manuscript are included at the foot of this letter.

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Thank you for your fine contribution. On behalf of the Editors of Royal Society Open Science, we look forward to your continued contributions to the Journal.

Kind regards,
Andrew Dunn
Royal Society Open Science Editorial Office
Royal Society Open Science
openscience@royalsociety.org

on behalf of Dr Sean Rands (Associate Editor) and Pietro Cicuta (Subject Editor)
openscience@royalsociety.org

Associate Editor Comments to Author (Dr Sean Rands):
Associate Editor
Comments to the Author:
Thanks for being patient - I'm happy with this version.

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Appendix A

Dear Editor,

First of all we are very grateful for the time you have invested in our manuscript, and we appreciate your effort.

We have modified the minor changes the reviewers have stated. More precisely, we have removed the word “significant” in the Figure 10.

Yours sincerely,

The authors