Bizarre morphology in extinct Eocene bugs (Heteroptera: Pentatomidae)

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Original submission: 9 September 2021
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Final acceptance: 5 November 2021

Note: Reports are unedited and appear as submitted by the referee. The review history appears in chronological order.

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

Review History

RSOS-211466.R0 (Original submission)

Review form: Reviewer 1

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)
Please check the use of e.g., and e.g. (sometimes with comma sometimes without)

Photogrammetry: Why was it used? Not really clear to me? Any special application for the description of the fossil specimen. I could not find anything related to this in the species description?

p.21, line 434: citation for Grande 1984 has to be placed in the next line

p. 16, line 290: The distance between the marker horizons divided by the sedimentation rate is not equal to 171,000 years but only 167,571 years

Review form: Reviewer 2

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 as is

Comments to the Author(s)
Congratulations to the authors, nice paper in continuation of the research on the southern Acanthocephalonotum describing this northern genus. Also hypothesising the phylogenetic relationships of these suggestively similar genera! I hope we could continue dialoguing through new research in the future for better knowledge of these Eocene pentatomids! all the best, Julian

Decision letter (RSOS-211466.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 Dr Wedmann
On behalf of the Editors, we are pleased to inform you that your Manuscript RSOS-211466 "Bizarre morphology in extinct Eocene bugs (Heteroptera: Pentatomidae)" 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.

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

on behalf of Kevin Padian (Subject Editor)
openscience@royalsociety.org

Associate Editor Comments to Author:
Comments to the Author:
A couple of relatively minor matters have been identified as worth addressing by one of the reviewers, but overall the view is very positive - well done and we'll look forward to receiving the revision soon!

Reviewer comments to Author:
Reviewer: 1
Comments to the Author(s)
please check the use of e.g., and e.g. (sometimes with comma sometimes without)

Photogrammetry: Why was it used? Not really clear to me? Any special application for the description of the fossil specimen. I could not find anything related to this in the species description?

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Reviewer: 2
Comments to the Author(s)
Congratulations to the authors, nice paper in continuation of the research on the southern Acanthocephalonotum describing this northern genus. Also hypothesising the phylogenetic relationships of these suggestively similar genera! I hope we could continue dialoguing through new research in the future for better knowledge of these Eocene pentatomids! All the best, Julian

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-- An editable file of each table (.doc, .docx, .xls, .xlsx, or .csv).
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Author's Response to Decision Letter for (RSOS-211466.R0)

See Appendix A.

Decision letter (RSOS-211466.R1)

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Dear Dr Wedmann,

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If you have not already done so, please ensure that you send to the editorial office an editable version of your accepted manuscript, and individual files for each figure and table included in your manuscript. You can send these in a zip folder if more convenient. Failure to provide these files may delay the processing of your proof.

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On behalf of the Editors of Royal Society Open Science, thank you for your support of the journal and we look forward to your continued contributions to Royal Society Open Science.
Kind regards,
Royal Society Open Science Editorial Office
Royal Society Open Science
openscience@royalsociety.org

on behalf of Prof Kevin Padian (Subject Editor)
openscience@royalsociety.org

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Appendix A

Reply to reviewers’ comments:

Reviewer: 1

Comments to the Author(s) please check the use of e.g., and e.g. (sometimes with comma sometimes without) – *ok, done*

Photogrammetry: Why was it used? Not really clear to me? Any special application for the description of the fossil specimen. I could not find anything relted to this in the species description? ) – *As mentioned under „4. Material and Methods“„, „Photogrammetry“, the method was applied to visualize the relief of the specimen. In a standard 2D photograph the relief is not clearly visible. The color-coded reconstruction from the photogrammetry (fig. 1d), however, gives a good impression of most of the 3D features.*

p.21, line 434: citation for Grande 1984 has to be places in the next line – *ok, done*

p. 16, line 290: The distance between the marker horizons devided by the sedimentation rate is not equal to 171,000 years but only 167,571 years – *calculation of the vertical distance between fossils is explained now in more detail, so it becomes clear why it is around 171,000 years.*

Reviewer: 2

Comments to the Author(s) Congratulations to the authors, nice paper in continuation of the research on the southern Acanthocephalonotum describing this northern genus. Also hypothesising the phylogenetic relationships of these suggestively similar genera! I hope we could continue dialoguing through new research in the future for better knowledge of these Eocene pentatomids! all the best, Julian – *yes, great, many thanks!*