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Your invitation will include the manuscript title, abstract, and author list.

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You've been invited as a Reviewer on "Phylogenomics Reveals Three Sources Of Adaptive Variation During A Rapid Radiation", for PLOS Biology Demo.

The abstract is included below. We would ideally like to have reviews returned to us within 10 days. If you require additional time, please do let us know so that we may plan accordingly.

Please only accept this invitation if you have no conflicts of interest. If in doubt, please feel free to contact us for advice. If you are unable to review this manuscript, we would appreciate suggestions of other potential reviewers.

We look forward to hearing from you.

Sincerely,
PLOS Biology Demo Team

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Research Article

Manuscript Title:
Phylogenomics Reveals Three Sources Of Adaptive Variation During A Rapid Radiation

Authors:
1. Staff, Plos

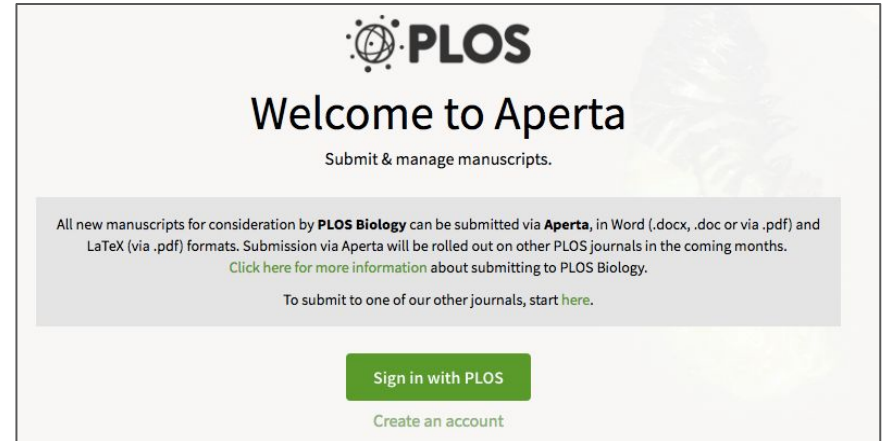
Abstract:
Speciation events often occur in rapid bursts of diversification, but the ecological and genetic factors that promote these radiations are still much debated. Using whole transcriptomes from all 13 species in the ecologically and reproductively diverse wild tomato clade (*Solanum* sect. *Lycopersicon*), we infer the species phylogeny and patterns of genetic diversity in this group. Despite widespread phylogenetic discordance due to the sorting of ancestral variation, we date the origin of this radiation to approximately 2.5 million years ago and find evidence for at least three sources of adaptive genetic variation that fuel diversification. First, we detect introgression both historically between early-branching lineages and recently between individual populations, at specific loci whose functions indicate likely adaptive benefits. Second, we find evidence of lineage-specific de novo evolution for many genes, including loci involved in the production of red fruit color. Finally, using a "PhyloGWAS" approach, we detect environment-specific sorting of ancestral variation among populations that come from different species but share common environmental conditions.

Accept Invitation

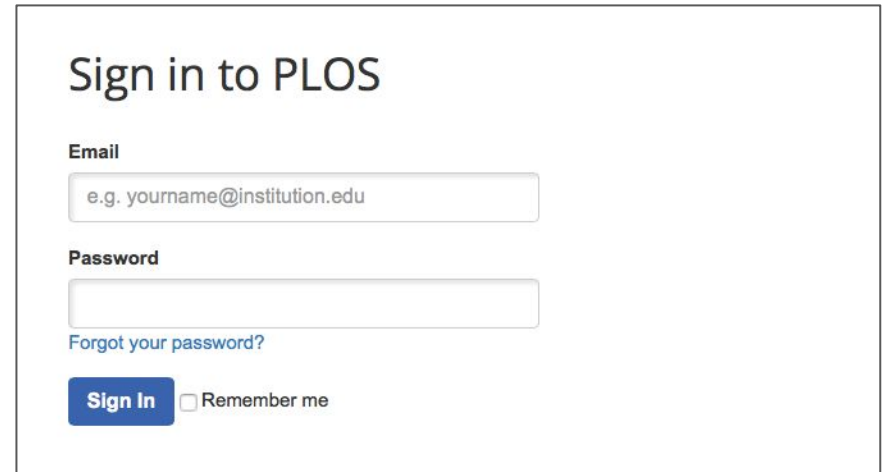
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APERTA

Your Manuscripts Feedback Help Shelly Smith

PLOS BIOLOGY Title: How Many Parameters Does It Take to Describe Disease Tolerance?

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Manuscript ID: pbio.1002435

- Review by Shelly Smith
- Figures
- Additional Information
- Supporting Info
- Upload Manuscript

How Many Parameters Does It Take to Describe Disease Tolerance?

Alexander Louie, Kyung Han Song, Alejandra Hotson, Ann Thomas Tate, David S. Schneider

Abstract

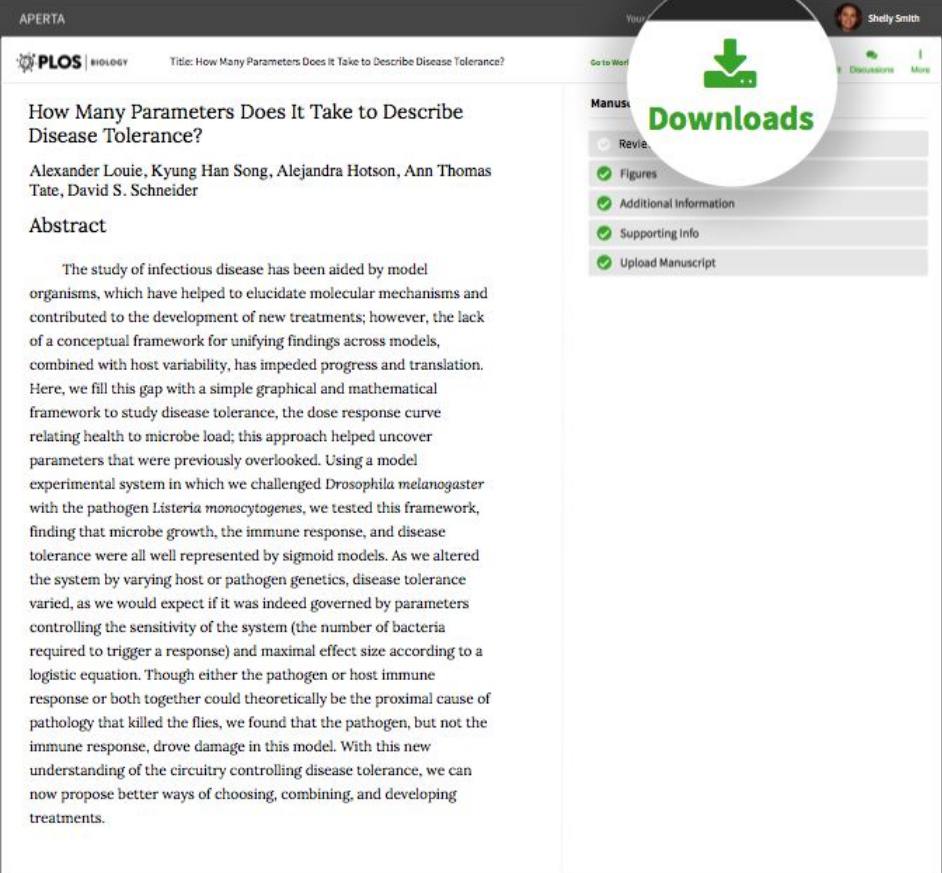
The study of infectious disease has been aided by model organisms, which have helped to elucidate molecular mechanisms and contributed to the development of new treatments; however, the lack of a conceptual framework for unifying findings across models, combined with host variability, has impeded progress and translation. Here, we fill this gap with a simple graphical and mathematical framework to study disease tolerance, the dose response curve relating health to microbe load; this approach helped uncover parameters that were previously overlooked. Using a model experimental system in which we challenged *Drosophila melanogaster* with the pathogen *Listeria monocytogenes*, we tested this framework, finding that microbe growth, the immune response, and disease tolerance were all well represented by sigmoid models. As we altered the system by varying host or pathogen genetics, disease tolerance varied, as we would expect if it was indeed governed by parameters controlling the sensitivity of the system (the number of bacteria required to trigger a response) and maximal effect size according to a logistic equation. Though either the pathogen or host immune response or both together could theoretically be the proximal cause of pathology that killed the flies, we found that the pathogen, but not the immune response, drove damage in this model. With this new understanding of the circuitry controlling disease tolerance, we can now propose better ways of choosing, combining, and developing treatments.

Submission Cards

Manuscript

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APERTA

PLOS | BIOLOGY Title: How Many Parameters Does It Take to Describe Disease Tolerance? Go to Word Downloads Discussions More

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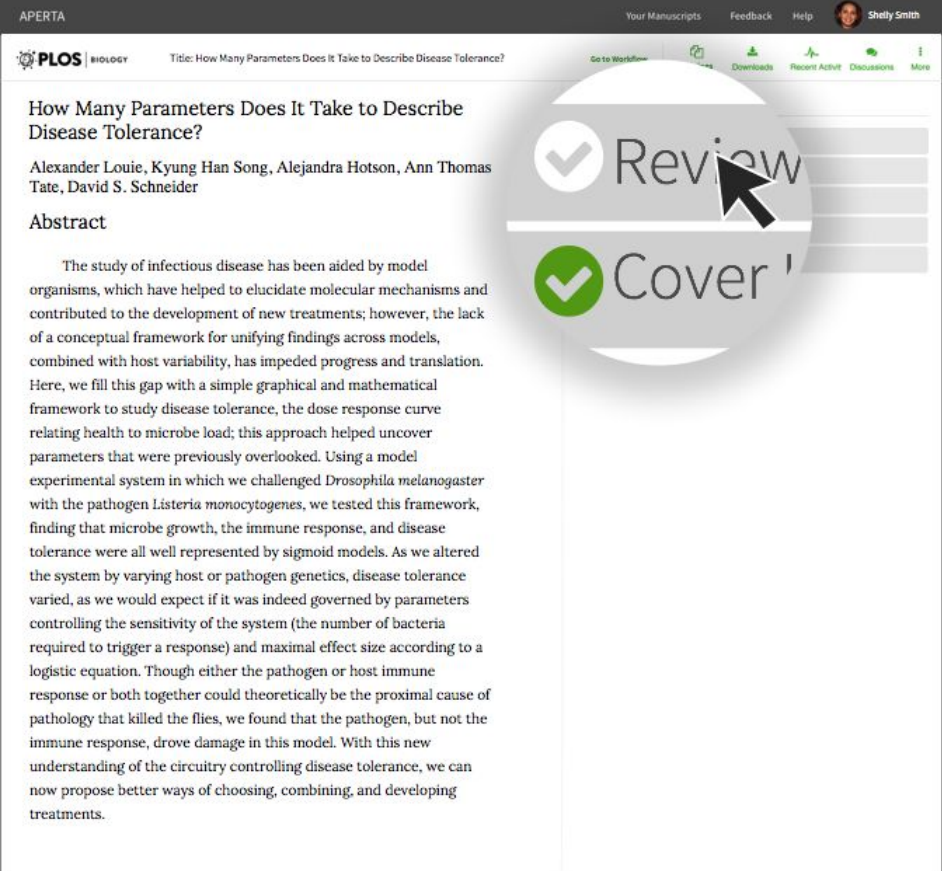
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Manuscript

- Review
- Figures
- Additional Information
- Supporting info
- Upload Manuscript

Downloads

Click on the Review card to access the review questions and enter your comments.



The screenshot displays the Aperta interface for a manuscript titled "How Many Parameters Does It Take to Describe Disease Tolerance?". The page includes the PLOS logo, the title, authors (Alexander Louie, Kyung Han Song, Alejandra Hotson, Ann Thomas Tate, David S. Schneider), and an abstract. The abstract text discusses the study of infectious disease tolerance using a model and experimental system. On the right side of the page, there is a vertical list of action cards. The top card is labeled "Review" and features a white checkmark icon in a circle. A mouse cursor is pointing at this card. Below it is a card labeled "Cover" with a green checkmark icon in a circle. The top navigation bar includes "Your Manuscripts", "Feedback", "Help", and a user profile for "Shelly Smith". The top left navigation bar includes "Go to Workflow", "Downloads", "Recent Activity", "Discussions", and "More".

Complete the review questions and leave relevant comments in the free text boxes provided on the reviewer form.

Review by shima khaki

1 Please provide your publication recommendation:

Accept
 Reject
 Major Revision
 Minor Revision

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3 Is this manuscript suitable in principle for PLOS Biology? Comments for authors.

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- ▶ The novelty and significance of the work, PLOS Biology articles present significant advances in their field;
- ▶ The technical merit of the work, the quality of the data and depth of analysis; PLOS Biology is committed to rigorous experimental and analytical design, and transparent reporting.
- ▶ Please indicate if you feel the conclusions are well supported with strong and well-controlled evidence. If not, but the manuscript can be revised to provide the required level of support, please indicate which of your proposed revisions would be essential to support the conclusions.
- ▶ If the manuscript does not meet the standards of PLOS Biology, we are interested in your opinion about its suitability for PLOS ONE. PLOS ONE articles are selected solely on evaluating whether the study was planned, performed and reported to high scientific and ethical standards, regardless of scope or impact of the work. PLOS Biology is committed to facilitate the transfer of suitable manuscripts to PLOS ONE to reduce redundant review cycles, and we appreciate your support.

Yes No

4 Has the statistical analysis been performed appropriately and rigorously?

Yes No

5 Does the manuscript adhere to standards in this field for data availability?

▶ Authors must follow field specific standards for data deposition in publicly available resources and should include accession numbers in the manuscript when relevant. The manuscript should explain what steps have been taken to make data available, particularly in cases where the data cannot be publicly deposited.

Yes No

6 (Optional) Please offer any additional confidential comments to the editor

▶ Additional comments may include concerns about dual publication, research or publication ethics.

7 (Optional) if you'd like your identity to be revealed to the authors, please include your name here.

▶ Your name and review will not be published with the manuscript.

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Review History

Revision 0

- Cover Letter
- Figures
- Additional Information
- Supporting Info
- Upload Manuscript

If you are reviewing a manuscript revision, you can view your past comments in the gray bar at the bottom of the reviewer form.

Review by shima khaki

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Accept Reject Major Revision Minor Revision

2 Do you have any potential or perceived competing interests that may influence your review?

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- The technical merit of the work, the quality of the data and depth of analysis.
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Please indicate if you feel the conclusions are well supported with strong and well-controlled evidence. If not, but the manuscript can be revised to provide the required level of support, please indicate which of your prepared revisions would be essential to support the conclusions.

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Yes No

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Yes No

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Yes No

6 (Optional) Please offer any additional confidential comments to the editor.

Additional comments may include concerns about dual publication, research or publication ethics.

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manuscript.

7 Supporting Info

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Review History

Revision 1

When you are ready, click the green "submit this report" button to send your review to the journal office.

The image shows a screenshot of a PLOS ONE review form. At the top, it says "Review by shima khaki". The form contains several sections with green checkmarks and numbered questions:

- 1 Please provide your publication recommendation:** with radio buttons for "Accept", "Reject", "Major Revision", and "Minor Revision".
- 2 Do you have any potential or perceived competing interests that may influence your review?** with a text input field and a note: "Please review our Competing Interests policy and declare any potential interests that you feel the Editor should be aware of when considering your review. If you have no competing interests, please write: 'I have no competing interests.'"
- 3 Is this manuscript suitable in principle for PLOS Biology? Comments for authors.** with a text input field and detailed instructions: "Please refer to our review guidelines and comment on: The novelty and significance of the work, PLOS Biology articles present significant advances in their field. The technical merit of the work, the quality of the data and depth of analysis. PLOS Biology is committed to rigorous experimental and analytical design, and transparent reporting. Please indicate if you feel the conclusions are well supported with strong and well-controlled evidence. If not, but the manuscript can be revised to provide the required level of support, please indicate which of your proposed revisions should be essential to support the conclusions. If the manuscript does not meet the standards of PLOS Biology, we are interested in your opinion about its suitability for PLOS ONE. PLOS ONE articles are selected solely on evaluating whether the study was planned, performed and reported to high scientific and ethical standards, regardless of scope or impact of the work. PLOS Biology is committed to facilitate the transfer of suitable manuscripts to PLOS ONE to reduce redundant review cycles, and we appreciate your support." Below this is a "Yes / No" selection area.
- 4 Has the statistical analysis been performed appropriately and rigorously?** with a "Yes / No" selection area.
- 5 Does the manuscript adhere to standards in this field for data availability?** with a text input field and a note: "Authors must follow field specific standards for data deposition in publicly available resources and should include accession numbers in the manuscript when relevant. The manuscript should explain what steps have been taken to make data available, particularly in cases where the data cannot be publicly deposited." Below this is another "Yes / No" selection area.

At the bottom of the form, there is a green button labeled "SUBMIT THIS REPORT" with a black mouse cursor pointing to it. Below the button, there are sections for "Comments to the editor" and "Author information" with text input fields. At the very bottom, there is a navigation menu with green checkmarks next to the following items: "Cover Letter", "Figures", "Additional Information", "Supporting Info", and "Upload Manuscript".

Aperta will ask you to confirm in case you have last-minute edits. If you are ready to submit your review, click "Yes, I'm sure."

And that's it!

The screenshot displays a review form titled "Review by shima khaki". The form includes several sections with questions and checkboxes:

- 1 Please provide your publication recommendation:** with radio buttons for "Accept", "Reject", "Major Revision", and "Minor Revision".
- 2 Do you have any potential or perceived competing interests that may influence your review?** with a text input field and a note: "Please review our Competing Interests policy and declare any potential interests that you feel the Editor should be aware of when considering your review. If you have no competing interests, please write: 'I have no competing interests.'"
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 - The technical merit of the work, the quality of the data and depth of analysis.
 - PLOS Biology is committed to rigorous experimental and analytical design, and transparent reporting.
 - Please indicate if you feel the conclusions are well supported with strong and well-controlled evidence. If not, but the manuscript can be revised to provide the required level of support, please indicate which of your prepared revisions would be essential to support the conclusions.
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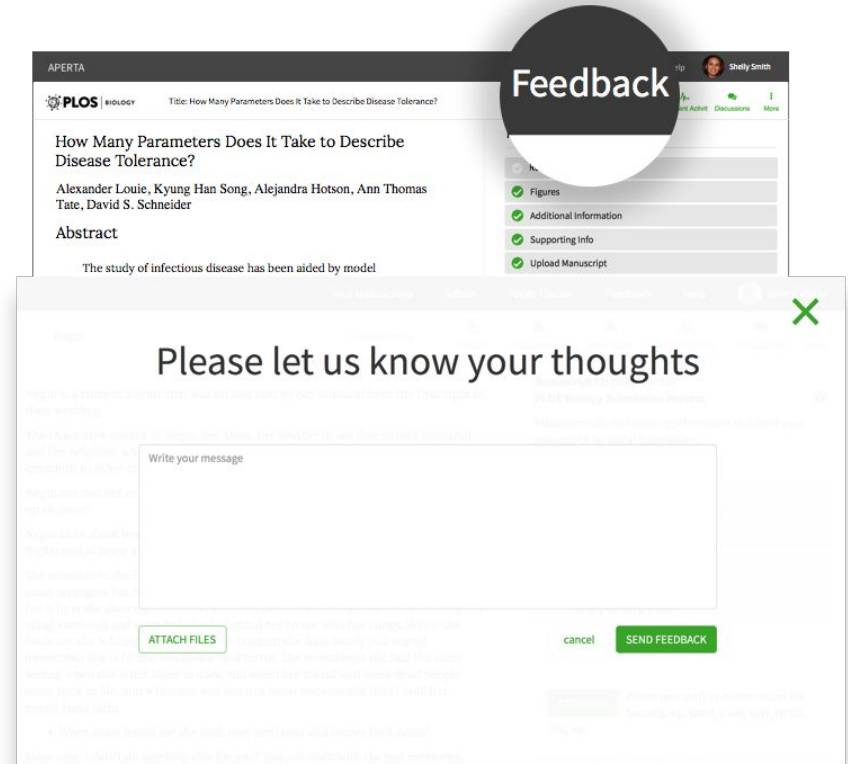
A circular callout box with the text "Are you sure?" is overlaid on the form, containing two buttons: "YES, I'M SURE" (highlighted in green) and "NO". A mouse cursor is pointing at the "YES, I'M SURE" button.

At the bottom of the form, there is a section for "Additional comments to the editor" and a list of navigation options: "Cover Letter", "Figures", "Additional Information", "Supporting Info", and "Upload Manuscript".

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