Reviewer Report

Title: "Draft genome of the honey bee ectoparasitic mite, Tropilaelaps mercedesae, is shaped by the parasitic life history"

Version: Original Submission   **Date:** 10/20/2016

Reviewer name: Michael Brewer

Reviewer Comments to Author:

Dr. Kadowaki et al.,

The work described in your manuscript comprises an interesting system investigated using appropriate methods. The conclusions are appropriate, if not conservative. I found the manuscript to be well-written, but a few issues need to be addressed.

In general, the methods section requires far more detail. The subsections appear to have been written by several people and differ greatly in the amount of detail given. For example, specifics concerning the genome/transcriptome sequencing are lacking (how many samples were sequenced; how many lanes; how was the RNA extracted and prepped?), VELVET parameters for genome assembly, and MAKER parameters are all missing. Additionally, in some subsections, software versions are not indicated.

Some subsections should be combined or rearranged. "Construction of phylogenetic trees" and "evolutionary analyses" have a lot of overlap and are somewhat confusing as currently written. I would recommend substituting/reorganizing them with/as "Species tree phylogenetics and divergence time estimations", "Gene family expansion and positive selection tests", and "Gene family phylogenetics".

The RNA-seq methods lack details concerning basic experimental design, replication, and quality control.

The proteomics subsection contains a more appropriate amount information than the rest of the methods, which are variable themselves.

Lastly, the reference format needs to be standardized.

Again, this work is well done and important. However, one of the tenants of Gigascience is reproducibility, so this current draft needs a more attention paid to methods in almost all regards.

Methods

Are the methods appropriate to the aims of the study, are they well described, and are necessary controls included? No

Conclusions

Are the conclusions adequately supported by the data shown? Yes

Reporting Standards

Does the manuscript adhere to the journal's guidelines on [minimum standards of reporting?](#) No

Statistics

Are you able to assess all statistics in the manuscript, including the appropriateness of statistical tests used? Yes, and I have assessed the statistics in my report.

Quality of Written English

Please indicate the quality of language in the manuscript: Acceptable

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