Reviewer’s report

Title: Estimating the burden of dengue and the impact of release of wMel Wolbachia infected mosquitoes in Indonesia: a modelling study

Version: 0 Date: 10 Apr 2019

Reviewer: Abdallah M. Samy

Reviewer's report:

The manuscript is well-written and the study design is appropriate; all modeling analyses are well-accomplished. Overall, the methods and results are appropriate and generally straightforward. The manuscript comes from a group of colleagues with a great expertise in the field. Finally, the conclusions are generally supported by the data presented. So, I strongly recommend this piece for publication in your journal after considering my minor comments mentioned below.

- Line 67, and 77: no need to italicize wild-type.
- Line 161: It remains unclear how these estimates were created. I would suggest the authors to provide further details.
- Line 171-172: Cite a reference or a link to the data source.
- Line 179: provide "UIs" in full as it is first mentioned in the manuscript (i.e. 95% Uncertainty intervals).
- Line 192-163: I think that a reference to the global data is irrelevant to the study objectives. So, I would recommend authors to focus only on the data available from Indonesia.
- Line 193: Should you provide details to the geographic coverage of this data? Is it relevant to the same geographic area in the question in the manuscript? For example, some of diseases listed were not reported in Indonesia (e.g. RVF).
- Line 194-195: This hypothesis requires justification; if dengue was not notified, then, this didn't mean that dengue is absent. I think further justification should make this hypotheses much clearer.
- Line 199-209: Authors used "Admin2" and "Admin 2". I would recommend the authors to be consistent and better use "Admin 2".
- Line 206-208: Further details are still required for the source of each covariate used in the study.
- Line 218: Cite a reference to the boosted regression tress.

- Line 223-228: I think that the same authors, particularly in the papers led by David practiced similar analyses. I would recommend to cite any of them as a reference. Should we also provide a short sentence on the strength and weakness of such ENM-based incidence estimates?

- Line 262: provide further details that "wMel" is a Wolbachia strain, particularly if you didn't refer to any of the strains previously in the manuscript.

- Line 262-268: The study used only the clinical and field entomological data of vector competence of wMel-infected Ae. aegypti but none is presented for Ae. albopictus or other Wolbachia strains. This may raise another critique that this analysis is limited to dengue transmission based on Ae. aegypti alone and didn't incorporate any information for Wolbachia-infected Aedes albopictus.

- Line 349: I would suggest to discuss strengths and limitations of each of these different data sources in supporting information.

- Figure 3, Figure 4, and Figure 6: Add to the Figure legend a reference to the gray color (e.g. areas not included in the study) or just remove it from the background and limit your figure to your model predictions.

- I think authors should provide an additional paragraph to identify several limitations of the study addressed above in different points of my comments.

- SI1.3: The authors used 594 occurrences; however, they mentioned in the manuscript text that 612 points are available in Indonesia. Then, why the number of points is reduced in fitting the model. Further information is still required to explain further data processing in this step.

- SI1.3: Authors reported 19,992 unique presence points. Is it the same data reported by Messina et al. 2014 and last updated in December 2016? If this is true, then, the final set of records should be reported in the manuscript text (Line 192). I would also recommend the authors to provide the final dataset used in the supporting information or to cite the reference of this data.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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