Reviewer's report

Title: Aedes aegypti from temperate regions of South America are highly competent to transmit dengue virus.

Version: 2
Date: 6 December 2013

Reviewer: Lauren Carrington

Reviewer's report:

Lourenço-de-Oliviera et al, 2013. Submitted to BMC Infectious Diseases. Revision 1

The authors have addressed the comments of each of the reviewers with great care and attention. They have done a good job to satisfy majority of my concerns. While a few still remain, these are minor.

Questions:

Line 148: What is the reference (Ref 20) actually referring to? Is it the method for sorting? Please give just a bit more information here.

Lines 171-180: So this technique is an fluorescent focus assay? If so, please say this.

Line 180-181: Given that you just describe what I think is an FFA, you then say that you will report the DIR, a proportion. It seems strange that you go to the trouble of doing serial dilutions for the FFA when you could just do the IFA (a simple qualitative determination for each mosquito) to obtain the same information.

DIR, TR and TE: Your description in your response to the reviewers was very detailed and much appreciated. It is a shame that such detail cannot be included in the manuscript for the benefit of other readers though. Can I just confirm that:

DIR = # females with dissemination / # females tested
TR = # females with positive saliva / # females with dissemination
TE = # females with positive saliva / # females tested

Is this correct? If so, perhaps a very simply table or summary as above would help the reader.

Line 220: You are referring to the DIR here?

Lines 265-266: This “highest virus titers in the head” and the “highest dissemination of infection” to me appear the same thing. Or, is the second referring to the proportion of mosquitoes with the dissemination? Please clarify this.

Line 278: Please add after how many days infectious viral particles were detected in the saliva.

Line 284: At 26°C, the EIP for Aedes aegypti under large fluctuations tended to
increase, no decrease. Please address this.

Line 323: Is the TE that is higher in mosquitoes at 20°C relative to mosquitoes at 15°C? If so, please state this.

Line 377: Is there a definitive value for the household index? I didn’t see this in the reference indicated.

Suggested changes:

Lines 115-120: Because Aedes albopictus is not mentioned again after this single paragraph (in reference to being a vector), even in the discussion, I think this paragraph could be removed entirely.

Line 225-226: I feel this sentence would be more suitable at the start of the paragraph.

Line 300: Please include a reference for the environmental factors.

Line 338: Perhaps this could be changed to: “are expected to be capable to transmit DENV”?

Minor grammatical changes:

Line 91: Change “DENV strains were…” to “These strains were…”

Line 138: Please adjust first sentence to: “The mosquitoes used in this study were…”

Line 141: Please adjust the sentence to: “…were collected from March to May”

Line 157: In reference to FFU, the abbreviation should come after the term has been defined, not before. Please put the words first, then followed by the FFU abbreviation in brackets.

Line 164: Mosquitoes being "constantly incubated" sounds strange. Perhaps rephrase to “Fully engorged females were incubated at 28°C constant temperature…”

Lines 194, 276, 327, 331, and anywhere else I've missed: As mentioned in the previous review, the word order of “viral infectious particles” is inaccurate. It should be “infectious viral particles. Please correct this.

Line 199-200: Please adjust the sentence to: “Statistical significance was established when p-values were lower than 0.05.”

Line 208-209: Please adjust the sentence to: …the ACO population from northern subtropical Argentina performed the best in measures of DIR, TR and TE compared to the temperate….”

Line 211: No need to redefine DIR, especially when you have just used the abbreviation only 2 lines above.

Lines 290, 295 and anywhere else I’ve missed: The correct terminology is “vectorial capacity”, not “vector capacity”. Please fix this.

Lines 216, 225, 232: Unless the journal has specific guidelines stating otherwise, numbers below 11 should be written in full, rather than the number itself. I refer not to time points for example “Day 14 pi”, but to text such as “3 populations”.
Line 221: Please adjust the sentence to: “… when considering each mosquito population…”
Line 230: No need to say “In addition”.
Line 234: No need to say “significantly lowest”. The p-value indicates this already.
Line 242: “title” should be “titer”?
Line 308: Salto, not Santo.
Line 317: “In doing so…”, not “For doing so…”
Line 393: Is this author initial supposed to be GW?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests