

2024-08-11

Review of the manuscript "Bionomics and insecticide resistance of *Aedes albopictus* in Xi'an, a high-risk dengue transmission area in China" by Xiaogang Lei et al.

BASIC REPORTING

The manuscript is devoted to mosquito vector surveillance of dengue transmission and integrated mosquito control. This problem is relevant for China, because there was witnessed an increase of imported cases of the disease.

English language used throughout is clear and professional.

The abstract reflects the background, methods and content of the conducted research. Your abstract needs more details. I suggest you to increase the abstract to 500 words (3000 characters). The references are adequate and appropriate. 66 % of the referenced literature is new, published in the last 5 years. The structure of the manuscript conforms to PeerJ standards. Figures successfully illustrate the text of the research. They are relevant, high quality and well described. This manuscript has raw data supplied (in the folder "supplemental").

EXPERIMENTAL DESIGN

The research is original. Research question well defined, relevant and meaningful. It expands understanding of mosquito biology, ecology and effective methods of *Ae. albopictus* population control.

The investigation was performed in accordance with a high technical and ethical standard. Methods were described with sufficient detail. Modern methods of ecological analysis were used in this work: the Breteau Index (BI) and Container Index (CI) were used to assess larval density; the human-baited double net trap (HDN) to indicate human biting rate (HBR). The association between the meteorological factors and mosquito density was analyzed. The resistance of adults of *Ae. albopictus* to insecticides was studied.

VALIDITY OF THE FINDINGS

Conclusions are well stated, linked to original research question and limited to supporting results. All underlying data have been provided; they are reliable, statistically sound, and controlled.

COMMENTS

I commend the authors for their extensive data set, compiled over 2 years of detailed fieldwork.

Tips for improving your manuscript.

1. I suggest you to increase the abstract to 500 words (3000 characters).

2. Line 44. Replace *Aedes albopictus* with *Aedes albopictus* (Skuse, 1894). The first mention of any organism must include the full scientific name with the author and the year of publication.

3. Lines 283-284. The authors write: “We recommend local governments and health organizations to adopt an integrated management approach combining environmental treatment, biological control and chemical control before ...”. The mention of biological control is inappropriate, because the authors do not analyze it in the manuscript.

4. I propose to increase the conclusions and divide them into 6 parts: 1. conclusion according to the Breteau index, 2. results according to Levene's test, 3. conclusion according to the container index. 4. the results of the HBR analysis, 5. the effect of climate on the mosquito population, 6. resistance to insecticides.

Therefore, the work is relevant, meaningful and can be recommended for printing with minor corrections.

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