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| Journal Name: | Advances in Research |
| Manuscript Number: | 2014_AIR_12639 |
| Title of the Manuscript: | Environmental parameters and <i>Biomphalaria</i> snail distribution along River Kochi, West Nile region, Uganda |
| Type of the Article | Original Research Article |

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

| | Reviewer's comment | Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here) |
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| Compulsory REVISION comments | <p>Abstract:</p> <ul style="list-style-type: none"> - The abstract should be rewritten in a more concise way. Is the sampled locality a transmission focus? - Correlation coefficients should be placed immediately after the factor and state simply the relation: It would be better to write: <i>The abundances of Biomphalaria showed a positive relation with pH ($r=0.614$) but negative with water velocity ($r=-0.749$).</i> - The fact that the study was part of a Master project is not relevant to be placed in the abstract. <p>Introduction:</p> <ul style="list-style-type: none"> - It is not clear why authors, having identified two species of <i>Biomphalaria</i>, treat both as just one species: Have both species exactly the same ecology and more important the exact same role as a transmitting host of schistosomiasis? <p>Material and Methods:</p> <ul style="list-style-type: none"> - It is not clear why the study area was <i>generally</i> divided into three altitude zones? Was not these the zones used throughout the whole study? - The map (fig. 1) lacks quality and it is not understandable. I recommend it to be remade using a higher resolution. - Line 84: The authors have misspelled the genus <i>Lymnaea</i> (see also throughout the document). Besides that, authors should review updated | <ul style="list-style-type: none"> - Abstract rewritten and the comments under abstract section have been adjusted as recommended. - Introduction: We used morphological tools as guide for identification and were not able to identify more than one type of <i>Biomphalaria</i> based on this limitation. However, within the cited literature, we recognize the 2 types of <i>Biomphalaria</i> (<i>stanleyi</i> and <i>sudanica</i>). Both are transmitters of schistosomiasis although their ecology may vary slightly. - Materials and methods: The zoning of the study area is based on administrative boundaries of 3 districts of Koboko, Yumbe and Moyo through which the river flows. In each of these, permission had to be sought before data collection. - The clarity of the map has been reworked and the writings improved - The spelling of <i>Lymnaea</i> has been corrected all through the document. - We must acknowledge the fact that our main identification tool was the Field Guide to African Freshwater Snails, (2nd edn.) East African species of the Danish Bilharziasis Laboratory 1987. Access to updated literature promptly |



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| | <p>literature in order to check if the species observed are actually <i>Lymnaea</i> or the individuals belongs to species of the genus <i>Galba</i> and/or <i>Radix</i> which were formerly placed under the genus <i>Lymnaea</i> (see Correa et al. 2010; 2011).</p> <p>- Line 85: Some <i>Bulinus</i> species are also hosts of <i>Schistosoma haematobium</i> and the authors may want to mention why this species was not considered in their study in the same way as they did for <i>Biomphalaria</i>.</p> <p>- Line 88: Were water samples collected always at the same time of the day? It is known that daytime actually alters the values of some factors such as pH, temperature, etc. Authors should then specify.</p> <p>- The authors did not explain if they considered the nature of the variables correlated (normal distribution, variance homogeneity...) which is necessary to conduct parametric statistical analysis like the Pearson correlation.</p> <p>Results:</p> <p>- One would wonder why if sampling was performed during 30 minutes the snails abundances would not be given as ind/30' instead of the mean number. In this sense, it is recommended to graph the relative abundances monthly in order to better observe a patter or tendency in each sampled site.</p> <p>- Line 107: The statement: "<i>no Biomphalaria species of snails</i>" is not understandable.</p> <p>- Fig. 2 should be reconstructed: it lacks resolution and it is unnecessarily big. Authors may consider to place the legend box inside the graph and gain some space for publishing. There is no difference between <i>Bulinus</i> and <i>Lymnaea</i> in the legend.</p> <p>- In the results one would expect the authors to</p> | <p>is still a big issue in our part of the world. It is therefore possible for some overlaps to have occurred</p> <ul style="list-style-type: none"> - This masters project was not part of a bigger project that would have the liberty to explore many aspects of schistosomiasis. Time and financial limitations made me to limit the scope of the study to <i>Biomphalaria</i> a host to <i>S. mansoni</i> which is very rampant in the area. - Sampling in all sites were done between 8:00 – 8:30am in the morning - Normality of data was tested using Kolmogorov-Simonov test before subjecting data to parametric statistics - Results: Snail abundance varied greatly with season and as one moved downstream. That was one way we thought the information could be presented. - The statement in line 107 has been corrected. - Improvements on figure 2 have been made as separately recommended by different reviewers. Placing the legend box outside the graph is a requirement by the journal in the author guidelines. It had to in fact be pulled out and hence further affecting the resolution. - We recognised in the study the major species groups and could not go further to identify the different species under the bigger species group due to rudimentary identification tools. - Tables 1 and 3 have been |
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| | <p>give which species of <i>Bulinus</i> and <i>Pila</i> occurred in the area.</p> <ul style="list-style-type: none"> - Table 1: There is no need to write “0.00”, just “0”. - Line 118-119: The authors may want to state when the correlation was positive or negative and give the r coefficient in parenthesis with the probability value (P). - Table 2: this table is completely unnecessary if the authors simply state in the text the results of correlations (it just repeats information). This table is also embedded like a figure and not a Word table. - Fig. 3: this figure can be deleted and simply state that a strong negative correlation ($r = -0.899$, $P = ??$) was observed between pH and water velocity. In any case, this seems like an obvious statement after considering the correlations found between species abundance and pH and water velocity respectively. Authors may want to ask themselves if <i>Biomphalaria</i> individuals are actually affected by either pH or water velocity, or if only one factor is actually affecting the population but the correlation between both factors is giving a <i>ghost</i> effect to the population. - Fig. 4 & 5: The authors may want to consider placing both graphs inside only one figure (one adjacent to the other) and increase the resolution. <p>Discussion:</p> <ul style="list-style-type: none"> - The lines 157-160 of the first paragraph of the Discussion are merely results. - Line 161: The authors state that the presence of <i>Lymnaea</i> may pose a risk of <i>Fasciola hepatica</i> infection. However, since they do not specify the species of <i>Lymnaea</i>, they should not specify the species of the parasite since <i>F. gigantica</i> may | <p>recommended by other reviewers to be removed. Adjusting the “0.00” to just 0 cannot be effected.</p> <ul style="list-style-type: none"> - Table 2 has been deleted - Figure 3 has been deleted as recommended and the previously figure 4 has now become figure 3. - It is for sure not certain if either pH or water velocity or both and even other variables not considered here affect snails more altogether. Further investigation will be considered. - Values of association have been put in the figures but we left the two figure separate - Discussion: Noted and threat generalised to Fasciolosis rather than <i>Fasciola hepatica</i>. - We appreciate your commend on the discussion section. We wanted to maintain the focus of the paper to the topic and the objective and avoid deviating much. - Conclusion: Thank you very much for pointing out the most critical aspect of our conclusion which had been shadowed by more general statements. We have incorporated the aspect of environmental parameters (gist of the work) in the conclusion section. |
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| | <p>infect <i>Radix natalensis</i>.</p> <p>- Discussion is poor regarding scientific based relations that would explain the risks of schistosomiasis transmission with the ecology of <i>Biomphalaria</i> species occurring in the studied region. Social factors could be explored and discussed: Are pH, water velocity and altitude affecting the use of these freshwater ecosystems by humans and therefore <i>Schistosoma mansoni</i> transmission?</p> <p>Conclusions:</p> <p>- Besides what the authors want to expose in the conclusions regarding the risks the intermediary hosts of <i>Schistosoma</i> spp. pose in the Kochi River despite national efforts to control the disease, it would be necessary to conclude how exactly the results of this particular study (relations of <i>Biomphalaria</i> with ecological factors) contribute to vector managing and control.</p> | |
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| <p><u>Minor</u> REVISION comments</p> | <p>Some words seem to be placed together probably due to compatibility problems with Words processors but need to be taken care of. The English must be carefully revised. I suggest that authors write in third person instead of first.</p> <p>Introduction:</p> <ul style="list-style-type: none"> - Line 16: it should say: “for the human blood fluke” since authors are stating the species name. - Line 17: There is no need to repeat <i>in humans</i>, it was stated before. - The second paragraph of the introduction is too long and should be shortened to be easier to read. - Line 59: Authors may want to check if it must say border instead of boarder. <p>Results:</p> <ul style="list-style-type: none"> - This section is named “Results and Discussion”, but then there is another section named “Discussion” only ?? - Some tables have different font styles that must be corrected. | <ul style="list-style-type: none"> - We appreciate the comments and tried to effect the changes as recommended. - All these suggestions have been corrected and/or deleted, spellings corrected, and the corrections highlighted yellow in the main document. - We chose to report and discuss the results under independent subheadings to avoid deviating from the focus. |
| <p><u>Optional/General</u> comments</p> | <p>The manuscript deals with the ecology of <i>Biomphalaria</i> species in the West Nile region. The authors relate the abundances of <i>Biomphalaria</i> with some ecological factors that affect their populations. The ecology of snails that serve as hosts for parasites are always interesting to review in order to better understand the transmission and as a complement to control strategies. Therefore I believe the manuscript should be rewritten in a more concise way specifying the observations made in the revision.</p> | <p>Recommended changes made and highlighted in yellow. Thank you.</p> |