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PART 1:

Journal Name:	American Journal of Experimental Agriculture
Manuscript Number:	**MS: 2012 AJEA 2718**
Title of the Manuscript:	**Diversity and Community Structure of Benthic Insects in Fish Farm Ponds in Southern Côte d'Ivoire, West Africa.**

General guideline for Peer Review process is available in this link:
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- This form has total 9 parts. Kindly note that you should use all the parts of this review form.

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PART 2: 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)*
Compulsory REVISION comments	**Please see below**	
Minor REVISION comments		
Optional/General comments	Please see below	

General comments:

The manuscript needs profound reformulation, not only in the methods section, but also in the results and in the discussion. It could become an interesting paper if it is well organized and well written.

Specific comments:

Please change “Shannon-Weaver” diversity index name to “Shannon-Wiener” diversity index. See, for example, “Spellerberg, I. F. and P. J. Fedor (2003). “A tribute to Claude Shannon (1916–2001) and a plea for more rigorous use of species richness, species diversity and the ‘Shannon–Wiener’ Index.” Global Ecology & Biogeography **12**: 177–179.”

2.4 Statistical analysis

Please specify which logarithmic base was used for Shannon-Wiener index calculations. That can be indicated in Table 2, simply by showing the units of the index (bits, nats or nits), but preferably also in the Material and Methods section.

Please specify which form of Simpson index was used. According to your results, it seems that the “Dominance index form” was used. In this case care must be taken with the interpretation of the results, since the dominance index behaves in the opposite direction when compared with a diversity index. Please see “Krebs, C. J. (1999). Ecological methodology. Menlo Park, Benjamin / Cummings.” for some explanations about this index.

Which evenness index was determined? The one based on Shannon-Wiener index, as proposed by Pielou 1969? (Pielou, E. C. (1969). An introduction to mathematical Ecology. New York, Wiley.).

Did you previously test the normality of data before you use an ANOVA test? Perhaps some data would need a previous transformation?

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In this section, no mention was made to the Pearson correlation coefficient reported in Table 4. All methodologies used should be referred to in this section. Nevertheless, this is not the more appropriate correlation coefficient to be applied with this kind of data. I would advise the use of a non-parametric correlation coefficient such as the Spearman rank correlation coefficient.

The Canonical Correlation Analysis carried out needs to be detailed. Which data was considered for the analysis? Did the authors considered the average density of the different insects found in each of the five sampling stations/ ponds? In this case they have 5 stations x 16 taxa x 11 environmental parameters. It seems to me a reduced number of stations to carry out the analysis, when compared with the number of taxa and environmental parameters. The authors could look for possible patterns during the rainy season compared with the dry season, for example, duplicating the number of stations. Also the VIF factor (the variance inflation factor) needs to be verified, and, in case high values are found for some of the environmental variables, it would mean that some of them are extremely correlated and need to be removed from the analysis. A Monte-Carlo permutation test should also be carried out to test statistically whether the species are related to the environmental variables measured. Please see CANOCO manual or Ter Braak works on the appropriate methodologies.

Table 1 – There is no need for the abbreviation Do (dominance). It is sufficient to say in the table heading that the data refers to the list of benthic insects and dominance in percentage in the different stations.

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Care must be taken when establishing comparisons with other works. For example, in lines 345-353 it is difficult to understand which are the similarities with Ogbeibu 2001 work.

Usually the results and discussion are in separate sections. In the present paper they are in the same section, which causes, occasionally, some repetitions. Please see the following examples.

There are some repetitions in “Taxonomic richness” section: Compare lines 289 290 with lines 252 and 268. Compare also second and third lines with six and seven lines after “Diversity and similarity indices”

The paper lost line numbers!
In lines 9 and 10 after table 3 it is written “many taxa are represented digitally”. I do not understand what the authors wanted to say.

A revision is necessary in section 3.4, taken into consideration that the authors are comparing a dominance index (Simpson) with a diversity index (Shannon-Wiener).

The authors need to be more precise when reporting the results and discussing them. For example, in the last paragraph of section 3.4 the authors comment the significant results of the similarity indices used. However, no statistical test was applied neither a limit was established for considering a value “similar” or not.

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The section after 3.4 is section 3.1.5!

In section 3.1.5 – 3.5? it is better to use a different correlation coefficient, as advised above.

In the second paragraph, first line: are the authors presenting the results of a "Canonical Correspondence analysis" or of a "Redundancy analysis"? The CCA analysis needs to be explained in the methods section, as already reported, and it also needs some improvements. Care must be taken when discussing the results and comparing them with the results from other authors.

4. Conclusions

The authors did not show "that the variation of density of benthic insects in the fishponds was influenced by certain environmental parameters such as temperature …", please see the comments in the Methods section.

How can the authors conclude that "Aquaculture in fishponds can be balanced with conservation of aquatic insect diversity and density through management methods" if they did not present, discuss or test different management methods?

Note: Anonymous Reviewer