



SDI FINAL EVALUATION FORM 1.1

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.

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
Please see below <i>The manuscript seems much clearer in this revised version. However, some small details can be improved.</i> A general revision of the English is absolutely necessary by an English native speaker. <i>For example, the authors systematically wrote “.... unregistered” instead of “registered” or “found”. “Little literature” instead of “few / sparse literature”;</i> <i>Some sentences are hard to understand. Examples:</i> “The surrounding ecosystem of this station comprised of primary forest, Banco River and a few houses. In Azaguié, Anyama I and Anyama II, surrounding ecosystems comprised of agricultural landscape. surrounding ecosystems comprised of agricultural landscape. The immediate environment was characterized by a banana plantation and a degraded forest with grass cover consists largely of Poaceae (Azaguié), by a banana plantation, a teak plantation and a degraded forest (Anyama I) and a rubber plantation, some orange tree and a degraded forest (Anyama II).” “Each farm environmental variables and insects were respectively measured and sampled on the same day. One farm is sampled per day. The samples collected were sieved through 1 mm aperture size sieve. The six samples were pooled to form a sample of the pond per month and the remaining materials were preserved in plastic bottles containing 10% formalin.” “Dominance (Do) as most abundant taxa numerically of different species was described on the basis of relative abundance.” “In contrast, other active farms owned by individuals. The excessive cost of inputs often causes breaks in the distribution of the food which is not given optimal amount. The difference in the amount of food distributed to fish would be the basis of the difference observed between the content of nutrients. Ponds of Layo and Banco are aging compared to other stations. These ponds are no longer priests.” <i>The terminology used needs to be clarified, as well as the sampling procedure.</i>	Ok, we corrected them We reformulated this passage like this “The surrounding ecosystem of this station comprised of primary forest, Banco River and a few houses. In Azaguié station, the immediate environment was characterized by a banana plantation and a degraded forest with grass cover consists largely of Poaceae. In Anyama I station, the surrounding landscape is constituted by a banana plantation, a teak plantation and a degraded forest while in Anyama II station, it is a rubber plantation, some orange tree and a degraded forest”. We reformulated this passage like this “In each farm environmental variables and insects were respectively measured and sampled on the same day. One farm is sampled per day. The samples collected were sieved through 1 mm aperture size sieve. The six samples were pooled to form a sample of the pond per month. The total area sampled per station and sampling occasion is 1.62 m² (3 ponds x 6 replicates x 0.09 m²). The remaining materials were preserved in plastic bottles containing 10% formalin”. We reformulated this sentence like this” Dominance (Do) was described on the basis of relative abundance We reformulated this passage like this “Food is regularly supplied to fish, in contrast to other active farms that receive less rice bran. The varying levels of nutrients between farms are likely due an unequal distribution of fish food inputs among farms.Indeed, Inputs are often expensive. This fact causes breaks in the distribution of the food which is not given in optimal amount. This unequal distribution of food causes the difference observed between the content of nutrients. Ponds of Layo and Banco are aged compared to other stations. Cleaning of these ponds is no longer made”.



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Five fish farms were studied; in each farm (station) three ponds were sampled. In each pond 6 grabs were taken and pooled / or was it two grabs in each of the three ponds from each station – farm, which were pooled? The authors could add some information on the total area sampled per station and sampling occasion:
 6 replicate grabs of 0.09 m² = 6 x 0.09m²= 0.54 m² or was it: 3 ponds x 6 replicates x 0.09 m²= 1.62 m²?

Correct the abstract - erase the reds, keep the blues, if agreed:

Aims: The objective of this study is to identify the commonly occurring benthic insect fauna and workout their abundance, diversity, evenness, and degree of similarity in five fish farms in southern Côte d’Ivoire.
 Study design: Sampling was done in three ponds per station (farm). In each pond, sediment samples were collected monthly using a van Veen grab. In each pond, water samples were taken for physical-chemical parameter analysis.
 (...)
 Conclusion: The species reported for the first time contributed to the list of insects’ species from Ivorian aquatic ecosystems.

In “Materials and Methods, 2.1 Study site”, the authors wrote:

(...)
 “Bottom sediment are mostly composed by sand in Layo and Azaguié stations, by mud in Banco, sand and clay in Anyama I while in Anyama II station, mud and sand were the dominant substrat.”

I have difficulty in distinguishing clay from mud sediments. Does Mud signify a mixture of water and some combination of soil, silt, and clay?
 The authors apparently have determined sediment granulometry, since this information was used for Canonical Correspondence Analysis. However, no description was provided about the methodology used for granulometric analysis neither which classification method was used to group the grain size classes as “sand; mud and clay”. Usually the grain size classes are grouped as: “gravel, sand, and mud”; or “sand, silt, and clay”.

See, for example:
http://geology.about.com/od/sediment_soil/ss/Folk-Gravel-Classification.htm
<http://pubs.usgs.gov/of/2006/1195/html/docs/images/folk.gif>
<http://academic.emporia.edu/abersusa/qo324/sediment.htm>

In section 2.3 Measurement of Environmental variables (change Measure with Measurement) a short description on the granulometric analysis carried out must be included.

Correct Sampling Procedures - erase the reds; keep the blues, if agreed:

In each pond 6 grabs were taken and pooled. The total area sampled per station and sampling occasion is 1.62 m² (3 ponds x 6 replicates x 0.09 m²= 1.62 m²).

Ok, we did it

Speaking of mud, I meant silt

Ok, we did it



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“2 Sampling Procedures

In each pond, monthly samples were taken in six replicates using a van Veen grab of 0.09 m² internal area, between December 2007 and November 2008.”

Section 2.4 “statistical analysis” need to be clarified. The authors wrote:

“Detrended Correspondence Analysis (DCA) was first performed on taxa. The minimum length of the gradient is less than 3 SD. The linear method RDA appears most appropriate for analyzing our data. The importance of the canonical correspondence analysis was tested by the Monte Carlo test which showed a significance (*P-value* = 0.024, *F- ratio*= 2.93) for 499 permutations. Eight environmental parameters were returned for the analysis.”

If the authors performed a DCA and a RDA, and concluded that RDA appears more appropriate for analysing the data, why did they end up by carrying out a CCA? The authors can eventually mention some of the previous analysis they had performed but must then say that these results are not shown and why.

No explanation was given on the selection of the environmental variables included in CCA. Why that variables and not others?

Results and discussion:

Why is table 1 divided into two distinct sections?

Authors must be careful when describing the species projections on CCA triplot.

Please see “Ter Braak, C.J.F. and Verdonschot, P.F.M. 1995. Canonical correspondence analysis and related multivariate methods in aquatic ecology. Aquat. Sci., 57 (1995), pp. 255–289.”

The species are not directly correlated with the environmental variables. For example, it can be said that a species selects environments with higher pH and temperature values, in case the species is projected near these two variables.

For example, the authors wrote: “Brachythemis sp. and Chironomus imicola are positively correlated to conductivity”. A possibility could be to wrote: Brachythemis sp. and Chironomus imicola prefer / selects / choose brackish waters.

In page 12 the authors wrote:

“The pattern distribution according to environmental variables indicates that

Ok, we did it

Please, you are right, do not consider these claims , we adopt that analysis was done using Canonical Correspondence Analysis (CCA).

The selection of environmental variables was done using the Monte Carlo test which showed a significance (*P-value* = 0.024, *F- ratio*= 2.93) for 499 permutations.

In the first version of the document, the table could not fit on a single page that's why I split it into two parts, now at your level if you can make a single table that make me happy

Ok

Ok, we did it

Ok, we did it



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Ceratopogon sp. and Caenis sp., were associated to high value of pH, temperature, and dissolved oxygen.” Caenis sp was projected in the positive side of Axis II. Consequently, it is associated with sites with <u>lower</u> values of pH, temperature and dissolved oxygen. Authors must be careful with citations presented subsequently. Did the cited authors found preferences of most of their species by high pH, temperature and dissolved oxygen values? <i>In the present manuscript, according to CCA triplot presented in Figure 3, only two species showed those affinities: Cer - Ceratopogon sp and Tan - Tanypus fuscus.</i> <i>In page 13 the authors wrote:</i> “Likewise positive correlation was observed between both Ablabesmyia dusoleili and Cryptochironomus sp. and phosphorus. Macroplea sp. and Dipseudopsis capensis were positively correlated to ammonium.” <i>No correlation results were shown between any of the species collected and the nutrients data! Correlations were also not mentioned in section 2.4 Statistical analysis.</i>	Please, you are right, we are wrong, it is <i>Tanypus fuscus</i>. I forgot to remove this portion of the document which was part of the first version.
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