

Review of: "Ecological diversity, structure and exploitation of rattan stands according to a disturbance gradient around the Nkoltang forest, Estuary province of Gabon"

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Potential competing interests: No potential competing interests to declare.

Dear editor,

You will find below my review comment on the Manuscript entitle "Ecological diversity, structure and exploitation of rattan stands according to a disturbance gradient around theNkoltang forest, Estuary province of Gabon" submit in your journal by Nzengue et al.

I will begin by congratulate the authors for this innovative topic for which limited information are available especially in central Africa. However, I think in this form it is not suitable for publication. I recommend authors to consider my review comment below that can help them to improv their Ms.

Like general comment, I think the introduction do not reflect the title of this MS, some methodology details were not provided in appropriate sections. Results is also weak because authors were mostly focused on only descriptive analysis. Only descriptive analysis cannot be suitable. I suggest to you to explore some specific statistical analysis that will be taking into consideration to compare rattan parameter in function of level of disturbance. Check again. I also recommend to authors to check all the MS and provide all rattan scientific name in Italic. The figure provides in your Ms are all in French.

Specific comment point by point in function of different section can be found below:

Abstract

Introduction

Like general comment, I recommend authors to make a constructive idea. You context is too focus on Asian area? It is true that you want to make a general presentation but you was mostly focused on Asian ecosystem and have neglected those of central Africa even if it is only in the second page of introduction that we found some aspect concerning Africa. Many keys words of your study were weakly taking into account here because you were mostly focused on gradient and diversity. A solid context on rattan in Gabon and especially in locality of Nkoltang is weakly, the local used of rattan, the cause of disturbance, also problem statement of your study is missing or weakly presented. Also, there are many information for which you have not provide references. I think efforts are again required for introduction.

P2: “.....More than 600 species of rattan palms have already been inventoried, belonging to 13 genera (Dransfield et al., 2008) and representing about one-fifth of all palm species known in tropical forest regions (Uhl and Dransfield, 1987)”. These references are not old for that information? Because this mean that since 1987 for example, rattan represent one-fifth of all the palm? What about progress in this area? Try to update with work of Vorontsova et al. (2016). It is available in your reference section.

P2: provide reference for the last paragraph

P3: “...Among the few studies, we can mention that of Nforankah et al. (2021) which contributed to the inventory of five important commercial rattan species: *E. macrocarpa*, *C. deerratus*, *L. Secundiflorum*, *Laccosperma robustum* (Burret) J.Dransf., and *Eremospatha wendlandiana* Dammer ex Becc., *E. macrocarpa* which are found in all agroecological zones (AEZs) of Cameroon”. These authors have not showed that, because they mention that they have found these commercial rattan species in only 4 agroecological zone, not all. Check again that article.

P3:EAAs 2 and 5 while *L. secundiflorum* and *L. robustum* were found in EAAs 3, 4 and 5. In contrast, *E. wendlandiana* was found only in AEZ 4”. What mean EAAs? And also thee number?

P3: “...This means that the growth of certain rattan species is adapted to certain specific habitats/environments”. Please explain more. Make a constructive paragraph.

Methodology.

Ecological diversity, structure and exploitation of rattan stands are some keys words of your study. However, I have not really methodologically found how you collect each parameter according to disturbance gradient, explain very well what you done in each plots and how you collected and recorded your data.

Presentation of study area.

Can you provide a photo of the study area here?

Choice of study site.

P5 of this section. I think that you would exploit this information to more address your problem statement, it is not in appropriate section here.

Data collection methodology

P6: can you provide a figure of sampling design?

For each specific site, how many plot have install? Are you sure that the number of plot is suitable for data analysis?

Data analysis and proceedings

Why you make a normality text? You have not explained its importance. Before making Turkeys test, you will first make

ANOVA test to show if there are significant differences between them. Be careful!

Results.

This rattan abundance and richness, was found in how many area survey? Species habitat characterization, species preference site? Provide an analysis of rattan species communities for example, and then we can appreciate rattan species in function of site.

Figure 2: first, it is in French; second it is not necessary because information found here were already present in the comment. I suggest deleting it.

P8: "...In low and highly disturbed habitats, these species accounted for 57% (160 and 121) and 25% (70 and 53) of the stems surveyed, respectively". I am confused. You present 2 values and one percentage, and you have mentioned that is for low and highly disturbed habitats.

Rattan Cutting Pressure Level in Different Media

How have you evaluated this? I think it will be suitable to evaluate rattan cut in function of rattan available in the plots, this can give a percentage of rattan stand cut in function of rattan stand available. Even if it is the case, please reformulate your sentence and reader will be easily understanding your study

Regeneration of rattan stands in different environments.

We have not found methodologically how this data are collected and formulae used to evaluate its regeneration. In this sense I don't know which criteria I can use to evaluate this section.

Table 5&6&7 present only 6 rattan species, whereas you mention that you have recorded 7 rattan species. please check and explain. In addition, I suggest to authors to make a synthesis of these 3 tables by only one. For each species, just add 3 columns where you can present information for each species according to the 3 sites. And then, you will make a general comment.

Discussion.

Due to the absence of specific statistical or communities' analysis, it appears clear that some justification aspects are mentioned here with very limited information concerning the comparison of these 3 sites according to rattan stand and disturbance. There is some crucial information provided here without any references. Check and add.

P14 second paragraph "Also, the distribution of abundance of rattan stems in the different environments surveyed shows non-significant differences.". that is contrary to information provided in results section. Check again and verify.

References.

It is possible to update your reference because the majority is old. It is true that we have limitations of work on this topic, however, if you have possibility to update your references, do it. Also be sure that all reference there is in the text

and vis-versa.