

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.

- In the manuscript "Ecological diversity, structure and exploitation of rattan stands according to a disturbance gradient around the Nkoltang forest, Estuary province of Gabon," the authors provide a comprehensive assessment of rattan stands in the peri-urban forest of Nkoltang, Gabon. The study addresses important aspects such as abundance, species distribution, regeneration, and exploitation status of rattan species across different disturbance gradients. The findings contribute valuable insights into the ecological dynamics of rattan populations and their interaction with human activities in the region. The manuscript contains redundant paragraphs across different sections (Introduction, Results, and Discussion). The authors should conduct a thorough revision to eliminate these redundancies and streamline the narrative, emphasizing the novelty of the work, and major revisions are suggested. Additionally, attention to detail in language and grammar is recommended.

Abstract and Title

- The title could be more specific about the disturbance gradient and how it relates to the ecological diversity and structure of rattan stands. Consider providing more details to make the title more informative.
- The abstract could benefit from a more structured approach. Consider breaking it down into sections like Purpose, Methods, Results, and Conclusions for better readability.
- The abstract lacks specific details about the methodology used for rattan abundance assessment, species identification, and data collection. Providing more information on these aspects would make the study more reproducible.
- It is unclear from the abstract if any statistical analysis was performed on the data. If statistical tests were employed, it would be beneficial to mention them and their outcomes to support the validity of the findings.
- While the abstract mentions that artisanal exploitation seems to have no adverse effects, it would be helpful to include more information on how this conclusion was reached. What metrics or indicators were used to assess the impact? This would add depth to the study's conclusions.
- The abstract could elaborate on the ecological significance of the findings. How do the observed patterns in rattan stands contribute to our understanding of forest dynamics, biodiversity conservation, or sustainable resource management?
- Provide more context about why the Nkoltang forest was chosen for the study and how representative it is of peri-urban forests in Gabon. This would enhance the generalizability of the results.

- While the abstract mentions the relationship between regeneration and disturbance, additional details about this relationship, such as specific disturbance factors and their effects, would strengthen the study.
- Consider including a summary of the key quantitative findings in the abstract to give readers a quick overview of the main results.
- Discuss the broader implications of the study's findings for conservation efforts and the sustainable management of rattan resources in peri-urban forests.

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- The introduction covers a broad range of information, which may be overwhelming for readers. Consider reorganizing the content to enhance clarity and flow, ensuring that each paragraph transitions smoothly to the next.
- Clearly state the specific objectives or research questions early in the introduction to provide a roadmap for readers.
- Ensure that references are up-to-date, especially given the fast-evolving nature of ecological research. Check for the latest studies and integrate them into the introduction to strengthen the validity of the information presented.
- There is some repetition of information, such as the mention of rattan diversity in Southeast Asia and Central Africa. Streamline the text to avoid redundancy and maintain a concise narrative.
- While the introduction delves into the Southeast Asian and Central African contexts, consider providing a more global perspective on the importance of rattan palms and their ecological role. This could add depth to the significance of the study.
- Clearly articulate the research gap or hypothesis that the study aims to address. What specific knowledge does this research contribute, and how does it advance the current understanding of rattan ecology?
- It might be helpful to include a brief preview of the methodology to give readers an understanding of how the research was conducted. This can serve as a transition to the subsequent sections of the manuscript.
- Ensure consistency in the use of terminology throughout the introduction. Define any technical terms that may be unfamiliar to a broad audience, and avoid overly complex language where possible.
- While the introduction covers the ecological aspects well, consider briefly addressing the socio-economic aspects of rattan exploitation, as this is mentioned as a significant concern later in the text. Providing a balanced view could enhance the manuscript's relevance and impact.
- Clearly define the scope of the research and any limitations. This will help readers understand the context and generalizability of the findings.
- Engage more critically with the findings of previous studies cited, highlighting any conflicting results or gaps in knowledge that the current study aims to address.

Material and Method

- The description of the study area is detailed, but the information could be presented in a more organized manner. Consider structuring it into sub-sections such as "Geographical Location," "Climate," and "Vegetation" to enhance readability.
- It would be helpful to include a brief overview or summary at the beginning of the section to give readers a quick understanding of the study area and its significance.
- The rationale behind selecting the three sites along the disturbance gradient is not explicitly stated. Provide a clear

justification for choosing these specific sites and how they represent low, moderately disturbed, and highly disturbed environments.

- Provide more details on the methodology used for collecting data on the distribution, growth, and health of rattan stands. For instance, elaborate on the criteria used for selecting the square plots and the rationale behind choosing three plots in each environment.
- Clarify the role of transects in the study and why they were positioned parallel to each other and perpendicular to the river system.
- While rattan species identification is mentioned, it would be beneficial to provide more information on the reliability of the determination keys and the expertise of those involved in the identification process. Consider discussing potential challenges in identifying rattan species in the field.
- Specify the ecological parameters used for comparing sites along the disturbance gradient. Additionally, provide more context on why these specific parameters were chosen and their relevance to the study objectives.
- Clarify the graphical normality test and its significance in the context of the study. Readers may benefit from a brief explanation of why this test was chosen.
- Proofread the manuscript for language and style. There are some typographical errors and awkward sentence constructions that could be revised for clarity.

Results

- The results lack a clear structure, making it difficult for readers to follow the flow of information. Consider restructuring the text to improve the logical progression of ideas and results.
- While the results provide abundance percentages and mention the use of ANOVA, the manuscript does not include detailed statistical information, such as p-values or confidence intervals. Including this information is essential for the reader to assess the significance of the findings.
- Figures and tables are without proper statistical results (SE, ANOVA results, etc.).
- Some sentences are lengthy and complex, which may impede understanding. Consider breaking down complex ideas into shorter sentences for clarity.

Discussion and Conclusion

The discussion and conclusion are comprehensive but could be organized more clearly to ensure a logical flow of ideas and findings, making it easier for readers to follow the argumentation.

References

The manuscript lacks consistency in citation format. Standardizing the citation format throughout the manuscript would improve readability and professionalism.