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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The introduction provides a comprehensive overview of the diversity and importance of rattan palms, with a focus on Southeast Asia and Central Africa. The information is well-structured and follows a logical progression, moving from a general introduction to the global significance of rattan to more specific details about its distribution and utilization in different regions. However, it is very confusing when the title states that this is a study in Gabon, but the authors talk about rattan in Asia and get to Gabon much later in the introduction. This needs to be modified.

The use of references, such as Dransfield et al. (2008), Uhl and Dransfield (1987), and FAO (2011), adds credibility to the content and demonstrates a strong foundation in existing literature. The inclusion of specific studies, such as those by Hamid and Suratman (2010), Latiff (2011), and Watanabe and Suzuki (2008), contributes to a nuanced understanding of rattan ecology and distribution, especially in Southeast Asian countries.

The comparison between Southeast Asia and Central Africa in terms of rattan diversity is well-executed, providing readers with a clear understanding of the differences in species richness and environmental conditions. The mention of endemism in Central Africa adds an interesting dimension to the discussion.

The introduction generally sets the stage for the specific focus of the paper on the Nkoltang region, outlining the objectives and emphasizing the gap in knowledge regarding the ecological diversity, distribution, abundance, and composition of rattan along a gradient of disturbance or degradation. The clarity of purpose and well-defined research goals make the introduction engaging and informative.

Based on the data collection methodology provided, there is very limited statistical analysis conducted. Several other statistical analyses can be conducted to gain insights into the distribution, growth, and health of rattan stands. Here are some potential statistical analyses that can be performed:

Descriptive Statistics:

- Calculate measures of central tendency (mean, median) and dispersion (standard deviation, range) for variables such as the number of mature stems, seedlings, buds, and the size of different rattan stands.
- Provide summary statistics for the percentage of stem desiccation.

Correlation Analysis:

- Examine correlations between different variables, such as the number of mature stems, seedlings, and buds, to identify potential relationships in the growth patterns of rattan stands.
- Investigate correlations between harvesting pressure and vegetative state to understand the impact of harvesting on the health of rattan stands.

Spatial Analysis:

- Use geospatial data to analyze the spatial distribution of different rattan species within the study area.
- Explore spatial patterns of harvesting pressure and vegetative state across the plots.

Comparative Analysis:

- Compare the distribution, size, and regeneration of rattan stands among different environments within the study area.
- Assess the differences in rattan stands' characteristics along the transects.

Regression Analysis:

- Perform regression analyses to model relationships between environmental factors (e.g., proximity to river systems) and the distribution, size, and health of rattan stands.

Multivariate Analysis:

- Implement multivariate techniques such as Principal Component Analysis (PCA) to identify the most important factors influencing the overall health and distribution of rattan stands.

The discussion section provides a comprehensive overview of the findings related to rattan species distribution, abundance, exploitation pressure, regeneration, and vegetative state in the peri-urban forests of the Nkoltang region in Gabon. Here are some suggestions for improvement:

Stem Diameter Information:

- Acknowledge the study's limitation regarding the absence of information on the diameter of rattan stems. Suggest the importance of incorporating such data in future studies as it could contribute to the development of regulations specific to exploitability diameters.

Comparison with Previous Studies:

- When discussing differences in species richness with the study by Defo (2005) in southern Cameroon, elaborate on potential reasons for the variations, such as differences in sampling efforts, methods of identification, or ecological differences between the two study areas.

Vegetative State Interpretation:

- Clarify the interpretation of the vegetative state results, especially the ratio of young to mature plants. Provide more context on why this ratio is considered an indicator of good renewal capacity and link it explicitly to the ecological health and sustainability of rattan stands.

Cutting Pressure Analysis:

- Clearly explain the implications of the cutting pressure results and how the observed patterns align or differ from expectations. Discuss the ecological and socio-economic factors influencing cutting pressure and compare the findings with Defo's work in Cameroon.

Sustainability of Exploitation:

- In the conclusion, elaborate on the ecological sustainability of rattan exploitation in the Nkoltang area. Discuss the implications of the findings for the development of sustainable management policies, considering the observed abundance, regeneration, and cutting pressure.

Recommendations for Future Research:

- Provide clear recommendations for future research, highlighting specific aspects that need further investigation. For instance, suggest additional studies to explore the ecological impact of rattan exploitation over more extended periods or to validate the habitat preferences of certain species.

Language and Clarity:

- Ensure clarity and precision in language throughout the discussion to avoid any ambiguity or misunderstanding of the results and interpretations.

By addressing these points, the discussion section can be further refined to enhance the clarity, depth, and contextualization of the study's results.