

Review of: "Listening to the Bats of Carajás: Applied Bioacoustics for Species Inventory and Environmental Use in a Mosaic of Forests, Savannas, and Industrial Mining in the Brazilian Amazonia"

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Potential competing interests: No potential competing interests to declare.

In general, I find this work to be innovative and a valuable contribution to the bioacoustics of bats in the region. I have also read some of the reviewers' comments. However, I have three main areas where I recommend **MAJOR REVISIONS** to strengthen the rigor and credibility of the findings:

Species Identification and Assumptions: I share Bruce Miller's concerns regarding species assumptions, particularly with species in the genera *Thyroptera* and *Cynomops*. The current approach appears to assume the presence of certain species based on acoustic signatures that may not have been definitively confirmed. My biggest concern is that these assumptions could introduce discrepancies into the data, ultimately affecting the reliability of the study's conclusions. I strongly recommend omitting any species from the described ranges and acoustic profiles if there is a lack of certainty in identification. Including uncertain species data risks the accuracy of the work and may lead readers to draw conclusions based on unverified information. This point is crucial for maintaining scientific rigor, and I suggest that the authors carefully consider the implications of including these assumptions before proceeding to publication.

Specificity in Methodological Details: I also support William's observations on the need for greater specificity in certain methodological aspects, particularly regarding randomization procedures and cutoff settings. The use of randomizations and statistical thresholds (cutoffs) is critical in establishing the validity of the findings, yet these elements appear to be somewhat vague in the current manuscript. Greater clarity on these points would provide readers with a clearer understanding of the robustness of the analyses. It would be ideal to incorporate William's comments in refining the descriptions of these methodological choices, as well as in adjusting the figures to more accurately represent the data and conclusions based on his comments.

Presentation, Language, and Broader Context: Lastly, in terms of presentation, I recommend a thorough review of the language, citations, and overall structure of the manuscript. Specifically, refining the English would improve readability, and a careful check of citations is essential to ensure accuracy and adherence to format. Additionally, I feel the conclusions could be made stronger by incorporating a more comparative discussion with findings from other tropical regions, perhaps including studies from other countries. This comparative perspective would not only broaden the study's relevance but also reinforce the validity of the conclusions by situating them within a broader context. This additional

discussion would give readers insights into how the findings contribute to a global understanding of bat bioacoustics and could provide a foundation for future studies in other tropical environments.