

Peer Review

Review of: "Feeding Ecology and Activity Rhythms of the Critically Endangered Hawksbill Turtle"

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Abstract

The first two sentences of the abstract could benefit from a clearer logical connection. While the importance of hawksbill turtles as keystone species is well stated, the link to the study's aim feels abrupt. Consider adding a brief sentence or clause that explains how understanding activity rhythms and dietary preferences is relevant to mitigating the species' decline and supporting coral reef ecosystems. This would help set the stage more effectively for the study's objectives.

Introduction

The introduction is informative and well-referenced and sets the stage effectively for the study. With some reorganization and clearer articulation of objectives, it will serve as a strong foundation for the manuscript.

Improve logical flow between paragraphs. The transition from the ecological importance of hawksbills to the aim of the study feels abrupt. Consider adding a brief bridging sentence that explicitly connects the need for ecological understanding (diet and behavior) with the species' decline and its consequences for reef systems.

Clarify the study's hypothesis or key questions. While the general aim is stated, the introduction would benefit from a more explicit articulation of the hypotheses or research questions driving the study. For example: Do hawksbills in Martinique preferentially feed on specific sponge families? Do their activity rhythms show consistent daily patterns?

Shorten and separate paragraphs. Some paragraphs are long and cover multiple themes (e.g., physiology, threats, site fidelity, ecological roles). Dividing these into shorter, more focused paragraphs would

improve clarity and readability.

Minor taxonomic formatting correction. In the first mention of the species, the taxonomic authority appears with double parentheses: "*Eretmochelys imbricata* (Linnaeus, 1766)". This should be corrected to remove the inner parentheses.

Methods

The methodological design is strong and builds on best practices in marine turtle research. Addressing the points above will ensure full transparency and reinforce the validity of the study's analytical framework.

Sampling overview and deployment success:

While eight turtles were captured, only five individuals yielded usable video data from six deployments due to technical issues. These figures are somewhat dispersed throughout the text; a summary at the start of the Methods or in a table would help clarify the actual sample size used in analyses.

Pseudoreplication concern:

One individual turtle (#0786CBC6) was equipped twice (deployments #3 and #6), yet it is unclear whether these deployments were treated as independent data points in behavioral or statistical analyses. If so, this would constitute pseudoreplication and may violate assumptions of independence in inter-individual comparisons. Please clarify how repeated data from the same individual were handled and, if both deployments were included, how statistical dependency was accounted for.

Behavioral categorization and justification:

The behavioral categories were adapted from previous green turtle studies. While the approach is logical, a brief justification for applying this classification scheme to hawksbills—considering their distinct feeding strategies—would strengthen the methodological rationale. Acknowledge any limitations this may entail.

Statistical analysis details:

Some statistical tests (e.g., ANOVA, Kruskal-Wallis) appear later in the Results section, but no dedicated description of the statistical methods is provided here. Please include a short subsection describing the statistical tools used, significance thresholds, assumptions checked, and software packages applied.

Taxonomic resolution and limitations:

The dietary analysis was based on bite counts, yet only 20% of bites could be confidently assigned to a prey family, largely due to camera angle and sponge identification challenges. While this is a common

issue in turtle-borne camera studies, it deserves a clearer acknowledgment here, not only in the Discussion.

Habitat sampling design:

The transect-based sampling of potential prey was spatially limited (three transects). It would be useful to indicate whether this effort was replicated over time or habitat zones, and whether any biases (e.g., diver selectivity, depth limitations) may have affected sample completeness.

Results

The current Section 3.1 provides extensive detail about capture chronology and technical issues during deployment, including camera failures and missing turtles. While this information may be useful for internal reporting, it is not essential for the scientific narrative of the manuscript. I recommend condensing this section into a short paragraph within the Methods section, clearly stating the effective sample size (six deployments from five individuals) and briefly noting that some data were excluded due to technical failure. This would improve readability and maintain focus on the ecological findings.

The proportion of time spent feeding, depth distributions, and prey families are all well documented. However, a key point remains unresolved. One individual (#0786CBC6) was tagged twice, and while the manuscript correctly states that the data come from six deployments across five individuals, it is not clear how this was handled in statistical analyses. If both deployments were treated as independent data points in between-individual comparisons (e.g., ANOVA, Kruskal-Wallis), this would introduce pseudoreplication. Please clarify whether data were aggregated by individual, or whether statistical tests accounted for repeated measures from the same turtle. This is essential to ensure the validity of the comparative analyses.

Additionally, consider including a summary table indicating which deployments were included in behavioral and dietary analyses to improve transparency. While the prey selection comparison is informative, including a statistical assessment of prey electivity would further strengthen this section.

Across multiple sections of the manuscript (particularly in Results and Discussion), the narrative often begins with redundant phrases that repeat information already provided in the Methods section (e.g., “For the six individuals...”, “Of the 3,434 bites recorded...”). I suggest reviewing the manuscript to eliminate such preambles where they are not necessary and to start each paragraph with the most salient result or interpretation. This will enhance the manuscript’s clarity, streamline the flow, and align it more closely with the concise style expected in scientific journals.

Tables and figures

Tables and figures present valuable data but require careful revision to prevent misinterpretation of sample size, highlight the limits of prey classification, and better link dietary observations to habitat sampling. A more transparent, standardized presentation across figures and tables, combined with basic statistical support for prey selectivity, would significantly strengthen the clarity and impact of the manuscript's visual data.

I recommend careful proofreading to correct minor but recurring formatting inconsistencies, including:

Avoiding consecutive closing parentheses, especially near figure/table citations.

Standardizing spacing between numbers and units (e.g., "14.43 ± 9.72 m").

Using en-dashes (–) for numerical ranges instead of hyphens (-), e.g., "27–32 °C".

Inserting commas after introductory clauses (e.g., "...3,434 bites, of which 644 were...").

Ensuring consistent formatting of scientific terms and symbols (e.g., Br-compounds, C/N ratios).

Adding a space between text and references, e.g., "et al. [7]" instead of "et al.[7]".

While these do not affect the scientific content, addressing them would enhance the clarity and professionalism of the manuscript.

Declarations

Potential competing interests: No potential competing interests to declare.