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Peer Review

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

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Introduction

introduction offers a compelling ecological rationale and conservation urgency for studying hawksbill turtles (*Eretmochelys imbricata*) in the French West Indies, particularly Martinique. It situates the study well within marine ecology and biodiversity conservation frameworks. However, while the scientific depth is commendable, certain areas could benefit from improved conciseness, flow, and clarity. Additionally, the core research question or hypotheses are not explicitly stated in a format expected by academic reader

Strengths: Comprehensive Literature Integration (The use of citations and historical context effectively supports the rationale), Ecological Significance (Emphasizes ecosystem-level impacts of hawksbill decline), Geographic Focus (Martinique is clearly justified as a study site) and Species-Specific Detail (Insightful discussion on trophic behaviors and morphological traits).

Suggestions: Explicit Research Question (Add a clear statement such as: “Therefore, this study investigates the diet composition and behavioral patterns of hawksbill turtles in Martinique, with a focus on identifying key foraging grounds and species-specific trophic interactions.”), Hypothesis Clarity (Consider framing hypotheses, e.g.:”We hypothesize that hawksbills in Martinique exhibit selective feeding behavior on sponge species with lower chemical defenses and display site fidelity influenced by habitat type and prey availability.”), Repetition of “critically endangered” (Used frequently: consider variation such as “imperiled species,” “declining populations,” or simply “hawksbills.”)

Materials y Methods

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The methods are exemplary in terms of technical depth and ecological specificity. You clearly articulate study design, data collection techniques, behavioral classification, and prey analysis—reflecting robust methodology grounded in previous work on green turtles.

Strengths: Rich in Technical Detail (Equipment specifications, observational tools, and classification frameworks are well described), Strong Spatial and Temporal Framing (The geographic and seasonal scope is clear). Methodological Innovation (Use of onboard cameras and integration of multiple sensors shows advanced ecological tracking), Replication Potential (The capture and tagging protocol is replicable, especially with referenced procedures).

Results

This results section adds empirical weight to your study with precise behavioral and ecological data, innovatively collected and skillfully analyzed. The integration of biometric tagging, multi-sensor video analysis, and DNA barcoding exemplifies modern ecological fieldwork

Strengths: Rigorous Data Collection (High-resolution time-budget data and tagging protocols are clearly explained), Quantitative Insight (Behavioral and dietary metrics are well quantified), Clear Linking Between Observations and Sampling (Bridging video analysis with prey transects and taxonomic validation is excellent), Transparency (Notes on camera loss and data exclusion demonstrate high scientific integrity).

Discussion

The discussion effectively interprets behavioral, physiological, and ecological findings of Eretmochelys imbricata in Martinique, linking them to broader conservation and methodological frameworks. The scope and depth reflect strong scholarship. However, the section would benefit from: More concise and cohesive flow, Clear reiteration and framing of the study′s hypotheses, Refinement of syntax and academic tone. Moreover, provides compelling evidence of regional diet specialization in *Eretmochelys imbricata*, supported by cross-validation among video, field, and laboratory datasets. It advances our understanding of hawksbill trophic ecology, symbiont-driven prey selection, and potential biochemical benefits linked to sponge consumption. The narrative successfully situates these findings within the broader ecological and conservation landscape.

Strengths: Rich Data Interpretation (Behavioral time budgets, sex differences, and physiological speculations are examined in depth), Comparative Analysis (Anchors findings in context with captive studies, green turtles, and prior hawksbill research), Methodological Transparency (Notes on V-Net

classification challenges and tagging recapture success bolster credibility), Triangulated Data Integration (The use of behavioral video data, habitat sampling, and lab-based identification is exemplary), Novel Findings (The confirmation of Aplysinidae and Irciniidae as diet items is significant, especially with biochemical implications), Microbial Ecology Linkages (the association between sponge microbial abundance and turtle foraging preferences is well-argued), and Conservation Framing (Macroalgae invasions and reef degradation are effectively connected to hawksbill feeding behavior).

Suggestions:

Reiterate research aims explicitly: e.g., "This study aimed to characterize hawksbill trophic behaviors and time allocation in Martinique, hypothesizing sex-based variation in energy expenditure and site fidelity." Clarify whether resting might reflect post-capture acclimation or a natural diel rhythm. Expand briefly on the ecological implications of aggression and social signaling (e.g., population density thresholds, resource saturation). Phrases like “it is probable” and “might have a strong correlation” need cautious framing. Suggest using: “While direct evidence is lacking, observed behaviors suggest a potential thermoregulatory function, warranting further research...”; clarify Dataset Consistency (When cross-referencing video and habitat data, specify sampling frequency and detection overlap). Briefly reconnect findings with your stated hypotheses (e.g., “The observed preference for Porifera, especially Aplysinidae and Irciniidae, supports our hypothesis of selective sponge predation and potential dietary specialization among hawksbills in Martinique.”)

Declarations

Potential competing interests: No potential competing interests to declare.