

ENVIRONMENTAL SMOKE

UNINASSAU

e-ISSN: 2595-5527
Doi: 10.32435/es2025nassau01
Special Issue **UNINASSAU**
ID manuscript: es2025nassau01
2025

SPECIAL ISSUE UNINASSAU:

Interdisciplinarity expanding the paths to social well-being

A interdisciplinaridade ampliando os caminhos do bem-estar social

Type of Manuscript:
Abstract

MUTUALISTIC RELATIONSHIPS FOR THE PRESERVATION OF THE BRAZILIAN HARPY EAGLE Harpia harpyja (LINNAEUS, 1758)

Gil Dutra Furtado[1]; Cristhopher Augusto de Oliveira Lima[1]*

In nature, mutualistic interactions are a reality that some authors have documented, occurring directly or indirectly among a large number of species (TOWNSEND; BEGON; HARPER, 2009). The harpy eagle, a bird of prey also known as the Brazilian harpy eagle (*Harpia harpyja*), is the largest eagle in the Americas, found in tropical forests of Central and South America and dependent on these environments for its survival (FONSECA, 2023). In Brazil, the harpy eagle is primarily recorded in the Amazon and Atlantic Forest, with rare records in other regions, such as central Brazil. Hunting and forest fragmentation threaten its existence, leading to this species being classified as endangered and classified as Vulnerable throughout its range (FONSECA, 2023). The breeding success of Accipitriformes depends on several factors, especially those found in captivity. Some of these factors are identified as temperature, food, and nesting material, and probably mutualistic interactions (GALETTI; CARVALHO, 2000; ALBUQUERQUE, 1995; BANHOS, 2009). Researchers observed an adult specimen that had traveled from Germany and recovered from respiratory difficulties in the presence of native bees, which sparked the issue of interactions between harpy eagles and bees (LOBATO et al., 2007). The mutualism observed was between harpy eagles and native bees *Paratrigona lineata* (Lepeletier, 1836) (Apidae: Meliponinae). Interactions like this have been reported in other birds, which is the focus of this literature review, which was based on research from scientific journals. Knowledge about the potential benefits that interactions with stingless bees can bring to birds is practically nonexistent, making it urgent to analyze these interactions between harpy eagles and native bees. The results will contribute to the development of management strategies for species conservation.

Keywords: Accipitriformes. Native bee. Reproduction.

[1]Maurício de Nassau University Center (UNINASSAU-PB), Av. Pres. Epitácio Pessoa, 1213, 58039-000 João Pessoa, Paraíba, Brasil.

*Corresponding author: gdfurtado@hotmail.com

CREDIT AUTHORSHIP CONTRIBUTION STATEMENT
GDF conceived the article; CAOL wrote the article; CAOL and GDF made corrections.

DECLARATION OF INTEREST
The authors declare that they have no conflict of interest.

FUNDING SOURCE
The authors declare that there is no funding applicable to this research.

REFERENCES

ALBUQUERQUE, J.L.B. Observations of rare raptors in Southern Atlantic Rainforest of Brazil. **Journal of Field Ornithology**, v. 66, n. 3, p. 363-369, 1995. Available from: https://digitalcommons.usf.edu/jfo/vol66/iss3/5/. Accessed on: 19 Sep. 2025.

BANHOS, A. **Genética, distribuição e conservação do gavião-real (*Harpia harpyja*) no Brasil**. 2009. 163 f. PhD Thesis (Doctor of Tropical Biology and Natural Resources) — Instituto Nacional de Pesquisas da Amazônia, Universidade Federal do Amazonas, Manaus. 2009. Available from: https://repositorio.inpa.gov.br/handle/1/37467. Accessed on: 09 Aug. 2025.

FONSECA, M.K.X. **Genética da conservação do gavião-real (Harpia harpyja, Linnaeus, 1758) no Brasil**. 2023. 86 f. MSc Thesis (Master in Zoology) — Universidade Federal do Amazonas, Manaus, 2023. Available from: https://tede.ufam.edu.br/handle/tede/9733. Accessed on: 19 Jan. 2025.

GALETTI, M.; CARVALHO, O. Sloths in the Diet of a Harpy Eagle Nestling in Eastern Amazon. **The Wilson Bulletin**, v. 112, n. 4, p. 535-536, 2000. Available from: http://dx.doi.org/10.1676/0043-5643(2000)112[0535:SITDOA]2.0.CO;2

LOBATO, D.N.C.; ANTONINI, Y.; MARTINS, R.P.; AZEREDO, R. Visita de abelhas a narinas de aves de rapina (Accipitridae e Strigidae): Mutualismo facultativo? In: CONGRESSO DE ECOLOGIA DO BRASIL, 8., 2007, Caxambu. **Anais** [...]. São Lourenço: SEB, 2007. p. 1-2. Available from: https://www.seb-ecologia.org.br/revistas/indexar/anais/viiiceb/pdf/716.pdf. Accessed on: 11 Mar. 2025.

TOWNSEND, C.R.; BEGON, M.; HARPER, J.L. **Fundamentos em Ecologia**. Tradução de Leandro da Silva Duarte. Porto Alegre: Editora Artmed, 2009. Available from: https://loja.grupoa.com.br/fundamentos-em-ecologia-p990539?srsltid=AfmBOopr9Qv_jcDOK2_IlUWDmDJc2pRsxhGGWi4e9Vq6TDajz-bMOir6. Accessed on: 20 Apr. 2025.

Submitted on: 19 Oct. 2025
Accepted on: 25 Oct. 2025
Published on: 27 Oct. 2025

© Copyright 2025