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**Investigaciones Científicas en el Pacífico Norte
de Costa Rica y Pacífico Sur de Nicaragua**

**Scientific Research in the North Pacific
of Costa Rica and South Pacific of Nicaragua**

Beatriz Naranjo-Elizondo y Jorge Cortés

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Manglar de Papaturro en el primer plano (La Cruz, Costa Rica), Bahía Salinas al fondo (Costa Rica-Nicaragua).

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ABSTRACT. Introducción: Interspecific interactions among tropical mesocarnivorous species and other mammalian trophic guilds have been poorly studied, despite their important implications in the survival, structure, demography, and distribution of these species. **Objective:** To analyze if sympatric mesocarnivores coexist or compete in the axis of the temporal and spatial niche. **Methods:** From January 2015 to December 2016 we recorded mammals with 26 stations of camera traps (in pairs, facing each other) along roads and animal trails, at Reserva de la Biosfera El Cielo, Tamaulipas, Mexico. We calculated temporal and spatial overlaps with the Czezanowski and Pianka indices. **Results:** We obtained 239 margay, 118 ocelot and 22 yaguarundi records. Margay and ocelot were nocturnal (75 % of their records) and had a high temporal overlap (0.85); whereas yaguarundi was fully diurnal, suggesting it may be able to coexist with the other two species. The three species used similar habitats: yaguarundi had 0.81 spatial overlap with margay and 0.72 with ocelot; spatial overlap between margay and ocelot was intermediate (0.53). **Conclusions:** There is no interspecific competition among these tropical mesocarnivores, probably due to antagonistic interactions leading to use of different parts of the temporal and spatial axes.

- * Sample based on *Interacciones temporales y espaciales de mesocarnívoros simpátricos en una Reserva de la Biosfera: ¿coexistencia o competencia?* By R. Carrera-Treviño, et al. (*Revista de Biología Tropical* 66, 3 (2018): DOI 10.15517/rbt.v66i3.30418)

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RESUMEN. Introducción: Las interacciones entre especies de mesocarnívoros tropicales y otros gremios tróficos de mamíferos han sido muy poco estudiadas, a pesar de sus importantes aplicaciones en la supervivencia, estructura, demografía, y distribución de estas especies. **Objetivo:** Analizar si los mesocarnívoros simpátricos coexisten o compiten en el eje del nicho temporal y espacial. **Métodos:** De enero 2015 a diciembre 2016, registramos mamíferos con 26 estaciones de cámaras trampa (en pares, una frente a la otra) a lo largo de caminos y veredas, en la Reserva de la Biosfera El Cielo, Tamaulipas, México. Calculamos el traslape temporal y espacial con los índices de Czezanowski y Pianka. **Resultados:** Obtuvimos 239 registros de margay, 118 de ocelote y 22 de yaguarundi. El caucel y el ocelote son nocturnos (75 % de sus registros) y mostraron un alto traslape temporal (0.85); mientras que el yaguarundi fue totalmente diurno, sugiriendo que puede coexistir con las otras dos especies. Las tres especies usaron hábitats similares: el yaguarundi tuvo un traslape espacial de 0.81 con el caucel y de 0.72 con el ocelote; el traslape espacial entre el caucel y el ocelote fue intermedio (0.53). **Conclusiones:** No hay competencia interespecifica entre estas especies de mesocarnívoros tropicales, probablemente debido a interacciones agresivas que conducen al uso de partes diferentes de los ejes temporal y espacial.

- * Ejemplo basado en *Interacciones temporales y espaciales de mesocarnívoros simpátricos en una Reserva de la Biosfera: ¿coexistencia o competencia?* Por R. Carrera-Treviño, et al. (*Revista de Biología Tropical* 66, 3 (2018): DOI 10.15517/rbt.v66i3.30418)


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DEDICATORIA

Dedicamos este Suplemento sobre el Pacífico Norte de Costa Rica y Sur de Nicaragua al Dr. Daniel H. Janzen, Doctor Honoris Causa 2021 de la Universidad de Costa Rica y a la Dra. Winnie Hallwachs, investigadora del Área de Conservación Guanacaste: Gracias a sus contribuciones al conocimiento biológico y a las múltiples iniciativas de conservación que han liderado, las áreas silvestres de Costa Rica se han visto enormemente beneficiadas, especialmente el Área de Conservación Guanacaste. Su dedicación y amor por Costa Rica es un ejemplo a seguir para todos los que amamos Costa Rica y la naturaleza.

DEDICATION

We dedicate this Special Issue on the North Pacific of Costa Rica and the South Pacific of Nicaragua to Dr. Daniel H. Janzen, Honorary Doctor 2021 of the University of Costa Rica, and to Dr. Winnie Hallwachs, researcher at Área de Conservación Guanacaste. Their contribution to the advancement of biological knowledge and their push for wildlife conservation have greatly benefited vast areas of Costa Rica, especially in Área de Conservación Guanacaste. Their dedication and love for Costa Rica are a model for all of us who love Costa Rica and its nature.



Prólogo

El Pacífico Norte y el Pacífico Sur de Nicaragua es una región de una gran riqueza biológica, geológica, económica y social. Allí se mezcla el bosque seco con el bosque lluvioso, el mar con las islas y la naturaleza con la gente. Es una región influenciada por el afloramiento de Papagayo, la surgencia de aguas frías marinas durante la época seca, que genera una abundancia de vida en el mar.

Como muestra de esa riqueza marina, en este Suplemento, más de la mitad de las contribuciones están dedicadas a avances en el conocimiento de la biodiversidad marina de la región. Se incluyen también contribuciones desde las ciencias sociales, la geología y la física de la región. Dentro de esas áreas, las publicaciones aportan información sobre la gestión de fronteras marítimas, la arqueología y el turismo sostenible, la geología del borde costero, los cambios climáticos proyectados, así como diversos aspectos oceanográficos de la zona.

Esperamos que este Suplemento sobre el Pacífico Norte de Costa Rica y el Pacífico Sur de Nicaragua promueva más investigación en la región y que ayude a informar en procesos de toma de decisión y actividades educativas. Agradecemos a los autores y las autoras de cada trabajo, así como a las más de sesenta personas que con sus comentarios y sugerencias ayudaron a mejorar la calidad de los manuscritos.

Foreword

The North Pacific and the South Pacific of Nicaragua is a region of great biological, geological, economic and social wealth. There the dry forest mixes with the rain forest, the sea with the islands and nature with the people. It is a region influenced by the Papagayo upwelling, the emergence of cold marine waters during the dry season, which generates an abundance of life in the sea.

As a sample of this marine wealth, in this Special Issue, more than half of the contributions are dedicated to advances in the knowledge of the marine biodiversity of the region. Contributions from the social sciences, geology and physics of the region are also included. Within these areas, the publications provide information on maritime border management, archeology and sustainable tourism, coastal geology, projected climate changes, as well as various oceanographic aspects of the area.

We hope that this Special Issue on the North Pacific of Costa Rica and the South Pacific of Nicaragua will promote more research in the region and help inform decision-making processes and educational activities. We thank the authors for their manuscripts, as well as the more than sixty reviewers who with their comments and suggestions helped to improve the quality of the manuscripts.

Beatriz Naranjo-Elizondo & Jorge Cortés
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