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Conference Abstract

Establishment and Ecological Impact of the InvasiveRed-Tailed Boa (*Boa constrictor*) in Puerto Rico

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Abstract

The introduction of the red-tailed boa *(Boa constrictor*) to Puerto Rico, first recorded in the early 1990s, represents an increasing ecological threat to the island's native fauna. This study integrates results from ongoing research addressing the ecology, reproductive biology, and morphological adaptations of this invasive species. More than 1,900 individuals were provided by the Puerto Rico Department of Natural and Environmental Resources between 2011 and 2024. Analyses revealed that the species maintains a female-biased sexual size dimorphism consistent with continental populations, although a slight tendency toward island dwarfism was detected. Dissections indicated reproductive activity throughout the year, suggesting a loss of reproductive seasonality compared to its native range. Dietary analyses identified rodents (*Rattus norvegicus* and *Mus musculus*) as the most frequent prey, along with birds and reptiles, confirming its role as a large generalist predator. Furthermore, nocturnal surveys showed no correlation between activity levels and lunar phases, implying continuous foraging behavior. Collectively, these findings demonstrate that *B. constrictor* is established and well adapted to multiple habitats in Puerto Rico, exhibiting active reproduction, broad dietary plasticity, and ecological traits that may significantly impact native species. The information generated provides a scientific basis for developing management and

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mitigation strategies aimed at reducing the ecological consequences of this invasive snake.

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Conflicts of interest

The authors have declared that no competing interests exist.