RESUMO SIMPLES - OUTRAS ÁREAS TEMÁTICAS

DIVERSITY AND FREQUENCE OF HEMOPARASITES IN SNAKES OF THE FAMILY BOIDAE (GRAY, 1825) IN EX SITU AND IN SITU CONDITIONS IN BRAZIL

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Snakes (order Squamata) are a globally diverse group, and Brazil has high herpetological richness. Among the various families, it harbors the family Boidae, which includes different genera such as Boa, Epicrates, Corallus, and Eunectes. Conservation work uses both in situ and ex situ strategies, and studying ex situ populations is essential, as the higher concentration of specimens in a single location favors the emergence and transmission of significant pathogens to free-ranging populations. Hemoparasitoses exhibit high parasitological diversity and are common in reptiles, including snakes and their various groups. Among the many species of hemoparasites, the phylum Apicomplexa—particularly the subclass Coccidiasina, with genera such as Haemogregarina and Hepatozoon—is especially prevalent in these animals.

This study aims to identify and analyze the occurrence of hemoparasites in snakes of the family Boidae from different origins (captivity and free-living) in

Brazil. The specific objectives are to identify the hemoparasite species present in these snakes and their geographic distribution, calculate their frequency in different localities, and perform morphological, morphometric, and molecular characterization of the parasites found. This study will be submitted to CEUA-UFRRJ for methodological approval.

Blood samples will be collected from snakes in ex situ facilities such as commercial breeding centers and zoological institutions, while in situ samples will be obtained from wildlife rehabilitation centers (CRAS and CETAS) throughout Brazil, with a focus on the southeastern region of the country. Blood will be collected via the caudal vein or cervical paravertebral sinus, with one portion stored in EDTA for molecular analysis and another used to prepare at least three fresh blood smears. Laboratory processing will involve two approaches: (1) blood smears stained with Giemsa will be examined under 1000× optical microscopy to identify the presence of parasites, calculate parasitemia, and conduct detailed morphometric analyses; and (2) DNA will be extracted from whole blood and subjected to PCR assays using primers specific for genera such as Hepatozoon, Haemogregarina, and Trypanosoma. Positive amplicons will be sequenced using the Sanger method for accurate identification.

This research is expected to identify a wide variety of hemoparasites, potentially including new or unrecorded species, providing crucial data on their frequency and diversity in snakes of the family Boidae. Additionally, this project is expected to standardize efficient molecular diagnostic techniques for these pathogens, creating a valuable repository of information for future research. This knowledge will directly contribute to the development of sanitary protocols and effective management strategies, aiding in the conservation and health of these animals in both in situ and ex situ contexts.

Palavras-chave: parasite diversity; molecular diagnosis; apicomplexa; herpetofauna.