RESUMO SIMPLES - PROTOZOÁRIOS E AGENTES TRANSMITIDOS POR VETORES DE IMPORTÂNCIA EM SAÚDE

INVESTIGATION OF HEMOPARASITES IN ANIMALS OF THE ORDER TESTUDINES FROM THE REGIONS OF RIO DE JANEIRO AND RIO GRANDE DO NORTE, BRAZIL - PRELIMINARY RESULTS

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The growth of the non-conventional pet market has driven demand for the illegal acquisition of animals of the Order Testudines, such as the red-footed tortoise (Chelonoidis carbonaria) and the red-eared slider turtle (Trachemys dorbignii). Consequently, the number of seizures carried out by the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA) is also increasing, resulting in an overload at Wildlife Screening Centers (CETAS). In these places, as in zoos, individuals are kept in high population densities, often in enclosures

shared between different species, creating conditions conducive to increased parasite load and favoring cases of high parasitemia. Furthermore, since these are animals that receive direct human care, it becomes essential to consider the sanitary risks involved, including potential pathogenic and zoonotic agents capable of impacting human health. In the case of sea turtles, the concern is that all species occurring in Brazil are under some degree of threat, reinforcing the need for studies focused on their health and conservation. Despite their ecological relevance, these animals remain relatively under-investigated when compared to other vertebrates, especially with regard to the occurrence and diversity of hemoparasites. The hawksbill turtle (Eretmochelys imbricata), in particular, remains underrepresented in the literature, highlighting the importance of research that expands knowledge about its response to parasitic infections and the possible impacts of these agents on already vulnerable populations. The present study aimed to morphologically detect the presence of protozoan in blood smears from animals of the Order Testudines in regions of Rio de Janeiro and Rio Grande do Norte. In Rio Grande do Norte, 28 blood samples were collected from two species of free-living sea turtles, Eretmochelys imbricata and Chelonia mydas, while in Rio de Janeiro, 95 blood samples were collected, with 25 samples from zoos (Trachemys dorbignii and Chelonoidis carbonaria), 52 from CETAS (Chelonoidis carbonaria), and 18 from Marine Animal Rehabilitation and De-oiling Centers (Chelonia mydas and Caretta caretta). All samples were collected by the local veterinary team during routine animal handling and provided for investigation in this study. Approximately 1 mL of blood was collected from the jugular vein. Blood smears were made immediately after blood collection, with an average of 3 to 5 smears per animal. After the slides dried naturally, they were fixed in methanol for 5 minutes. After fixation, all slides were stained by the Giemsa method for 40 minutes. After staining, the blood smears were examined by optical microscopy at 1000x magnification with immersion oil, paying attention to the presence of hemoparasites. The suspected parasitic structures found were photographed for recording and morphological evaluation purposes. In the blood smears, suggestive hemoparasite infection related to Plasmodium sp. and Sauroplasma sp. based by the morphological characteristics was detected in 10 slides, with Chelonoidis carbonaria (n=7), Trachemys dorbignii (n=2) and Eretmochelys imbricata (n=1). The results obtained demonstrate that the morphological detection of hemoparasites in blood smears remains a relatively fast, low-cost, and accessible method for initial screening in studies with Testudines, allowing the identification of parasitemia cases in different management and

conservation contexts. The presence of hemoparasites in animals from both natural environments and human care facilities reinforces the importance of continuous monitoring, especially in locations with high population density and potential interspecific contact, such as wildlife rehabilitation centers, and zoos. Despite the efficiency of the morphological method, its sensitivity is limited, highlighting the need for further analysis using complementary techniques, such as molecular biology, which allow for greater precision in identifying parasitic species. The importance of new studies integrating morphological and molecular approaches contributes to advancing knowledge about the dynamics of hemoparasites in Testudines and their potential impacts on the conservation of threatened species.

Palavras-chave: direct diagnosis; blood smear; protozoan; chelonians; sea turtles.