

Título: PREVALENCE OF *Malassezia* sp IN SKIN MICROBIOME OF FREE-LIVING GOLDEN-HEADED LION TAMARINS (*Leontopithecus chrysomelas*)

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Resumo:

Malassezia sp is yeast found in the skin microbiome of domestic animals and humans. However, when an imbalance with the host occurs it can cause infections, particularly otitis and dermatitis. Data about the presence of these yeasts in wildlife is scarce, regarding both its role in the microbiome as well as in infectious processes. The golden-headed lion tamarin (GHLT- *Leontopithecus chrysomelas*) is a species considered EN-Endangered by the Red List of Threatened Species-IUCN, and appears on the Lista Nacional das Espécies da Fauna Brasileira Ameaçadas de Extinção. A free-living exotic population of this species, which was introduced in a State Park in Rio de Janeiro, Brazil, was captured and translocated by Instituto Pri-Matas para Conservação da Biodiversidade to another area, in Bahia, where the species is endemic. The purpose of this study was to investigate *Malassezia* sp in the external ear canal and haircoat of GHLT, before the translocation, since there is no research about the presence of these yeasts in such a broad sampling of non-human primates. There were chemically restrained (ketamine 10mg/kg + midazolam 0.3mg/kg) 232 animals: 122 males (52.6%) and 110 females (47.4%), 85 (36.6%) juveniles and 147 (63.4%) adults. There were collected 696 clinical samples: 464 (66.7%) of cerumen (ears right and left) and 232 (33.3%) of haircoat. Samples were seeded on Sabouraud dextrose and Dixon agar; plates were incubated at 32° C for up to 2 weeks. Isolates were analyzed macro-and-micro-morphologically, and phenotypic identification was carried out by the production of catalase and β -glucosidase enzymes, assimilation of Tween 20, 40, 60, 80 and Cremophor-EL, and growth at 40°C. *Malassezia* sp was isolated from 76 animals (32.8%) and 87 clinical samples (12.5%),

26 from the cerumen (5.6%) and 61 from the haircoat (26.3%-statistically superior). *Malassezia* sp was isolated from 36.1% and 29.1% of males and females, and from 44.7% and 28.6% of juvenile and adults; there were no differences related to gender and age. Only lipodependent *Malassezia* was found, and phenotypic tests were not enough to characterize species. Results confirmed that *Malassezia* sp is part of the skin microbiome of these animals. However, it is important to notice that *M. pachydermatis*, which is considered the animal species has not been isolated here. These results suggest that the fungal cutaneous microbiome of these primates would be more similar to that of humans than other mammals.

Keywords: *Malassezia* sp, golden-headed lion tamarin, *Leontopithecus chrysomelas*, epidemiology, microbiome

Grant: Setor de Pesquisa da Universidade Paulista