

# ANTHROPIC THREATS AND THE VIABILITY OF THE GIANT ANTEATER (*MYRMECOPHAGA TRIDACTYLA* LINNAEUS, 1758) IN A PROTECTED REMNANT IN THE BRAZILIAN CERRADO

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NOVAES; Marisa de Oliveira<sup>1</sup>, BRITO; Daniel<sup>2</sup>

## RESUMO

The expansion of farming and cattle ranching and the increase in the human population led to the conversion of about 80.2% of the original Cerrado distribution into pasture and agricultural areas, resulting in habitat loss and fragmentation within the biome. These threats are recognized as anthropic changes, affecting plant and animal species and increasing the isolation of populations due to physical barriers such as roads, pastureland, and cities. Our objectives are to estimate the viability of the giant anteater population in a protected Cerrado remnant in central Brazil and the impacts of inbreeding, roadkills, and anthropogenic fires on the viability of this population. The study area encompasses two protected areas: Altamiro de Moura Pacheco State Park (PEAMP) and João Leite State Park (PEJoL), both located in the state of Goiás, central Brazil. Its 4,964 ha contains savannic vegetation, grasslands, and forests. This region has a high volume of vehicle traffic due to a national highway crossing the parks. To model the viability and the threats on the giant anteater population, we used the Population Viability Analysis (PVA) software VORTEX. In total, we created 33 scenarios: (1) baseline scenarios, with no threats and variation only in the carrying capacity and in the initial population size; (2) inbreeding scenarios; (3) roadkill scenarios, where we used records of surveys in the study area; (4) fire scenarios, considering data provided by the park administration; (5) general scenarios, with all the threats together (inbreeding, roadkill, and fire); (6) mitigating measures scenarios, where we tested the presence of automatic radars and crossing structure for wild animals. Based on our results, the giant anteater population suffers a significant risk of local extinction in the study area. It is not viable within the 100 years of the simulation due mainly to the fires with a mean extinction time of 13 years if there is no immigration of individuals to rescue this population. The inbreeding, the roadkills, and the mitigating measures did not affect population viability. The protected areas are in a landscape surrounded by grassland and cities, which increases cases of fires of annual occurrence, caused mainly by humans. A small number of natural remnants surrounding the study area indicate the isolation of the parks and the population. Despite the threats and results presented here, the giant anteater is present in the study area, and we can justify its presence in two ways: (1) the location may be functioning as a sink population, being rescued by immigrants from other populations; (2) the individuals might use the area as a stepping-stone. Our results demonstrate that mortality is major than births, and the population depends on the dispersion of individuals to survive, which characterizes a habitat sink. We did not just evaluate the viability of the giant anteater, but we also reaffirm the significance of preserving small fragments of the cerrado.

**PALAVRAS-CHAVE:** Connectivity, Conservation, Pilosa, PVA

<sup>1</sup> Universidade Federal de Goiás, marisanovaees@gmail.com

<sup>2</sup> Universidade Federal de Goiás, britodan@gmail.com