

How do landscape and life history traits contribute to the threat context of Brazilian primates?

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Abstract

Brazilian primates differ regarding landscape characteristics within their ranges (e.g. habitat availability) and life-history traits (e.g. body size). These landscape and life history attributes may be related to extinction risk. Here, we verified how such attributes correlate with primate threat categories. We considered 124 Brazilian primates based on the 2014 Brazilian list of threatened (Critically Endangered, Endangered and Vulnerable) and non-threatened (Least Concern and Near Threatened) species. We then characterized their landscape (i.e. habitat availability, habitat loss and fragmentation, indigenous lands, roads, urban areas, deforestation arch) and life-history attributes (i.e. body weight, gestation length and generation time), which together make up the threat context for each threat category. We compared threat categories to identify differences in such attributes, considering biome (Atlantic Forest, Amazon, Caatinga and Cerrado) as a factor and testing for phylogenetic effect. We investigated the attributes responsible for group characterization for specific threats and binary threatened/non-threatened categories. We show that life history and landscape attributes differ in the biomes. However, only landscape features varied across biomes. In the Amazon, the threatened categories reached the highest level of habitat loss in the last 30 years, while in the Atlantic Forest, the landscape of threatened species had the highest proportions of roads and urban areas. Most threatened species landscapes in the Caatinga and Cerrado were highly fragmented. We found a positive link between human impacts and extinction risk in the Amazon. In the other biomes, anthropogenic landscape characteristics were associated with threatened and non-threatened species. Threatened species tended to have large bodies and a slow life history, regardless of the biome. The more closely related the species, the more similar the traits. We suggest considering biomes and threat

categories together with specific landscape and life history attributes to distinguish primate threat context for species conservation priority-setting.

Supporting Information

Filename	Description
acv12904-sup-0001-AppendixS1.docx Word 2007 document , 4.3 MB	Appendix S1. Supporting information. Supplementary Information 1 to 14.

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