

RESUMO SIMPLES - HELMINTOLOGIA: SISTEMÁTICA, EPIDEMIOLOGIA E
CONTROLE

**HELMINTH COMMUNITY OF THRICHOMYS LAURENTIUS (RODENTIA:
ECHIMYIDAE) BETWEEN TWO CONTRASTING PHYTOGEOGRAPHIC
SUBUNITS OF THE CAATINGA**

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The structuring of parasite communities in small mammals is shaped by complex biotic factors intrinsic to the host and extrinsic environmental factors. The caviomorph rodent *Thrichomys laurentius* Thomas, 1904, and its associated helminth fauna constitute an excellent model for assessing how contrasting habitats shape parasite assemblages. Here, we evaluated how two contrasting Caatinga phytophysiognomies—the xeric Carrasco (Croatá/CE) and

the more humid Mata Seca (Meruoca/CE)—shape the composition and population parameters of the helminth community in *Thrichomys laurentius*, by comparing prevalence, mean abundance, and mean intensity across environments. A total of 27 rodents were examined, 15 at Carrasco and 12 at Mata Seca, and helminths were collected via necropsy and identified using specialized bibliography, and parasitological parameters were calculated using established quantitative protocols. All field procedures strictly followed the standards for capture, handling, and care approved by the Ethics Committee on Animal Use (CEUA) of the Oswaldo Cruz Foundation (CEUA N° LW-39/14 and L-018/2022) and authorized by the Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio / SISBIO) (License N°13373-1). The total helminth fauna consisted of seven taxa: the nematodes *Heligmostrongylus tcheprakovae* (Durette-Desset & Tcheprakoff, 1969) Durette-Desset, 1971, *H. interrogans* Lent & Freitas, 1935, *Stilestrongylus freitasi* Durette-Desset, 1968, *Stilestrongylus* sp., *Helminthoxys freitasi* Quentin, 1969, and *Paraspidodera uncinata* (Rudolphi, 1819) Travassos, 1914, and the cestode *Raillietina* sp. Fuhrmann, 1920. Overall parasite prevalence in Mata Seca reached 100% (12/12), starkly contrasting with 53.33% (8/15) in Carrasco. The Mata Seca community was dominated by *Heligmostrongylus* species, where *H. tcheprakovae* reached the highest mean intensity ($MI = 146.91 \pm 168.54$). Conversely, *H. interrogans* was absent in Carrasco, and the mean abundance of *H. tcheprakovae* was approximately 19 times lower. This difference in parasite load can be explained by the distinct life-cycle strategies: *Heligmostrongylus* species require a free-living larval stage in humid soil (vulnerable to desiccation), favoring the Mata Seca; while species found exclusively in Carrasco, like *H. freitasi* and *P. uncinata*, succeed in aridity because their infective L3 stage develops protected inside the egg, circumventing the need for stable environmental moisture. In conclusion, the physiognomic variation within the Caatinga imposes powerful environmental filters that shape helminth community structure by selecting for different life-cycle strategies. Moreover, this study documents the first host record of *P. uncinata* in *T. laurentius*, confirming the parasite fauna's high sensitivity to the heterogeneity of this biome.

Palavras-chave: parasite ecology; heligmonellidae; host-parasite interactions; neotropical rodents.