



Nematodes of the nine-banded armadillo, *Dasypus novemcinctus* (Xenarthra: Dasypodidae) in Rio Grande do Sul, Brazil

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Dasypus novemcinctus, Linnaeus, 1758 (Dasypodidae) occurs from Southern United States to South America (Reis *et al.* 2006). They have fossorial terrestrial habits, and the majority of the species construct burrow and excavate the soil to obtain food (Carter & Encarnação 1983). They are essentially solitary except during the brief mating period. Many armadillos of this species are run over and killed on highways (Fischer 1997) and they are also extensively hunted, but they are not listed as endangered due to their large distribution.

Little is known about the helminth fauna of these animals, and the little that does exist in the literature mainly concerns taxonomy of the parasites, with no data about their ecology. This study evaluated the nematode fauna of this armadillo in southern Rio Grande do Sul and determined their respective descriptions of infection.

Thirty *Dasypus novemcinctus* were examined between 2009–2010, all originating from the region of Rio Grande do Sul from the municipalities of: Arambaré (30°54'54"S, 51°29'52"O), Camaquã (30°51'04"S, 51°48'44"O), Cristal (30°59'59"S, 52°02'54"O), São Lourenço do Sul (31°21'55"S, 51°58'42"O), Pelotas (31°46'1"S, 52°20'34"O), Capão do Leão (31°45'48"S, 52°29'02") and Pinheiro Machado (31°34'42"S, 53°22'52"O). Four specimens were captured in each municipality, totaling 28 specimens captured by traps (SISBIO License n° 21533-1) using bait consisting of worms and live insect larvae, and two were collected dead as a result of being run over by vehicles.

The specimens were taken to the Laboratory of Parasitology of Wildlife of the Institute of Biology, Department of Microbiology and Parasitology, Federal University of Pelotas (DEMP/IB/UFPel) where they were subjected to necropsy of the organs (trachea, lungs, heart, esophagus, stomach, small intestine, large intestine, cecum, liver and kidneys), were inspected using a stereomicroscope and the collected parasites fixed in 70% alcohol. The contents of the stomach, small intestine, large intestine and cecum were washed with tap water through a 63µm mesh sieve and placed in flasks with 70% alcohol, and properly identified for later collection, sexing and counting of the parasites using the stereomicroscope. The nematodes were cleared in lactophenol and mounted between slide and cover slip for identification.

The identification was accomplished according to the following authors: Travassos (1937), Santos *et al.* (1990), Vicente *et al.* (1997), Anderson (2009) and Gibbons (2010). The parameters of prevalence, mean abundance and mean intensity were calculated according to Bush *et al.* (1997). Statistical analysis was performed by ANOVA with a significance level of 95%, Tukey and Chi-square, using the program Statistix 9.0.

This study presents the composition of the nematode fauna of *Dasypus novemcinctus*, and the results reported here will help to better understand the biodiversity found in Rio Grande do Sul and consequently, in Brazil.

Of the 30 armadillos examined, 19 were male and 11 were females, and of these, 96,66% were parasitized by at least one species of nematode which occurred exclusively in the large and small intestines. A total of 11 nematode species comprised of seven genera and seven families were identified in *D. novemcinctus*. Their respective taxonomic positions with their infection descriptions are listed in Table 1. The largest nematode burden was found in the small intestine with 2.162 specimens. The diversity of species found in this study differs relative to other authors. Navone (1990) reported only six species for this host in Argentina with a predominance of nematodes in the families Aspidoderidae and Molineidae in the examined specimens; Fujita *et al.* (1995) encountered 12 species parasitizing *D. novemcinctus* in Paraguay.

The climate of Rio Grande do Sul varies between humid subtropical and oceanic temperate, with rain well distributed throughout the year, and this associated with the diversity of animals present in the Pampa biome could account for the increase in the diversity of nematodes.