



Scientific Note

Gastrointestinal helminths of the Argentine side-necked turtle, *Phrynops hilarii* (Duméril & Bibron, 1835) (Testudines, Chelidae), in south Brazil

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Abstract. Parasitological information on the Argentine side-necked turtle, *Phrynops hilarii*, is scarce. In this paper, we report, for the first time, the occurrence of the nematodes *Spiroxys* sp., *Camallanus* sp. and the trematode *Cheloniodyplostomum* sp. parasitizing *Phrynops hilarii* in south Brazil.

Keywords: endoparasite, chelonian, *Spiroxys* sp., *Camallanus* sp., *Cheloniodyplostomum* sp.

Resumo. Helminhos gastrintestinais do cágado-de-barbelas *Phrynops hilarii* (Duméril & Bibron 1835) (Testudines: Chelidae), no Brasil. Informações parasitológicas sobre *Phrynops hilarii* são escassas. Neste trabalho é registrada, pela primeira vez, a ocorrência dos nematóides *Spiroxys* sp., *Camallanus* sp. e do trematódeo *Cheloniodyplostomum* sp. parasitando *Phrynops hilarii*, no sul do Brasil.

Palavras chave: endoparasitas, quelônio, *Spiroxys* sp., *Camallanus* sp., *Cheloniodyplostomum* sp.

Phrynops hilarii (Duméril & Bibron, 1835), known as Argentine side-necked turtle, occurs in Brazil, Uruguay and northern Argentina (Lema & Ferreira 1990, Iverson 1992, Vanzolini 1995, 1997). In the state of Rio Grande do Sul, Brazil, it is considered the second most abundant species of turtle (Bujes & Verrastro 2009). This species has wide diet diversity, and is considered generalist with a broad trophic niche. Food items vary according to the season including crustaceans, hemipterans, aquatic coleopterans, gastropods, fishes, and others (Alcalde *et al.*, 2010).

The knowledge on turtle's helminth biodiversity in South America is due largely to specific records made in Uruguay and Brazil (Mañé-Garzón & Gil 1961 a, b, c, Freitas & Dobbin 1962). The aim of this study was to investigate the occurrence of gastrointestinal helminths in *P. hilarii* from urban lakes in south Brazil.

Stomach and intestines of seven Argentine side-necked turtles, *P. hilarii*, from artificial lakes in the municipality of Pelotas, state of Rio Grande

do Sul, Brazil (31° 45' 24.0" S; 52° 21' 30.0" W, and 31° 46' 12.34" S; 52° 20' 25.84" W) were examined. After capturing for cleaning the lakes, about 70 turtles were sent to the Núcleo de Reabilitação da Fauna Silvestre and Centro de Triagem de Animais Silvestres of the Universidade Federal de Pelotas (NURFS-CETAS/UFPeI), where the animals used in this study died while they were kept in quarantine. The animals were necropsied, their organs were removed and kept frozen at -20°C until processing for parasitological purposes.

The stomach, small and large intestine were opened and washed under running water in a 150 µm sieve to separate the helminths. The material retained on the sieve and the mucous membranes were inspected under a stereomicroscope. Helminths were fixed in AFA solution and preserved in 70° GL alcohol. Nematodes were clarified in lactophenol and trematodes were stained with carmine according to the techniques of Amato & Amato (2010). Prevalence, mean abundance, and mean intensity were calculated according to Bush *et al.* (1997). The

specimens were deposited in the Helminthological Collection of the Laboratório de Parasitologia de animais silvestres do Instituto de Biologia, Universidade Federal de Pelotas (n° 303, 318, and 319).

The nematodes and trematodes were identified based on morphological and morphometric characteristics as belonging to the

genera *Spiroxys* (Nematoda, Gnathostomatidae) (n=24), *Camallanus* (Nematoda, Camallanidae) (n=17) according to Chabaud 2009 and *Cheloniodiplostomum* (Trematoda, Proterodiplostomidae) (Niewiadomska 2002) (n=177). Parasitological parameters, prevalence, mean abundance, mean intensity, and the sites of infection are shown in Table I.

Table I. Parasitological indices of helminths of *Phrynops hilarii* collected from urban artificial lakes in the municipality of Pelotas, Rio Grande do Sul, Brazil

Helminths	Sites of infection	Prevalence (%)	Mean abundance (±SD)	Mean intensity (±SD)
Nematoda				
<i>Spiroxys</i> sp.	Stomach and SI	28.57	3.43 ± 7.45	12 ± 11.34
<i>Camallanus</i> sp.	Stomach and SI	28.5	2.43 ± 5.59	8.5 ± 9.19
Trematoda				
<i>Cheloniodiplostomum</i> sp.	Stomach and SI	100.00	25.29 ± 31.30	25.29 ± 27.01

SI = small intestine

SD = standard deviation

The knowledge of the helminth parasites of the Argentine side-necked turtle is limited to some studies conducted in Uruguay and in Brazil. The trematode species known to infect that host include *Acanthostomum brauni* Mañé-Garzón & Gil 1961, *A. scyphocephalum* (Braun 1901) (Digenea, Cryptogonimidae, Acanthostominae) and *Prionosoma phrynopsis* Mañé-Garzón & Gil 1961 (Digenea, Echinostomidae) (Mañé-Garzón & Gil 1961a); and four species of the genus *Telorchis*, Lühe, 1900 (Digenea, Telorchidae): *T. birabeni* Mañé-Garzón & Gil 1961 (Mañé-Garzón & Gil 1961b), *T. platensis*, Mañé-Garzón & Gil 1961, *T. devincenzii* Mañé-Garzón & Gil 1961 and *T. productus* Mañé-Garzón & Gil 1961 (Mañé-Garzón & Gil 1961c) in Uruguay.

In northeastern Brazil (Recife city), Freitas and Dobbin (1962) reported the necropsy of two turtles *Phrynops geoffroana geoffroana* (Schweigger 1812); they found in their small intestine a new species, which they termed *Prionosomoides scalaris* (Digenea, Echinostomatidae), also proposing a new genus, *Prionosomoides*, and including in this new genus *Prionosoma phrynopsis*, previously described by Mañé-Garzón & Gil 1961a.

The nematodes *Spiroxys* sp. and *Camallanus* sp., and the trematode *Cheloniodiplostomum* sp. are registered parasitizing *Phrynops hilarii* for the first time in Brazil, which represents a new host for these helminths. A satisfactory identification and taxonomic description to the species level was not possible because the material remained frozen for

some time, what caused some changes in morphological structures of interest in taxonomic specimens.

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