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Scientific Note

Endoparasites new to the Neotropical freshwater turtle, *Mesoclemmys vanderhaegei* (Bour 1973) (Testudines, Chelidae), from central Brazil

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Abstract. Information on endoparasites infecting Neotropical turtles is scarce. The present paper reports the occurrence of endoparasites in three adult individuals of Vanderhaege's Toad-Headed Turtle (*Mesoclemmys vanderhaegei*). The records include an undescribed nematode species in the genus *Spiroxys*, not previously reported for the family Chelidae, and the first South American record of a monogenetic trematode of the genus *Neopolystoma*.

Keywords: Nematoda, Trematoda, Monogenea, Polystomatidae, Chelonian

Resumo. Endoparasitas novos no quelônio aquático neotropical *Mesoclemmys vanderhaegei* (Bour, 1973) (Testudines, Chelidae) no Brasil central. Informações referentes a infecções por endoparasitas em tartarugas neotropicais são escassas. Neste trabalho são apresentados registros da ocorrência de endoparasitas em três indivíduos adultos do cágado *Mesoclemmys vanderhaegei*. Os registros incluem uma espécie ainda não descrita de nematódeo do gênero *Spiroxys*, sem registro anterior para a família Chelidae, e um trematódeo Monogenea do gênero *Neopolystoma*, primeiro registro para a América do Sul.

Palavras-chave: Nematoda, Trematoda, Monogenea, Polystomatidae, Quelônios

Mesoclemmys vanderhaegei (Bour 1973) is a freshwater chelid turtle that inhabits shallow water bodies with dense aquatic vegetation (Souza *et al*. 2000; Brito *et al*. 2009). Published locality records are mainly situated in areas belonging to the Upper and Medium sections of the Paraguay River Basin (Ernst & Barbour 1989, Iverson 1992, McCord *et al*. 2001), to which it is considered to be restricted (Bour & Zaher 2005). However, the species is also known from scattered localities in the Amazon Basin (Villaça 2004; Brandão *et al*. 2002, Souza 2005). Little is known about the natural history of *M. vanderhaegei* (Souza 2004), including its endoparasitic fauna.

From January to April 2007 a dietary study of *M. vanderhaegei* was conducted in streams at Chapada dos Guimarães municipality, Mato Grosso State, central Brazil. Because a population study was also conducted, no individual was euthanatized and stomach contents were removed by using the flushing technique described by Legler (1977). Nematodes found amidst stomach contents were cleared in phenol and trematodes were stained in carmine and cleared with creosote, being subsequently identified by RWA and RJS. Voucher helminth specimens are deposited in the CHIBB - Coleção Helmintológica do Instituto de Biociências da Universidade Estadual Paulista, Botucatu, São Paulo State, Brazil.

Three out of 80 turtles (two adult females and one adult male, all captured in January, at Córrego Monjolinho 15º24'47.0 S; 055º48'18.3 W,

and Córrego Aldeia Velha 15º26'06.0 S; 055º45'45.8 W) hosted helminths. They were identified as nematodes belonging to an undescribed species of the genus *Spiroxys* Schneider, 1866 (CHIBB 5018), and monogeneans of an unidentified species of the genus *Neopolystoma* Price, 1939 (CHIBB 5019) (Table I). A third, also unidentified species of nematode was also found (CHIBB 5020).

Table I. Biometric data for parasitized individuals of *Mesoclemmys vanderhaegei* from Chapada dos Guimarães, Mato Grosso State, Brazil. Maximum carapace length (CL), maximum carapace width (CW), maximum plastron length (PL) and maximum plastron width (PW).

Host Number	Sex	CL (mm)	CW (mm)	PL (mm)	PW (mm)	Mass (g)	Parasite (n)
E1D5	F	193	129	169	109	560	*Spiroxys* sp. (2)
E1D12	F	191	131	176	111	640	Unidentified Nematoda
E2D10	M	145	101	128	85	400	*Neopolystoma* sp. (2)

The nematodes could not be positively identified to species level due to their poor and juvenile condition. The inappropriately fixation procedure in alcohol 70% could be the reason of the poor condition. Nonetheless, the occurrence of *Spiroxys* in Brazilian freshwater turtles is restricted to *Kinosternon scorpioides* Linnaeus, 1766 (Chelonia, Kinosternidae) from the states of Pará and Pernambuco (Vicente *et al*. 1993). Monogeneans of the family Polystomatidae have been reported exclusively from chelonian hosts, frequently infecting the conjuctival sac, urinary bladder, or oral cavity (du Preez & Lim 2000; Platt 2000). Among the three monogenean genera included in this family, a single species of the genus *Polystomoides* was already recorded in South America (Vieira *et al*. 2008). *Neopolystoma* species are known to occur in Australia, Russia, Malaysia and, in the western hemisphere, only in the United States and Costa Rica (Platt 2000). Due to morphological dissimilarities between the species previously described in this genus (such as number of genital spine) and the congeneric specimens here mentioned, we believe they could belong to a new species.

Mesoclemmys vanderhaegei represents a new host record for the two genera of endoparasites reported herein, and Mato Grosso, a new record for both. Further studies including necropsied individuals are necessary to evaluate the overall helminth fauna infecting this and other chelid turtles. A satisfactory identification and taxonomic description, at the specific level of the endoparasites referred herein depends on additional specimens.

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