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

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 15°24′47.0 S; 055°48′18.3 W,
and Córrego Aldeia Velha 15°26'06.0 S; 055°45'45.8 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).

<table>
<thead>
<tr>
<th>Host</th>
<th>Sex</th>
<th>Number</th>
<th>CL (mm)</th>
<th>CW (mm)</th>
<th>PL (mm)</th>
<th>PW (mm)</th>
<th>Mass (g)</th>
<th>Parasite</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1D5</td>
<td>F</td>
<td>193</td>
<td>129</td>
<td>169</td>
<td>109</td>
<td>560</td>
<td></td>
<td><em>Spiroxys</em> sp. (2)</td>
</tr>
<tr>
<td>E1D12</td>
<td>F</td>
<td>191</td>
<td>131</td>
<td>176</td>
<td>111</td>
<td>640</td>
<td></td>
<td>Unidentified Nematoda</td>
</tr>
<tr>
<td>E2D10</td>
<td>M</td>
<td>145</td>
<td>101</td>
<td>128</td>
<td>85</td>
<td>400</td>
<td></td>
<td><em>Neopolystoma</em> sp. (2)</td>
</tr>
</tbody>
</table>

The nematodes could not be positively identified to species level due to their poor and juvenile condition. The inappropriate 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 scutareoides* 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 conjunctival 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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