

## Occurrence of *Therodomas elongatus* (Copepoda) in *Pterygoplichthys pardalis* (Loricariidae) in the Brazilian Amazon

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### ABSTRACT

The presente study report the first occurrence of *T. elongatus* in *P. pardalis*, a fish of the order Siluriformes. Were analyzed 44 individuals of *P. pardalis* caught in Lake Araçá (Amazonas state, Brazil). The mean fish standard length was 24.5cm ± 8.8 and the mean weight was 213.9g ± 102.6. The specimen found a postmetamorphic female, penetrated deep into the gill arch. Until the present moment there was the registration of *T. elongatus* only for fish of order Perciformes and Cichliformes, thus this is the first records for host of order Siluriformes.

**Keywords:** Amazonian; Copepoda; fish; freshwater.

### Ocorrência de *Therodomas elongatus* (Copepoda) em *Pterygoplichthys pardalis* (Loricariidae) na Amazônia Brasileira

### ABSTRACT

O presente estudo relata a primeira ocorrência de *T. elongatus* em *P. pardalis*, um peixe da ordem Siluriformes. Foram analisados 44 indivíduos de *P. pardalis* capturados no Lago Araçá (Amazonas, Brasil). O comprimento padrão médio dos peixes foi de 24,5cm ± 8,8 e o peso médio foi de 213,9g ± 102,6. O espécime encontrou uma fêmea pós-metamórfica, penetrou profundamente no arco branquiais. Até o presente momento houve o registro de *T. elongatus* apenas para peixes de ordem Perciformes e Cichliformes, assim este é os primeiros registro para hospedeiros da ordem Siluriformes.

**Palavras chave:** Amazônia, Água doce, Copepoda, Peixe

Ergasilidae is the family of the Copepoda with the largest number of specimens in the Amazon region (Thatcher 2006). Among its representatives, one can find one of the species that has a great adaptation to the parasitism *Therodomas elongatus* (Thatcher 1986). It was previously established an exclusive family for this species Amazonicopeidae (Thatcher 1986), but with more studies on this species, characteristics that could include it in the family Ergasilidae were observed (Amado and Rocha 1996). In Brazil there are only records of three hosts for this parasitic species, Scianidae *Plagioscion squamosissimos* (Heckel, 1840) (EIRAS et al., 2010) and Cichlidae, *Astronotus ocellatus* (Agassiz, 1831) occurring in the gills, and *Astronotus crassipinis* (Heckel, 1840) parasitizing the nostrils (MOREY et al., 2016).

*Pterygoplichthys pardalis* (Castelnau, 1855) object this study, belongs to the order Siluriformes, the family Loricariidae and subfamily Hypostominae. This fish species have a plump or flattened body in cross section and body covered by bony plates and form five to six series on the trunk. Each plate with small bone structures, quite rough to the touch or even perforating, odontodia (REIS et al., 2003; SANTOS et al., 2006). They occur in floodplain areas, lakes and white water rivers. In places where the concentration of oxygen is high your breathing is totally aquatic. But its strategy to exploit oxygen-poor environments is the use of accessory air breathing (SANTOS et al., 2006). The presente study report the first occurrence of *T. elongatus* in a new host, *P. pardalis* a fish of the western Amazon.

Four excursions were carried out in 2012, in Araçá lake (S03 ° 45'04.3 " / W62 ° 21'25.9") located in the stretch between the cities of Manaus and Coari in the state of Amazonas. This sampled lake is a varzea lake located on the banks of the Solimões river. For the morphological study of the specimen of crustaceans, the method described by (THATCHER; BOEGER, 1986) was used. The quantitative description of parasite infrapopulations was in agreement with BUSH et al., 1997. The most representative specimen was deposited in the collection of non-insect invertebrates code INPA 2453.

Were analyzed 44 individuals of *P. pardalis* caught in Araçá lake. The mean fish standard length was 24.5cm ± 8.8 and the mean weight was 213.9g ± 102.6. The specimen found a postmetamorphic female, was penetrated deep into the branchial arch. This is one of the main features of this taxon that has evolved to pierce the gill arches of the fish. Four specimens were found parasitizing an individual each and every excursion. So far for the Amazon region there is only the record of *T. elongates*. It presented the following values of parasitic indexes: prevalence: 9.09%, mean intensity: 1 and Abundance: 0.1.

The species of *Therodamas* Kroyer, 1863 occur only in the Neotropical region and were cited for fish of six families: *T. fluviatilis* for a species of Characidae from Argentina (PAGGI, 1976); *T. dawsoni* of Dactyloscopidae from Panama (CRESSEY, 1972); *T. elongatus* of Sciaenidae from Brazil (THATCHER, 1986; AMADO; ROCHA, 1996); *T. sphyricephalus* of Carangidae of Uruguay (Thomsen 1949); *T. frontalis* of a Carangidae from Uruguay (THOMSEN, 1949) and a Mugilidae from Brazil (CARVALHO, 1955). The use of hosts represents six different families indicating the low level of parasitic specificity at the generic level (EL-RASHIDY; BOXSHALL, 2001).

For the Amazon are mentioned 47 species of Copepoda parasites of fish, and 43 are of the family Ergasilidae and are included in 16 genera (VARELLA; MALTA, 2009). *Therodamas* Krøyer, 1863 is one of these genera with six species: *T. serrani* Krøyer, 1863, *T. sphyricephalus* Thomsen, 1949, *T. dawsoni* Cressey, 1972, *T. fluviatilis*, *T. elongatus* (THATCHER, 1986) and *T. frontalis* El - Rashidy and Boxshall 2001 (EL-RASHIDY; BOXSHALL, 2001).

In the Amazon there are only records of three hosts for this parasitic species, Scianidae *Plagioscion squamosissimos* Heckel, 1840 (EIRAS et al., 2010) and Cichlidae, *Astronotus ocellatus* Agassiz, 1831 occurring in the gills, and *Astronotus crassipinis* Heckel, 1840 parasitizing the nostrils (ATROCH 2012; MOREY et al., 2016). This is the first record of this species of parasite in a species of fish of the order Siluriformes and belonging to the family Loricariidae.

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