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## New species and reports of dactylogyrids (Monogenoidea) from *Salminus franciscanus* (Actinopterygii: Bryconidae) from the upper São Francisco River, Brazil

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### Abstract

Six species of dactylogyrid monogenoideans were collected at the upper São Francisco River, State of Minas Gerais, Brazil, from the gills of *Salminus franciscanus*. *Anacanthorus adkruidenieri* sp. n. and *Anacanthorus paradouradensis* sp. n. are described and compared with the other species of *Anacanthorus*. *Anacanthorus adkruidenieri* sp. n. is more similar to *A. kruidenieri* and *A. parakruidenieri*, but it can be distinguished from both by the rod-shaped accessory piece, which is articulated with the base of the male copulatory organ and is coiled around it, and by the shank of the hook, with expanded proximal bulbous portion bearing a central, elliptical foramen. *Anacanthorus paradouradensis* sp. n. resembles *A. douradensis*, but differs in the accessory piece, which is approximately half the length of the copulatory organ. *Salminus franciscanus* is a new host record and the São Francisco Basin is a new locality record for *Anacanthorus daulometrus*, *Annulotrematoides glossophallus*, *Jainus iocensis* and *Tereancistrum arcuatus*.

**Key words:** *Anacanthorus adkruidenieri* sp. n., *Anacanthorus paradouradensis* sp. n., *Anacanthorus daulometrus*, *Annulotrematoides glossophallus*, freshwater, *Jainus iocensis*, parasites, *Tereancistrum arcuatus*

### Introduction

The purpose of this work is to provide an inventory the monogenoidean fauna parasitizing the gills of *Salminus franciscanus* Lima & Britsky, a fish that only occurs in the São Francisco River Basin (Brazil), and which is among the most economically important fish species in the region (Lima & Britsky 2007).

Monogenoideans have already been described from *Salminus* spp.: *Anacanthorus colombianus* Kritsky & Thatcher, 1974 and *Anacanthorus cuticulovaginus* Kritsky & Thatcher, 1974, from the gills of *Salminus affinis* Steindachner (Amazon Basin, Colômbia); *Rhinoxenus bulbovaginatus* Boeger, Domingues & Pavanelli, 1995 from the nasal cavity of *Salminus maxillosus* Valenciennes (Paraná Basin, Brazil); and *Kritskyia salmini* Cepeda, Ceccarelli & Luque, 2011, from the urinary bladder of *Salminus brasiliensis* (Cuvier) (Pantanal, Brazil); *Anacanthorus douradensis* Cohen, Kohn & Boeger, 2012, *Anacanthorus bicuspidatus* Cohen, Kohn & Boeger, 2012, *Anacanthorus daulometrus* Cohen, Kohn & Boeger, 2012, *Anacanthorus contortus* Cohen, Kohn & Boeger, 2012, *Anacanthorus parakruidenieri* Cohen, Kohn & Boeger, 2012, *Annulotrematoides glossophallus* Cohen, Kohn & Boeger, 2012, *Annulotrematoides parisellei* Cohen, Kohn & Boeger, 2012, *Jainus iocensis* Cohen, Kohn & Boeger, 2012, *Tereancistrum arcuatus* Cohen, Kohn & Boeger, 2012 from the gills of *Salminus brasiliensis* (Parana River, Brazil) and *Annulotrematoides bryconi* Cuglianna, Cordeiro & Luque, 2003 was recorded from the gills of the same host (Cohen *et al.*, 2012).

## *Tereancistrum* Kritsky, Thatcher & Kayton, 1980

## *Tereancistrum arcuatus* Cohen, Kohn & Boeger, 2012

**Host and locality.** *Salminus franciscanus*; São Francisco River, near Três Marias Reservoir (18°12'32"S; 45°15'41"W), State of Minas Gerais, Brazil (New host and geographic locality).

**Site.** Gills.

**Previous records.** *Salminus brasiliensis* (type-host): Paraná River, Paraná, Brazil (type-locality) (Cohen *et al.*, 2012); *S. hilarii*: Taquara River, Sao Paulo, Brazil (Brandão *et al.*, 2013)

**Specimens studied.** Vouchers CHIOC 38036a–b.

**Measurements.** (Based on 2 specimens “in toto”, original measurements between brackets). Body 480 (n=1) [358 (300–425; n=3)] long, 98 (95–101; n=2) [100 (n=3)] wide near midlength. Pharynx 28 (n=1) [33 (n=1)] in diameter. Ventral bar 87 (n=1) [85 (82–92; n=4)] long. Dorsal bar 51 (n=1) [49 (45–54; n=3)] long. Ventral anchor 63 (n=1) [65 (61–70; n=8)] long; base width 21 (n=1) [28 (26–30; n=6)]. Accessory anchor sclerite 33 (n=1) [37 (35–40; n=5)] long. Dorsal anchor 58 (n=1) [53 (50–56; n=8)]; base width [19 (15–22; n=7)]. Hook pair 1 15 (n=2) [15 (n=2)], pair 5 14 (n=1) [13–14 (n=2)], pairs 2–4, 6–7 21 (20–23; n=4) [22 (21–23; n=7)]. FH loop about 0.5 shank length. MCO 107 (n=1) [118 (105–138; n=4)] long.

**Remarks.** The two specimens collected from *S. franciscanus* vary slightly in their measurements when compared with the type material, but this most likely corresponds to intraspecific variation.

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