



Gastrointestinal helminth parasites of *Amazonetta brasiliensis* (Gmelin, 1718) (Anseriformes: Anatidae) in the municipality of Arambaré, Rio Grande do Sul

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Resumo. Foi necropsiado um espécime de *Amazonetta brasiliensis* encontrado na Lagoa dos Patos, município de Arambaré, Estado do Rio Grande do Sul, Brasil. O espécime teve seus órgãos analisados ao estereomicroscópio e os parasitos encontrados foram identificados como *Epomidiostomum* sp. e *Cloacotaenia megalops*, com 7 e 3 de intensidade média, respectivamente. O estudo dos parasitos é importante para a manutenção e conservação das populações de vertebrados na natureza, ajudando assim, para uma melhor compreensão sobre a biologia de seus hospedeiros. Este relato caracteriza a primeira ocorrência de *Epomidiostomum* sp. e *Cloacotaenia megalops* parasitando *Amazonetta brasiliensis* na Lagoa dos Patos, Rio Grande do Sul.

Palavras-chave: *Amazonetta brasiliensis*, Anseriformes, Arambaré, Parasitos, Helmintofauna.

Abstract. It was necropsied one specimen of *Amazonetta brasiliensis* (Gmelin, 1718) found in the Patos Lagoon, municipality of Arambaré, Rio Grande do Sul State, Brazil. The specimen was necropsied and its organs analysed by stereomicroscope. The parasites were identified as *Epomidiostomum* sp. and *Cloacotaenia megalops*, with 7 and 3 of mean intensity, respectively. This report characterizes the first occurrence of *Epomidiostomum* sp. and *Cloacotaenia megalops* parasitizing *Amazonetta brasiliensis* in the Patos Lagoon, Rio Grande do Sul, increasing knowledge about the geographical distribution.

Keywords: *Amazonetta brasiliensis*, Anseriformes, Arambaré, Parasites, Helminth fauna.

INTRODUCTION

Amazonetta brasiliensis (Red-foot hunchback), is a small Anatidae bird which occurs in aquatic environments. They feed on seeds, buds of plants, aquatic insects and larvae of fish or catching tadpoles with vegetation. The endoparasitosis affecting birds are of great importance to public health because they can mean the worsening of economic, social, medical and environmental, particularly in developing countries (DASZAK *et al.*, 2001). Thus it becomes important to know the parasites of *A. brasiliensis*, since it's too little studied in Brazil.

MATERIAL AND METHODS

Was found dead along the Patos Lagoon in the city of Arambaré, Rio Grande do Sul (30°54'54"S, 51°29'52"W), belonging to the order Anseriformes, a specimen of *Amazonetta brasiliensis*, belonging to the order Anseriformes. The bird was placed in a plastic bag and taken to the Laboratory of Parasitology of Wildlife, Federal University of Pelotas. During the necropsy, the specimen had its organs removed, separated and analyzed in the stereomicroscope. The parasites were clarified in lactophenol, stained with Carmin (AMATO & AMATO, 2010) and

identified using an optical microscope and updated systematic keys for each group: YAMAGUTI (1959), YAMAGUTI (1961), ANDERSON (2009) and GIBBONS (2010). The mean intensity of parasites was calculated according to BUSH *et al.* (1997). The specimens were deposited in the collection of parasites of wild animals Laboratory, Federal University of Pelotas.

RESULTS AND DISCUSSION

Amazonetta brasiliensis showed gizzard parasitized by nematodes, which were identified as *Epomidiostomum* sp. (Skrjabin 1915) and the cloacal cestode *Cloacotaenia megalops* (Nitzsch in Creplin 1829). The nematodes had a mean intensity of 7 while the cestodes had 3. According ANDERSON (2009), the family Amidostomatidae is divided into two subfamilies: Amidostomatinae (buccal capsule long and well developed) and Epomidiostomatinae (buccal capsule short and undeveloped). Within the subfa-

milie Epomidiostomatinae, two genera are met: *Epomidiostomum* and *Pseudamidostomum*.

Epomidiostomum sp. (Figure 1) is widely distributed, been a parasite of waterfowl gizzard. It has mouth directed straight forwards, on the dorsal and ventral surfaces of the head is a pair of posteriorly directed nodules with blunt extremities, on each side is a pair of lateral papillae. Buccal capsule short, three axially arranged chitinous lamellae within esophagus (Figure 1A). male: bursa with two lateral lobes and a smaller dorsal lobe; ventral rays parallel, externolateral close to other laterals which are fused proximally; externodorsal short, arising at base of dorsal, dorsal divided terminally into two short bidigitate branches. Two large sessile papillae on posterior lip of cloaca. Spicules short, equal, terminating in three branches (Figure 1D); gubernaculum absent. female: body abruptly tapered behind anus into digitiform process (Figure 1C); vulva behind

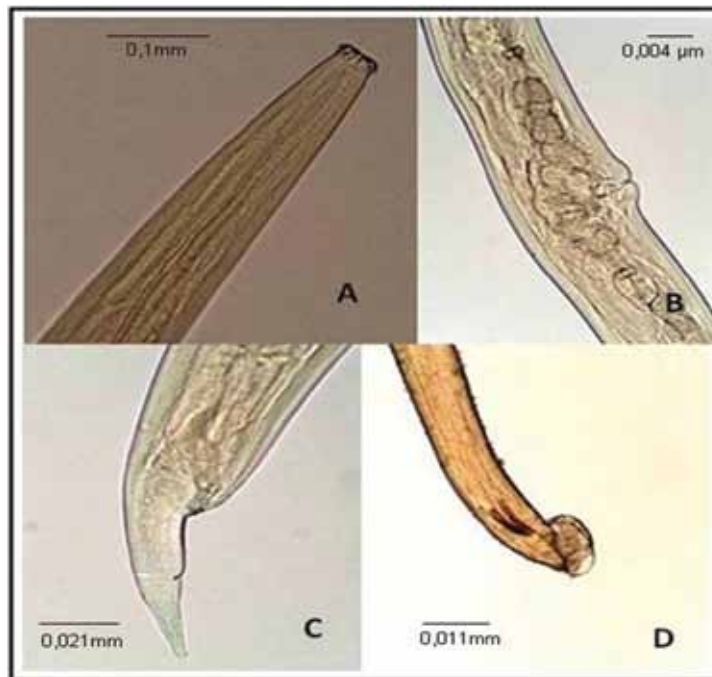


Figure 1. *Epomidiostomum* sp.: A – Anterior region; B – Female, showing vulva and eggs; C – Female, showing the anus; D – Male, showing the spicules.

middle of body. Oviparous (YAMAGUTI, 1961) (Figure 1B). Morphometry of the male specimens collected (n = 2): total length (0,90mm); Width (0,1mm); Excretory pore about 0,095mm from the front end; Cervical papillae about 0,026mm from the front end; Nerve ring about 0,14mm from the front end; Esophagus (0,12mm); Dorsal ray 0,01mm and Spicules 0,011mm. Morphometry of the females specimens collected (n = 5): total length (1,11mm); Width (0,1mm); Excretory pore about 0,097mm from the front end; Cervical papillae about 0,028mm from the front end; Nerve ring about 0,15mm from the front end; Esophagus (0,17mm); Vulva about 0,26mm from the posterior end; Anus about 0,021mm from the posterior end; eggs (0,004 x 0,007mm).

Cloacotaenia megalops (Figure 2) with wide geographic distribution, is found parasitizing the cloaca of Anseriformes and Galliformes. It's large and almost square scolex has four muscular and unarmed suckers and rudimentary, also unarmed rostellum (Figure 2A). The hermaphroditic proglottids have three spherical testes, arranged in a line; a lobate ovary; a small vitellarium located under the

ovary. The cirrus sac is tiny and reaches to the second antiporal testicle; the cirrus is small and covered with short hairs. A mature uterus fills the whole proglottid (MALGORZATA *et al.*, 2011) (Figure 2B). Morphometry of the specimens collected: strobilus (25,2 – 42,8mm); Scolex (1,33 – 1,99mm length x 1,49 – 2,43mm width); Suckers (0,58 – 0,61mm diameter); Neck (0,31 – 0,68mm length x 0,42 – 0,89mm width); Proglottids: Immature (0,2 – 0,28mm length x 0,73 – 1,3 width), Mature (0,29 – 0,38mm length x 0,88 – 1,7 width), Pregnant (0,4 – 0,56mm length x 0,89 – 1,99mm width). Female reproductive system (n = 1): Ovary (1,28 x 2,2mm); Vitelline gland (0,06 x 0,071mm); Eggs (0,043mm diameter). Male reproductive system (n = 1): Testicles (0,15 x 2,1mm).

Woodall (1977) collected *C. megalops* in Zimbabwe, and recorded it for the first from the Ethiopian region. In Brazil, this species has been listed by TRAVASSOS (1965), REGO AND SANTOS (1972).

This report characterizes the first occurrence of *Epomidiostomum* sp. and *Cloacotaenia megalops* parasitizing *Amazonetta brasiliensis* in the Patos Lagoon, Rio Grande do Sul.

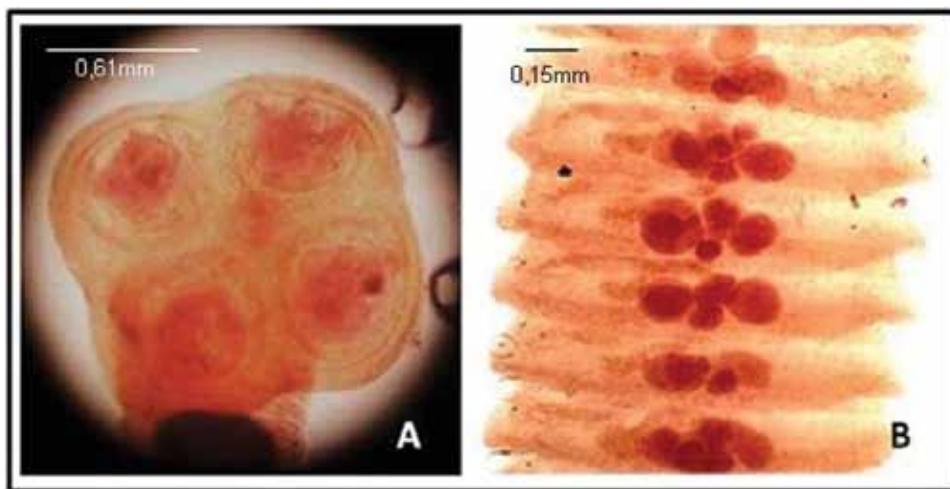


Figure 2. *Cloacotaenia megalops*: A – Scolex; B – Mature proglottids.

REFERENCES

- AMATO, J.F.R., AMATO SB. 2010. **Técnicas gerais para coleta e preparação de helmintos endoparasitos de aves.** In: Von Matter, S. *et al.* Ornitologia e conservação: ciência aplicada, técnicas de pesquisa e levantamento. 1ª ed. Rio de Janeiro: Technical Books.
- ANDERSON, R.C.; CHABAUD, A.G. & WILLMOTT. S. 2009. **Keys to the Nematode Parasites of Vertebrates.** London. Cab International.
- BUSH, A.O., LAFFERTY, K.D., LOTZ, L.L., & SHOSTAK, A.W. 1997. Parasitology meets ecology on terms: Margolis *et al.* Revisited. **Journal of Parasitology**, 575-583.
- DASZAK, P.; CUNNINGHAM, A.A.; HYATT, A.D. 2000. Emerging infectious diseases of wildlife threats to biodiversity and human health. **Science**, v. 287, n. 1, p. 443-448.
- GIBBONS, L.M. 2010. **Keys to the Nematode Parasites of Vertebrates.** London. CAB International.
- MALGORZATA, R.N., KATARZYNA, K., KATARZYNA, M.K., BOGUMILA, P. 2011. Morphological features of *Cloacotaenia megalops* (Nitzsch in Creplin, 1829) (Cestoda, Hymenolepididae) from different hosts. **Wiadomości Parazytologiczne** 57:(1) 31-36.
- REGO, A.A., SANTOS, J.C. 1972. Cestóides de *Poecilonetta bahamensis* (L.) e de *Cacicus haemorrhous* (L.). **Atas Soc Biol Rio de Janeiro** 16: 31-33.
- TRAVASSOS, L.P. 1965. Contribuições para o inventário crítico da zoologia no Brasil, fauna helmintológica: considerações preliminares - Cestódeos. **Publicações Avulsas Museu Nacional** 50: 1-84.
- WOODALL, P.F. 1977. *Cloacotaenia megalops* (Cestoda, Hymenolepididae) in the redbilled teal. **Ostrich** 48:1-4.
- YAMAGUTI, S. 1959. **Systema Helminthum. The Cestodes of Vertebrates**, v.3, Interscience Publishers, Inc. Ed, New York, USA.
- YAMAGUTI, S. 1961. **Systema Helminthum. The Nematodes of Vertebrates**, v.3, Interscience Publishers, Inc. Ed, New York, USA.

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