

SCIENTIFIC COMMUNICATION

First report of the digenetic trematode *Psilochasmus oxyurus* (Creplin) in the domestic goose, *Anser anser* (Linnaeus) in South America

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ABSTRACT. The digenetic trematode *Psilochasmus oxyurus* (Creplin, 1835) Lühe, 1909, although with a large geographical distribution, is referred in geese (*Anser anser* Linnaeus, 1758) for the first time in South America, on the basis of specimens parasitizing Brazilian domestic geese, with a prevalence of 20%. Brief morphometric data on the parasites are included. Clinical signs, gross and microscopic lesions were not observed in the birds.

KEY WORDS. Anatidae; Anseriformes; birds; Brazil; digeneans; Psilostomidae.

RESUMO. Primeiro registro do trematódeo digenético *Psilochasmus oxyurus* (Creplin) no ganso doméstico (*Anser anser* (Linnaeus) na América do Sul. O trematódeo digenético *Psilochasmus oxyurus* (Creplin, 1835) Lühe, 1909, embora de ampla distribuição geográfica, é referido em gansos (*Anser anser* Linnaeus, 1758) pela primeira vez na América do Sul, com base em espécimes coletados em gansos domésticos no Brasil, com prevalência de 20%. Dados morfométricos gerais dos parasitos são incluídos. Não foram observados sinais clínicos, macro lesões ou alterações histopatológicas nas aves.

PALAVRAS-CHAVE. Anatidae; Anseriformes; aves; Brasil; digenéticos; Psilostomidae.

In despite of the great economic importance geese [*Anser anser* (Linnaeus, 1758)] have overseas, considering the production of pâtés (*foi gras*), meat, eggs, the market of ornamental feathers, the condition of weeders in agriculture, (BUCKLAND & GUY 2002), the role as experimental models in scientific research (CHVALA *et al.* 2006), and also the use of these birds for warning, they are poorly investigated for helminths, mainly in South American countries.

In Brazil the economic importance of geese has been underestimated may be due to cultural reasons and rising is restricted to backyard flocks generally maintained under poor sanitary conditions. To the date, in despite of the harmful action induced by parasites to the host, data on helminths of geese are restricted to those referred by VICENTE *et al.* (1995) in a survey of nematodes of Brazilian birds in which *Capillaria contorta* (Duj., 1845) Travassos, 1915 and *Syngamus trachea* (Montagu, 1811) Chapin, 1925 from *A. anser* were included.

This paper deals with the first report of the digenean *Psilochasmus oxyurus* infecting domestic geese in South America, with brief morphometric data related to the parasites.

From October to November 2005, five specimens (one adult male, two adult females and two young females) of geese

(*A. anser*) weight ranging from 2,450 g (young, 3 months old) and 3,450 g (adults, 8-10 months old), obtained from backyard flocks in two localities in the State of Rio de Janeiro, Brazil, namely Magé (22°39'10"S, 43°02'26"W) and Rio de Janeiro (22°54'10"S, 43°12'27"W) and of one locality in the State of São Paulo, São José do Rio Preto (20°49'11"S, 49°22'46"W) were investigated for helminths. After individual clinical evaluation, taking into account the general conditions, birds were killed in an ether chamber and submitted to necropsy in accordance to the technique of ZANDER *et al.* (1997). Procedures for the recovery, processing of worms for study and organs for histological analysis were described elsewhere (PINTO *et al.* 2004). Helminths were deposited in the Helminthological Collection of the Instituto Oswaldo Cruz (CHIOC). Classification of the trematodes is in accordance with TRAVASSOS *et al.* (1969). Measurements are in micrometers (µm) unless otherwise indicated and means are in parentheses. Micrographs were obtained in a Zeiss Axyophot brightfield microscope. The development of this study has been authorized by the Committee of Ethics for the Use of Animals (CEUA/Fiocruz) no. P0095-01.

One out of the five necropsied geese (*A. anser*), a young female, weight 2,100 g was parasitized with digenetic trema-



Figures 1-2. *Psilochasmus oxyurus*. (1) total; caudal spine (CS, arrow). CHIOC no.36836h, bar = 0.5 mm; (2) detail of the tail-like process with the caudal spine. CHIOC no. 36836h, bar = 0.1 mm.

todes with a worm burden of 23 specimens, identified as *Psilochasmus oxyurus* (Creplin, 1835) Lühe, 1909 (Figs 1 and 2). In accordance with McDONALD (1969), the synonyms of *Psilochasmus oxyurus* are *Distoma oxyurum* Creplin, 1825, *Psilochasmus agilis* Travassos, 1921, *Psilochasmus longicirratum* Skrjabin, 1913, and *Psilochasmus japonicum* Ishii, 1935.

Morphometrics (based on eight adult compressed specimens)

Body 5.17-7.65 mm (6.62 mm) x 1.92-2.25 mm (2.14 mm); oral sucker 430-520 (473) x 350-450 (388); pharynx 300-370 (335) x 170-320 (247); oesophagus 60-620 (267) long; ventral sucker (acetabulum) 660-860 (738) x 640-780 (713); ovary 290-400 (333) x 350-450 (394); seminal vesicle 420-960 (718) x 200-310 (251); anterior testis 950-1,200 (1,082) x 775-1,220 (977); posterior testis 750-1,500 (1,375) x 675-950 (782); eggs 87-122 (101) x 47-70 (56); tail-like process 1.02 mm long, 30 wide at the middle portion; caudal spine of the tail-like process

9-135 x 50-90 (120 x 71) long x wide.

Taxonomic summary

Host. *Anser anser* (Linnaeus, 1758), Anseriformes, Anatidae, common names: goose, "ganso".

Site of infection. Anterior portion of the small intestine.

Locality. Magé (22°39'10'S, 43°02'26'W), State of Rio de Janeiro, Brazil.

Material deposited. CHIOC no. 36836 a-h (whole mounts); 36501 (wet material).

Birds did not present clinical signs, gross and microscopic lesions.

Psilochasmus oxyurus, the type and only species of the genus, is widely distributed and occurs in several species of waterfowl. Helminth surveys of geese report to a large number of species parasitizing these hosts, mostly in Europe, where these birds are highly considered due to their commercial value. GICIK &

ARSLAN (2003) refer to helminth species recovered from geese in Turkey as well in other countries. The survey includes 08 species of trematodes (with no reference to *P. oxyurus*) 13 of cestodes, and 12 of nematodes. Nevertheless, *P. oxyurus* has been often referred in other waterfowl hosts worldwide (KINSELLA & FORRESTER 1972, TURNER & THRELFALL 1975, BATHIA *et al.* 1979, McLAUGHLIN & BURT 1979, FEDYNICH *et al.* 1996, DALIMI & MOBEDI 1998). In South America, the species was firstly reported in Brazil by TRAVASSOS (1921) as *P. agilis* (later considered a synonymy of *P. oxyurus*), on the basis of specimens recovered from *Anas bahamensis* Linnaeus, 1758 and in Argentina by SZIDAT (1957) during experimental studies of the life cycle of the species infecting chickens (*Gallus gallus* Linnaeus, 1758) and by LABRIOLA & SURIANO (2001), in an investigation of the community structure of helminths in *Larus maculipennis* Lichtenstein, 1823. Thus, to the date, this is the first report of *P. oxyurus* in a South American specimen of *A. anser*.

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