

## RESEARCH NOTE /NOTA CIENTÍFICA

### TRICHINELLOID EGGS (NEMATODA) IN A SOUTHERN GIANT PETREL (*MACRONECTES GIGANTEUS*, PROCELLARIFORMES: PROCELLARIIDAE) FROM SOUTHERN BRAZIL

### HUEVOS DE TRICHINELLOIDE (NEMATODA) EN UN PETREL GIGANTE (*MACRONECTES GIGANTEUS*, PROCELLARIFORMES: PROCELLARIIDAE) DEL SUR DE BRASIL

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#### Resumen

Durante el invierno de 2003 un ejemplar del petrel gigante (*Macronectes giganteus*) fue encontrado en la playa Atlântida Sul, en la costa norte del Estado de Rio Grande do Sul, Brasil. Muestras fecales frescas fueron colectadas en el centro de rehabilitación del CECLIMAR (Centro de Estudos Costeiros, Limnológicos e Marinhos da Universidade Federal do Rio Grande do Sul) y mantenidas en solución de Railliet & Henry. Usando una técnica de sedimentación espontánea de los huevos de helmintos fueron separadas 10 submuestras. Todos los huevos encontrados pertenecieron a la superfamilia Trichinelloidea (n=82). Estos huevos constituyen un nuevo registro de helminto parásito del petrel gigante.

**Palabras clave:** Helmintos – Trichinelloidea – *Macronectes giganteus* – Aves – Brasil

#### Abstract

During the winter of 2003 the seabird (*Macronectes giganteus*) was found scrawny at Atlântida Sul beach, north coast of State of Rio Grande do Sul – Brazil. Fresh fecal sample were collected at CECLIMAR (Centro de Estudos Costeiros, Limnológicos e Marinhos da Universidade Federal do Rio Grande do Sul) rehabilitation center and fixed in Railliet & Henry solution. Using spontaneous sedimentation technical to helminth eggs, 10 slides were obtained. All eggs found were of one species of Trichinelloidea superfamily (n=82). The eggs found here, are a new record of helminth parasite of Petrel.

**Key words:** Helminths – Trichinelloidea – *Macronectes giganteus* – Birds – Brazil

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Trichinelloid nematodes are common parasites of terrestrial mammal, fishes and bird species, but are rarely found in seabirds, having been recorded only in Pelecaniformes (Vicente *et al.*, 1995). The majority of these nematodes are oviparous, producing either unembryonated or, less often, embryonated eggs (Moravec, 2001). The life cycle of some trichinelloids (e. g. *Trichinella*, *Trichuris*) have been intensively studied because of their medical importance, but the majority of them are poorly known. There are reports of six different trichinelloids infecting bird species.

The Southern Giant Petrel (*Macronectes giganteus*) has circumpolar distribution in the Southern Hemisphere, feeds basically on fish, although they can attack and eat other marine birds (Sick, 1993; Copello & Quintana, 2003) or carcasses.

On August 7<sup>th</sup> 2003, during the austral winter, a weak immature Southern Giant Petrel (*Macronectes giganteus*) was found, by the CECLIMAR (Centro de Estudos Costeiros, Limnológicos e Marinhos da Universidade Federal do Rio Grande do Sul) staff during routine surveillance at Tramandaí beach (50°07'50"W, 29°56'30"S), northern region of the coastal zone of the State of Rio Grande do Sul, Brazil. The bird was taken to the CECLIMAR enclosure where fresh fecal samples were collected for coproparasitologic examination. The sample was fixed in Railliet & Henry solution.



Figure 1. An immature form of Trichuridae found in a fecal sample of *Macronectes giganteus* from Rio Grande do Sul, Brazil (N: 50°07'50"O, W: 29°56'30"S)

Coproparasitological analysis was carried out through spontaneous sedimentation (Lutz, 1919). Ten slides (20  $\mu$ l of feces solution) were examined with an optical microscope (100x and 400x).

Eggs were measured and photographed at 400 X magnification.

All helminth eggs found were alike, suggesting the bird harbored only one trichinelloid species (Fig. 1). Their size ranged within 55 - 70 x 35 - 37,5  $\mu$ m (Average = 61,6 (SD=3,47) x 35,9 (SD=2,87)  $\mu$ m), including opercula. Eggs were found in embryonic and infective stages, 8.35% (n=7) of them were deformed.

It must be considered that the trichinelloid eggs found in *M. giganteus*, could reflect a new parasitological record for Petrel. Nevertheless, is possible a false parasitism hypothesis because this seabird species shares nesting sites and foraging places with other birds and also with mammal species. We considered the rodent species *Dolichotis patagonum* (Zimmermann, 1780) (Caviidae: Rodentia), host of *Trichuris* species (*Trichuris dolichotis*) with similar sized eggs to those found in the seabird feces, to add this hypothesis. It shares the feeding sites with the Southern Giant Petrel and is territorialist, meeting in large groups to feed (40 individuals) (Nowak & Paradiso, 1983), which can enhance the number of parasite eggs available in the environment.

Environment modification among other impacts can alter hosts' and parasites' habitats, promoting new contacts between species. Eggs from Giant Petrel fecal samples were obtained and the sizes were compared to eggs from other hosts known as sympatric with Petrels, to stress the accidental parasitism and the new parasite hypothesis. Shape and size similarities were found for only two nematode species: *Baruscaphilaria appendiculata* (Freitas, 1933; Moravec, 1982) (56  $\mu$ m x 32  $\mu$ m, Freitas, 1933) described parasitising Pelecaniformes (*Phalacrocorax brasilianus brasilianus*) (Gm.), and *T. dolichotis* (75 x 45  $\mu$ m, Morini *et al.* 1955) parasite of the rodent *Dolichotis patagonum*, frequently found in Argentina (South of Buenos Aires to Patagonia) (Honacki *et al.*, 1982). Once *Trichuris* is a genus known to parasite only mammals, the most likely possibility would be *B. appendiculata*, but, the possibility of a new species, cannot be neglected.

Environmental modification among other impacts can alter host and parasite habitats, promoting new contacts between species. *M. giganteus* is an endangered species and it is a new record of a trichinelloid eggs on this species.

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