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SCIENTIFIC NOTE

Nasal Mites (Gamasida: Rhinonyssidae) of *Paroaria coronata* (Miller) (Passeriformes: Emberezidae)

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Abstract

With the aim of identifying the species of nasal mites of *Paroaria coronata* (red-crested cardinal), the nasal cavity of 40 birds were examined. The nasal mites were identified as *Ptilonyssus sairae* de Castro and *Sternostoma pirangae* Pence, with 50% and 7.5% of prevalence, respectively. This is the first record of these mite species parasitizing *P. coronata*. This report also amplifies the area of occurrence of *S. pirangae* for Brazil and that of *P. sairae* for Rio Grande do Sul, Brazil.

Paroaria coronata, the red-crested cardinal, is characterized by having a red bib and forelock that contrasts with a grey back and lesser parts and white collar. Males and females have identical plumage, and juveniles have brownish-orange coloration instead of red (Efe *et al* 2001, Belton 2004).

The species is native to Brazil, Uruguay, Argentina, Paraguay and Bolivia, inhabiting open fields with sparse trees. It has been introduced to other parts of the world, such as Hawaii, where it has adapted to the environment conditions (Sick 1997). In the Brazilian territory it is distributed in southern and southeastern Rio Grande do Sul and in western Mato Grosso states (Pantanal) (Sick 1997). Even though they are not considered threatened by extinction (Bencke 2001, Fontana *et al* 2003, Cites 2003, Iucn 2007), the cardinal is the most trafficked bird in Rio Grande do Sul, Brazil (Nascimento & Alves 2007).

Nasal mites inhabit the respiratory traits of birds, especially the membranes that cover the nasal cornets. However, they are also frequently found in the region anterior to the nostrils, larynx, trachea, lungs, aerial sacs and conjunctiva (Amaral & Rebouças 1974). Some species feed on blood (Rhinonyssidae) and others on tissues (Ereynetidae: Speleognathinae, Epidermoptidae: Turbinoptinae and Cytoditidae) (Pence 1975). Various species were recorded in Brazil and other countries, such as the best known *Sternostoma tracheacolum* Lawrence that can cause respiratory problems (respiratory noise, dyspnoea, and absence of singing), and eventually kill the canary *Serinus canarius* (Flechtmann 1985). This report aims to contribute to the knowledge about the biodiversity of nasal mites, a little studied group in Brazil.

A sample consisting of 40 specimens of *P. coronata* was examined; of these, 37 were dead birds made available to us by the "Núcleo de Reabilitação da Fauna Silvestre e Centro de Triagem de Animais Silvestres da Universidade Federal de Pelotas (NURFS-CETAS/UFPel)"; the remaining three specimens had been hit by vehicles. NURFS-CETAS is the destination of animals apprehended by the "1º Batalhão Ambiental da Brigada Militar da 3º Companhia e Instituto Brasileiro de Meio Ambiente e Recursos Naturais Renováveis (IBAMA)" in illegal traffic

of wild animals and clandestine breeders in the region of Pelotas and neighboring municipalities.

The nasal mites were collected using an adaptation of the technique of Fain (1957) as described by Amaral & Rebouças (1974), which consisted of opening the nasal cavities with an incision splitting the nostril to the external orifice of the ear of the corresponding side, allowing the upper head to be opened up. The interior of the nasal cavities were washed and its contents and mucosa examined under a stereomicroscope. The collected arthropods were fixed in 70% ethanol, cleared in lacto-phenol and mounted in Hoyer's medium. The encountered specimens were deposited in the arthropod collection of the "Laboratório de Parasitologia de Animais Silvestres, Departamento de Microbiologia e Parasitologia da UFPel", as *voucher specimens* numbers 390 - 416. The parameters of prevalence and mean intensity of parasitism were evaluated according to Bush *et al* (1997).

Nasal mites were found in 55% of birds, and the species found were identified as *Ptilonyssus sairae* de Castro (Rhinonyssidade) and *Sternostoma pirangae* Pence (Rhinonyssidade). The former was more prevalent (50%) than the latter (7.5%). The mean intensity of *P. sairae* was 12.2 mites/host, and of *S. pirangae*, 6.7 mites/host.

Ptilonyssus sairae was described from São Paulo, Brazil, collected on the passerine *Tangara seledon* (green-headed tanager) (Thraupidae) (De Castro 1948). Pence & Casto (1976) studied the morphology of *P. sairae* populations from North American passerines, concluding that the species presented considerable morphological variation and proposed the following synonyms: *P. japuibensis* de Castro, *P. japuibenis cyanocompsae* Fain & Aitken, *P. agelaii* Fain & Aitken, *P. terestistis* Černý, *P. ludovicianus* Černý, *P. garridoi* Cruz. In the same study, the authors reinforced the proposal of Pence (1973b), who considered *P. constrictus* Ford and *P. constrictus longistosus* Černý & Dusbábek as synonyms of *P. sairae*. This nasal mite is recorded for the first time on *P. coronata*. In addition, it is found for the first time in Rio Grande do Sul, Brazil.

Sternostoma pirangae has been recorded only from the United States, where it was described parasitizing *Piranga rubra* (L.) (summer tanager) (Thraupidae) (Pence 1973a), and in Guatemala, where it was found in the passerine *Chlorospingus ophthalmicus* (Du Bus de Gisignies) (common bush tanager) (Fringillidae) (Spicer 1984). *Sternostoma pirangae* is recorded for the first time in *P. coronata*, and also for the first time in Brazil.

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