



Nematodes from the caecum and colon of *Pogonomys* (Muridae: Anisomyini) from Papua New Guinea with the descriptions of a new genus of Oxyuridae (Nematoda: Oxyurida) and a new species of Trichuridae (Nematoda: Enoplida)

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Abstract

Nematodes, comprising 2 species, a new genus from the family Syphaciidae and a new species from the family Trichuridae were collected from the lower digestive tracts of 4 species of *Pogonomys*; *P. championi*, Flannery (12 individuals), *P. loriae*, Thomas (14 individuals), *P. macrourus*, (Milne Edwards) (19 individuals) and *P. sylvestris*, Thomas (27 individuals) from Papua, Indonesia and Papua New Guinea. *Pogonomicola rugala* n. gen., n. sp. differs from all other genera in the Syphaciidae in having cervical alae with numerous folds and a single weakly defined mamelon. *Trichuris germani* n. sp. differs from all congeners, including the cosmopolitan *T. muris*, the only other trichurid reported from the region, by the lengths of the spicules and vagina, the ratio of anterior to posterior body length and the number of convolutions of the testis. The genus *Pogonomys*, with four species from four nematode families had a relatively rich helminth fauna in the lower digestive tract compared to other anisomyins studied. The Oxyuridae, with three genera comprising 5 species was the dominant group found in the lower digestive tract of the Anisomyini, indicating the possibility that the isolation of the old endemic rodents in New Guinea has been associated with a period of coevolution between anisomyin hosts and their syphaciine parasites.

Key words: Nematoda, Oxyurida, Oxyuridae, Enoplida, Trichuridae, *Pogonomicola*, *Trichuris*, Muridae, Anisomyini, *Pogonomys*, Papua New Guinea

Introduction

The genus *Pogonomys* (Muridae: Murinae) belongs to the tribe Anisomyini, the ancestral clade of the Sahulian Old Endemics, reflecting the earliest colonists of the Sahul Region (Musser & Carleton 2005; Rowe *et al.* 2008). Within the Anisomyini *Pogonomys* forms a sister clade with 9 other extant genera (Rowe *et al.* 2008). There are at least 5 species of tree mice, *Pogonomys championi* Flannery, *P. fergussoniensis* Laurie, *P. loriae* Thomas, *P. macrourus* (Milne Edwards) and *P. sylvestris* Thomas, with more to be described. All are highly arboreal, characterized by a strongly prehensile tail and presumed to be entirely herbivorous (Flannery 1995; Musser & Carleton 2005; Breed & Aplin 2008).

Some studies have been carried out on the internal parasites of anisomyins with helminths having been reported from the genera *Abeomelomys* Menzies, *Coccymys* Menzies, *Chiruromys* Thomas, *Hyomys* Thomas and *Lorentzimys* Jentink (see Smales 2006a, 2006b, 2010, 2011a, b, 2012a) Nothing is known, however, about the helminth parasites of *Pogonomys* as there have been no previous studies of internal parasites and no incidental findings of helminth infections reported to date.

Five genera are recognized in the oxyurid tribe Syphaciini; *Syphacia* Seurat, 1916, *Syphanateria* Chabaud & Biocca, 1955, *Syphabulea* Gubanov, 1964, *Sypharista* Quentin, 1970 and *Lorentzicola* Smales, 2010; all parasites of sciuriform or myomorph rodents (Hugot 1988; Smales 2010). Only species of the genera *Syphacia* and *Lorentzicola*, however, have been reported from New Guinea (Smales, 2012b).