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Gastrointestinal nematodes of *Paramelomys rubex* (Rodentia: Muridae) from Papua Indonesia and Papua New Guinea with the descriptions of three new genera and four new species of Helligmonellidae and Herpetostrongylidae (Nematoda: Trichostrongylida)

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Abstract

Nematodes, comprising 17 species, including 3 new genera, 4 new species and 3 putative new species, from the families Chabertiidae, Heligmonellidae, Herpetostrongylidae, Molineidae, Oxyuridae and Spiruridae were collected from the digestive tracts of 31 *Paramelomys rubex* (Murinae: Hydromyini) from Papua, Indonesia and Papua New Guinea. *Mawsonema mokwanensis* **n. gen.**, **n. sp.** differs from all other genera in the Heligmonellidae in the characters of the synlophe, 15 ridges oriented sub frontally in the anterior body, the asymmetry of the bursa, the left lobe larger and the proportions of the dorsal ray. *Melomystrongylus somoroensis* **n. sp.** differs from its congener *M. sepikensis* in the number of ridges in the synlophe and the length of the spicules and female tail. A combination of the characters of the synlophe, 15 ridges oriented 55–60° from the saggital plane, lacking a carene, the asymmetry of the bursa and the proportions of the dorsal rays distinguishes *Montistrongylus ingati* **n. gen., n. sp.** from all other helligmonellids. *Paraheligmosomoides singauwaensis* is redescribed. It can be distinguished from *P. amplicaudae* **n. sp.**, which has a similar number of synlophe ridges, but of differing proportions by the shape of the female tail and the proportions of the bursal lobes. *Paraheligmosomoides ennisae* **n. sp.** is characterized by the number of ridges of the synlophe, the shape of the female posterior end and the trilobed right spicule tip. *Parasabanema* **n. gen.**, **n. sp.** differs from other heligmonellid genera in the arrangement and proportions of the 45 ridges and the left lateral dilatation of the synlophe. The herpetostrongylid *Paraustrostrongylus paramelomysi* **n. sp.** can be distinguished from its congenerics by a combination of characters including the number of synlophe ridges, the extent of the lateral floats in the female and the length of the proximally twisted spicules. Species richness of this nematode assemblage is similar to that of *Melomys rufescens* and *Uromys caudimaculatus* but species composition is not. Ten, including the three putative species, of the 17 species found in this study were unique to *P. rubex*. Biogeographic distributions within the helminth assemblage were discussed.

Key words: Nematoda, Trichostrongylida, Heligmonellidae, Herpetostrongylidae, Molineidae, Chabertiidae, Oxyuridae, Spiruridae, *Mawsonema, Montistrongylus, Melomystrongylus, Paraheligmonelloidess, Paraustrostrongylus, Cyclodontostomum, Hepatojarakus, Syphacia, Protospirura,* Papua New Guinea, Papua, Indonesia

Introduction

The rodent genus *Paramelomys* Rümmler, formerly a junior synonym of *Melomys* Thomas, is placed either within the tribe Hydromyini (Muridae: Murinae) or within an uroymine clade, sister to the Hydromyini (Lecompte *et al.* 2008; Rowe *et al.* 2008). Either scenario suggests *Paramelomys* is part of a Papuan Old Endemic lineage with an origin in New Guinea (Breed & Aplin 2008; Rowe *et al.* 2008). The genus, limited to the island of New Guinea, comprises nine species including *Paramelomys rubex* (Thomas), the mountain paramelomys, which is widespread along the Central Cordillera of New Guinea from the Arfak Mountains in Papua, Indonesia to the Owen Stanley Range and Torricelli Mountains of Papua New Guinea (Wilson &

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