



New species of *Syphacia* (*Syphacia*) Seurat (Nematoda: Oxyuridae) from *Pseudomys* species (Rodentia: Muridae) from central Australia

H.J. WEAVER¹ & L.R. SMALES²

¹*School of Biological and Environmental Sciences, Central Queensland University, Rockhampton, Queensland 4702.*

Current address: National Centre for Epidemiology and Population Health, The Australian National University, Canberra, ACT 0200. E-mail: haylee.weaver@anu.edu.au

²*Parasitology Section, South Australian Museum, North Terrace, Adelaide, South Australia 5000*

Abstract

Syphacia (*Syphacia*) *brevicaudata* **sp. nov.** is described from the desert rodents *Pseudomys desertor* Troughton, 1936 and *P. hermannsburgensis* (Waite, 1896); *Syphacia* (*Syphacia*) *pseudomyos* **sp. nov.** is described from *P. hermannsburgensis* from western Queensland and central Northern Territory, Australia. *Syphacia* (*Syphacia*) *brevicaudata* is distinguished from all other species of *Syphacia* by having a suite of characters including an oval, dorsally and ventrally constricted cephalic plate, no cervical alae, a relatively short tail and two pairs of post-anal papillae. *Syphacia* (*Syphacia*) *pseudomyos* is distinguished from all other species of *Syphacia* by having a suite of characters including an oval, dorsally and ventrally constricted cephalic plate, no cervical or lateral alae, one pair of post-anal papillae, a relatively short tail and large eggs. Females of a putative species were distinct due to the lack of a cephalic plate but had other characters consistent with the genus. Two other putative species of *Syphacia*, females only, also collected from *P. hermannsburgensis* and having oval dorsally and ventrally constricted cephalic plates, could be distinguished from their congeners by a combination of characters including the presence of cervical alae, *Syphacia* sp. 2, and a protruding vulva, *Syphacia* sp. 3. These new species are the first records of oxyurid nematodes from the genus *Pseudomys*, and from Australian arid-zone rodents.

Key words: Nematoda, Oxyuridae, Muridae, *Pseudomys*, *Syphacia*, desert, Australia

Introduction

The sandy inland mouse, *Pseudomys hermannsburgensis* (Waite, 1896), and the desert mouse, *P. desertor* Troughton, 1936 (Rodentia: Muridae), are members of the rodent subfamily Hydromyinae, endemic to Australia and the island of New Guinea (Strahan 1995). The Hydromyinae first colonised Australia up to eight million years ago; and since that time have speciated to inhabit all the ecosystems in Australia, including the deserts (Strahan 1995; Godthelp 2001). The other group of Australian rodents, the endemic *Rattus* species (subfamily Murinae) arrived more recently, less than two million years ago (Archer et al. 1999). Of the three tribes comprising the Hydromyinae (the Uromyini, Hydromyini and Conilurini), the Conilurini is essentially an Australian group with only two of 40 species occurring also in Papua New Guinea (Flannery 1995; Clayton et al. 2006) and the only endemic Australian rodent tribe to successfully adapt to arid environments (Watts & Aslin 1981). The Conilurini comprises eight extant genera including *Pseudomys* of which *P. desertor* and *P. hermannsburgensis* are both desert-dwellers with distributions across central Australian deserts (Strahan 1995). There are no records of the helminth parasite fauna of either *P. hermannsburgensis* or *P. desertor*.

The family Oxyuridae comprises cosmopolitan parasites of vertebrates (Anderson 2000) including the genus *Syphacia* Seurat, 1916 which is found in rodents and lagomorphs (Hugot 1988). There are four *Sypha-*