



## A review of the nematode genus *Labiobulura* (Ascaridida: Subuluridae) parasitic in bandicoots (Peramelidae) and bilbies (Thylacomyidae) from Australia and rodents (Murinae: Hydromyini) from Papua New Guinea with the description of two new species

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### Abstract

The nematode genus *Labiobulura* Skrjabin & Schikhobalova, presently known from bandicoots (*Isoodon* Desmarest and *Perameles* Geoffroy), and bilbies (*Macrotis* Reid) from Australia and rodents (*Leptomys* Thomas) from Papua New Guinea is revised. Diagnoses of *Labiobulura*, *Labiobulura* (*Archeobulura*) Quentin and *Labiobulura* (*Labiobulura*) Quentin and a key to all species of the genus are given. Five species are redescribed: *L. (A.) leptomyidis* Smales from *L. paulus* Musser, Helgen & Lunde, *L. (A.) peragale* Johnston & Mawson from *M. leucura* (Thomas), *L. (L.) baylisi* Mawson from *I. macrourus* (Gould) and *P. nasuta* Geoffroy, *L. (L.) inglisi* Mawson from *I. obesulus* (Shaw), *P. bougainville* Quoy & Gaimard and *P. gunnii* Gray, *L. (L.) peramelis* Baylis from *I. macrourus* and two are described as new: *L. (A.) perditus* from *P. bougainville*, *L. (L.) quentini* from *I. obesulus* and the identification of the hosts determined. The significance of the relationship between the placement of the amphids and cephalic papillae and the labial lobes is discussed and the denticles surrounding the mouth opening in the sub genus *Labiobulura* are described, both for the first time. There is evidence for host specificity in the *Archeobulura* with each parasite species limited to a single host species but less so for the *Labiobulura* with three of five species found in more than one host species.

**Key words:** Nematoda, Subuluridae, *Archeobulura*, *Labiobulura*, Peramelidae, Muridae, Thylacomyidae, Australia, New Guinea, Papua

### Introduction

Species of the nematode genus *Labiobulura* Skrjabin & Schikhobalova, 1948 are characterized by a hexagonal mouth opening surrounded by six labial lobes, with or without six interlabial lobes and a circular buccal cavity. The modified anterior pharyngeal part of the oesophagus consists of fully cuticularized peripheral lobes forming a cup in which the slightly muscular radial and chordal lobes stand free and erect (Inglis 1958, 1960). The genus occurs in the posterior region of the small intestine, caecum and colon of bandicoots (Peramelidae) and bilbies (Thylacomyidae), marsupials from Australia and also in an endemic rat (Murinae, Hydromyini) from Papua New Guinea (Baylis 1930; Johnston & Mawson 1939a, b, 1940, 1951; Mawson 1960; Smales 2006).

Currently the genus consists of five species; two with six labial lobes, *Labiobulura peragale* Johnston & Mawson, 1940 from the lesser bilby, *Macrotis leucura* (Thomas) and *L. leptomyidis* Smales, 2006 from *Leptomys paulus* Musser, Helgen & Lunde, comprising the subgenus *Archeobulura* Quentin, 1969 and three with six labial and six interlabial lobes, *L. peramelis* Baylis, 1930 (type species) from northern brown bandicoots, *Isoodon macrourus* (Gould), *L. baylisi* Mawson, 1960 from northern brown bandicoots, golden bandicoots, *I. auratus* (Ramsay) and long nosed bandicoots, *Perameles nasuta* Geoffroy, and *L. inglisi* Mawson, 1960 from southern brown bandicoots, *I. obesulus* (Shaw), western barred bandicoots, *P.*