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**New records of filarioid nematodes (Nematoda: Filarioidea)  
parasitic in Australasian monotremes, marsupials and murids,  
with descriptions of nine new species**

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## Abstract

Filarioid nematodes (Nematoda: Filarioidea) parasitic in Australasian monotremes, marsupials and murid rodents are described from three genera, *Breinlia* (*Breinlia*), *Pelecitus* and *Sprattia*. New host and geographic records are presented for 24 previously described species from these genera, a second subgenus, *Breinlia* (*Johnstonema*) and an additional three genera, *Cercopithifilaria*, *Monanema* and *Pelecitus*. Nine species are described as new, *B. (B.) beveridgei* **sp. nov.** from the peritoneal cavity of *Macropus parryi* Bennett, *B. (B.) bigenera* **sp. nov.** from the peritoneal and pleural cavities of *Aepyprymnus rufescens* (Gray), *Onychogalea fraenata* (Gould), *O. unguifera* (Gould) and possibly *Antechinus swainsonii* (Waterhouse), *B. (B.) dorcopsis* **sp. nov.** from the peritoneal cavity of *Dorcopsis hageni* Heller and *D. luctuosa* (D'Alberatis), *B. (B.) melomyos* **sp. nov.** from the peritoneal cavity of *Melomys* cf. *burtoni*, *B. (B.) oweni* **sp. nov.** from the peritoneal cavity of *Dactylopsila trivirgata* Gray, *B. (B.) presidentei* **sp. nov.** from the peritoneal cavity of *Mesembriomys gouldii* (Gray), *M. macrurus* (Peters) and the pleural and peritoneal cavities of *Conilurus penicillatus* (Gould), *B. (B.) tricondylus* **sp. nov.** from the peritoneal cavity of *Macropus rufogriseus banksianus* (Quoy & Gaimard), *B. (B.) zyzomyos* **sp. nov.** from the peritoneal cavity of *Zyzyomys woodwardi* (Thomas) and *Z. argurus* (Thomas), and *Sprattia spearei* **sp. nov.** from the lung (probably blood vessels) of *Isoodon macrourus* (Gould). The female of *B. (J.) woerlei* from the pulmonary artery, right ventricle and lung cysts of *Petrogale brachyotis* (Gould) is described for the first time. *Breinlia (J.) andersoni* Spratt & Varughese, 1975 from the subcutaneous connective tissues of *Macropus rufus* (Desmarest), *M. giganteus* Shaw, *M. robustus erubescens* Sclater and *Wallabia bicolor* (Desmarest) is placed as a synonym of *B. (J.) annulipapillata* (Johnston & Mawson, 1938) from the subcutaneous connective tissues of *M. dorsalis* (Gray), *O. fraenata* and *W. bicolor*. In general, filarioids predominate in macropodoid hosts and in the north of Australia.

**Key words:** *Breinlia* (*Breinlia*), *Breinlia* (*Johnstonema*), *Cercopithifilaria*, *Monanema*, *Pelecitus*, *Sprattia*, Monotremata, Marsupialia, Muridae, revision

## Introduction

Five genera and two subgenera of filarioid nematodes are currently recognised in Australasian monotremes, marsupials and murid rodents, *Breinlia* (*Breinlia*) Chabaud & Bain, 1976, *Breinlia* (*Johnstonema*) (Yeh, 1957) Chabaud & Bain, 1976, *Cercopithifilaria* Eberhard, 1980, *Monanema* Anteson, 1968 in Chabaud & Bain 1976, *Pelecitus* Railliet & Henry, 1910 and *Sprattia* Chabaud & Bain, 1976.

Fifteen species of the filarioid nematode genus *Breinlia*, subgenus *Breinlia* are known from dasyurid, peramelid, pseudocheirid, phalangerid, potoroid and macropodid marsupials in Australia and Papua New Guinea (Mackerras 1962; Walker & McMillan 1974; Spratt & Varughese 1975; Spratt & Hobbs 2003). In addition, six species have been reported from non-marsupial hosts in Asia. *Breinlia (B.) sergenti* (Mathis & Leger, 1909) Petter, 1958 occurs in the slow lemur, *Nycticebus coucang* (Boddaert) (as *N. tardigradus* Link), in Calcutta (Mathis & Leger 1909, Petter 1958), *Breinlia (B.) booliati* Singh & Ho, 1973 is known from 10 species of *Rattus*, the short-tailed gymnure, *Hylomys suillus* Müller, and the shrew, *Suncus murinus* (Linnaeus) in the geographic areas of Peninsular and West Malaysia (Singh & Ho 1973; Mak & Lim 1974; Lim *et al.* 1975, 1978; Tucker *et al.* 2003), Thailand (Lim *et al.* 1978), Philippines (Miyata & Tsukamoto 1975), Sarawak in Borneo (Mak & Lim 1974) and West Java, Indonesia (Lim *et al.* 1978) as well as the plaitain squirrel, *Callosciurus notatus* Boddaert, in Malaysia (Bain *et al.* 1979). I hold specimens (N5455) from *Rattus rattus* (L.) from Luang Prabang, Pak Ou district of Laos. *Breinlia (B.) petauristae* Chowattukunnel & Esslinger, 1979 (spelling emendation to agree with feminine gender of *Breinlia*) was described from the flying squirrel, *Petaurista philippensis* (Elliot), in India, although the morphology of the spicules, particularly the right spicule suggest that it does not belong in this subgenus. *Breinlia (B.) spratti* Bain, Tibayrenc & Mak, 1979 was described in the same year from the squirrel, *C. notatus*, in Malaysia. *Breinlia (B.) manningi* Bain, Petit, Ratanaworabhan, Yenbutra & Chabaud, 1981 from the squirrel, *Menetes berdmorei* (Blyth), from Thailand (Bain *et al.* 1981) and *B. (B.) tinjili* Purnomo & Bangs, 1996 have been described from *Rattus tiomanicus* Miller in Java (Purnomo & Bangs 1996). I believe that a paper by Viraboonchai *et al.* (1974) concerning natural and experimental hosts of a “*Breinlia ratti*” in the southern part of Thailand probably pertains to *B. booliati* as there has been no description of a *B. ratti* and the authors provide no authority for the species name.

The life cycle of four species of *Breinlia* (*Breinlia*) are known to utilise mosquitoes of the genus *Aedes* (Diptera: Culicidae) as intermediate host, three species in Asia, *B. (B.) sergenti* (Zaman & Chellapah 1968; Ramachandran & Dunn 1968), *B. (B.) booliati* (Ho *et al.* 1973; Petit and Spitalier-Kaveh 1979), *B. (B.) manningi* (Bain *et al.* 1981) and one, *B. (B.) macropi*, in Western Australia (Yen 1983).