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## New species of *Peromyia* from Tasmania, with a revision of SCHINER's and SKUSE's types of Australian Micromyinae

(Diptera: Cecidomyiidae)

With 9 figures and 1 table

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### Summary

*Peromyia* KIEFFER, 1894, a speciose, cosmopolitan genus of micromyine cecidomyiids, is shown to occur in Tasmania. This is the first record of the genus in Australia and the first contribution to the taxonomy of Australian Micromyinae for 120 years. Nine of the 12 species found proved to be new to science: *Peromyia grovei* sp. n., *P. nitoda* sp. n., *P. indecorata* sp. n., *P. warraensis* sp. n., *P. bashfordi* sp. n., *P. despecta* sp. n., *P. debilis* sp. n., *P. cinalata* sp. n., and *P. tasmanica* sp. n. Four of the new species are assigned to the *Peromyia dissona* group, which is established for a chiefly western Pacific species radiation. Other Tasmanian peromyias are assigned to species groups that to present knowledge are widely distributed across the Holarctic Region and occasionally beyond. The types of the Micromyinae species from Australia by Ignaz R. SCHINER and Frederick A. A. SKUSE are revised. None of the 11 species belongs to the genus *Campylomyza* MEIGEN, 1818, where they were originally assigned. *Campylomyza grandiuscula* SKUSE, 1890 is actually a species of the genus *Pteridomyia* JASCHHOF, 2003. The remaining species either belong to the genus *Peromyia* or their generic affiliation could not be determined. *Peromyia aenatipennis* (SKUSE, 1888) comb. n. takes priority over *Peromyia muscorum* (KIEFFER, 1895) syn. n., and *Peromyia impexa* (SKUSE, 1888) comb. n. takes priority over *Peromyia palustris* (KIEFFER, 1895) syn. n. *Peromyia pallax* (SKUSE, 1888) comb. n., syn. n. and *Peromyia subtilis* (SKUSE, 1888) comb. n., syn. n. are identical with *Peromyia impexa*. *Campylomyza sidneyensis* SCHINER, 1868, *Campylomyza amplipennis* SKUSE, 1888, *Campylomyza crocea* SKUSE, 1888, *Campylomyza perpallida* SKUSE, 1888, *Campylomyza persimilis* SKUSE, 1888, and *Campylomyza vicina* SKUSE, 1888 are relegated to nomina dubia.

### Zusammenfassung

*Peromyia* KIEFFER, 1894, eine artenreiche, kosmopolitisch verbreitete Gattung der Unterfamilie Micromyinae (Cecidomyiidae), wird aus Tasmanien gemeldet und damit erstmals für Australien nachgewiesen. Es ist dies der erste Beitrag zur Taxonomie australischer Micromyinae seit 120 Jahren. 9 der 12 gefundenen Arten sind neu für die Wissenschaft: *Peromyia grovei* sp. n., *P. nitoda* sp. n., *P. indecorata* sp. n., *P. warraensis* sp. n., *P. bashfordi* sp. n., *P. despecta* sp. n., *P. debilis* sp. n., *P. cinalata* sp. n. und *P. tasmanica* sp. n. Vier der neuen Arten werden der *Peromyia dissona* JASCHHOF-Gruppe zugeordnet, die für eine vorrangig westpazifische Artenradiation aufgestellt wird. Andere tasmanische *Peromyia* gehören Artengruppen an, die nach jetzigem Kenntnisstand in der Holarktischen Region und gelegentlich darüber hinaus weit verbreitet sind. Die Typen der von Ignaz R. SCHINER und Frederick A. A. SKUSE beschriebenen Arten australischer Micromyinae werden revidiert. Keine der 11 Arten gehört zur Gattung *Campylomyza* MEIGEN, 1818, der sie ursprünglich angeschlossen waren. *Campylomyza grandiuscula* SKUSE, 1890 ist tatsächlich eine Art der Gattung *Pteridomyia* JASCHHOF, 2003. Die übrigen Arten gehören der Gattung *Peromyia* an oder ihre Gattungszugehörigkeit konnte nicht sicher ermittelt werden. *Peromyia aenatipennis* (SKUSE, 1888) comb. n. hat Priorität über

*Peromyia muscorum* (KIEFFER, 1895) syn. n. und *Peromyia impexa* (SKUSE, 1888) comb. n. hat Priorität über *Peromyia palustris* (KIEFFER, 1895) syn. n. *Peromyia pella*x (SKUSE, 1888) comb. n., syn. n. und *Peromyia subtilis* (SKUSE, 1888) comb. n., syn. n. sind identisch mit *Peromyia impexa*. *Campylomyza sidneyensis* SCHINER, 1868, *Campylomyza amplipennis* SKUSE, 1888, *Campylomyza crocea* SKUSE, 1888, *Campylomyza perpallida* SKUSE, 1888, *Campylomyza persimilis* SKUSE, 1888 und *Campylomyza vicina* SKUSE, 1888 werden den nomina dubia zugewiesen.

### Key words

Diptera, Cecidomyiidae, Micromyinae, Australasian Region, Australia, Tasmania, *Peromyia*, new species, new synonyms, new combinations

## Introduction

Cecidomyiids belonging to the subfamily Micromyinae are tiny midges with mycetophagous larvae that develop in humous soil and rotting plant debris, typically dead wood. Their preferred habitat are humid forests worldwide. Most of the 500 or so named species were described from the Holarctic Region. Elsewhere micromyines received much less attention by taxonomists, Australia being no exception. Of many of the named species nothing more is known than male adult anatomy, which is used for species identification and classification, and fragmentary data on phenology and distribution. To look on the bright side, the Micromyinae of the Holarctic Region have been subject to comprehensive taxonomic revision in recent years, resulting in a natural classification of the subfamily (JASCHHOF 1998, JASCHHOF & JASCHHOF 2009) which is now more thoroughly known than that of most other Cecidomyiidae. Micromyinae, as used here, emanated from the breakup of the Lestremiinae sensu JASCHHOF (2001a) into monophyletic groups (the other such group being the Lestremiinae sensu stricto that comprise the former Lestremiini, cf. JASCHHOF & JASCHHOF 2009).

SKUSE, during his short, prolific preoccupation with Australian Diptera in the late 1880s (cf. MARKS 1991), was the first entomologist to address the taxonomy of Australian Cecidomyiidae and Micromyinae. It is notable that his “Diptera of Australia” (SKUSE 1888), intended to become a series of family monographs, started with just that group of delicate midges, considering he had the choice among plenty of unworked families. SKUSE (1888, 1890) distinguished among 11 species of Micromyinae, all from Sydney and its environs, including one species that SCHINER (1868) had described earlier. Both SCHINER and SKUSE assigned their species to the genus *Campylomyza* MEIGEN, 1818 – a taxon then equivalent to the present supertribe Micromyidi now containing some 30 genera. Modern workers find the original descriptions of SCHINER’s and SKUSE’s *Campylomyza* entirely inadequate for the identification of species and the genera they actually belong to. Consequently, in the World Catalog of Cecidomyiidae they are listed among the “unplaced species of Lestremiinae” (GAGNÉ 2004: 36). Moreover, it seemed unlikely that there was a true *Campylomyza* among, because this genus is at present chiefly Holarctic in distribution. The only true *Campylomyza* known to occur in Australasia is *Campylomyza flavipes* MEIGEN, 1818, a widespread Holarctic species introduced into New Zealand (JASCHHOF & JASCHHOF 2003). To shed light on the dubious *Campylomyza* species from Australia I endeavored to examine their type specimens. The results are presented in this article.

According to AUSTIN et al. (2004), Cecidomyiidae are among the seven major families in the Australian Diptera fauna that are taxonomically orphaned. In fact, there has been some progress in recent years in exploring Australia’s diversity of gall-inducing Cecidomyiinae (cf., for instance, KOLESIK & VEENSTRA-QUAH 2008), but AUSTIN et al. are perfectly right with respect

to the non-phytophagous species classified in the subfamilies Lestremiinae, Micromyinae and Porricondyliinae. SKUSE's late 19<sup>th</sup> century contribution to the Micromyinae of Australia has indeed had no successor ever since (cf. BUGLEDICH 1999). So this fauna, that I estimate to contain a few hundred species, many to be classified in new genera, remained virtually unknown to this day. *Peromyia*, a cosmopolitan, open-ended genus (cf. BICKEL 2009), remained hitherto unreported from Australia and Tasmania, even though peromyias are among the most common cecidomyiids there if one may judge from Malaise samples taken in forests (JASCHHOF, pers. obs.). This present first account of *Peromyia* in Tasmania deals with only a small fraction of the Micromyinae of Australia. It is my intention to follow this by further small contributions. To proceed in such a piecemeal fashion might be considered by some to be inadequate for documenting a fauna that is unworked even at the level of genus. However, the funding needed for a more thorough study appears unobtainable at present, even though such a study was feasible within a modest time-frame (cf. JASCHHOF & JASCHHOF 2009: 289 ff.).

## Material and methods

This study is part of an effort to increase our knowledge of Australian Sciaroidea and Cecidomyiidae, based mainly on the large insect material in the Tasmanian Forest Insect Collection in the care of Forestry Tasmania, Hobart (cf. JASCHHOF & JASCHHOF 2008a, b). Most of the specimens studied here are from Malaise samples taken at the Warra Long Term Ecological Research (LTER) site, southern Tasmania, which is predominantly temperate broadleaf (*Eucalyptus obliqua*) wet forest (WARRA 2009). Further specimens were collected in the course of the Naturhistoriska Riksmuseet Stockholm (NHRS) entomological expedition to Tasmania in 2006. Specimens were picked from ethanol samples and mounted on microscope slides using the technique by JASCHHOF & JASCHHOF (2009), which is also the reference regarding Micromyinae morphological terminology and classification. Morphology was studied by compound microscope at 400 times magnification. Holotypes of the new species are deposited with the Australian Museum Sydney (AMS), paratypes with the AMS, NHRS and Senckenberg Deutsches Entomologisches Institut Müncheberg (SDEI), other voucher specimens with the NHRS and SDEI.

Information on a syntype of *Campylomyza sidneyensis* SCHINER was provided by Dr Peter KOLESÍK, who had this specimen on loan from the Naturhistorisches Museum Wien (NHMW). SKUSE's Micromyinae (and 1 species of Lestremiinae) were with Dr Michel BAYLAC, Muséum National d'Histoire Naturelle, Paris (MNHN), on loan from the Australian National Insect Collection Canberra (ANIC). The specimens, apparently in the original state as SKUSE had prepared and labelled them, were glued on small squares of cardboard and attached to insect pins together with two labels. Type specimens were labelled as such and found to be tagged with information on locality, occasionally also date and collector, in accordance with the information given in the original publications. The SKUSE material, as I obtained it from BAYLAC, contained only one specimen per species labelled "type", which is inconsistent with the catalog by BUGLEDICH (1999) who usually refers to two syntypes – a discrepancy I am unable to explain. GAGNÉ (2004) is certainly correct in referring to the original specimens as "holotypes", since SKUSE, in his original publications, writes in each case in the singular form of the "specimen" from which he drew the species description. I soaked the dry specimens in water until they were released from the glue, tried with little success to macerate them with lactic acid, dehydrated them in ethanol and mounted them on microscope slides following the method by JASCHHOF & JASCHHOF (2009). I did not study three other Micromyinae specimens from SKUSE's material, which did not bear identification or type labels.

## The Micromyinae from Australia described by SCHINER and SKUSE

Table 1 lists the Micromyinae described by SCHINER and SKUSE with their original names and their valid names and statuses resulting from this study of the type specimens and original descriptions. Following this summary, I explain separately the taxonomic decisions for the species in question.

Tab. 1: Australian Micromyinae described by SCHINER and SKUSE: summary of revisionary results.

Original name	Present name or status
<i>Campylomyza sidneyensis</i> SCHINER, 1868	nomen dubium
<i>Campylomyza aeratipennis</i> SKUSE, 1888	<i>Peromyia aeratipennis</i> (SKUSE, 1888) comb. n. = <i>Peromyia muscorum</i> (KIEFFER, 1895) syn. n.
<i>Campylomyza amplipennis</i> SKUSE, 1888	nomen dubium
<i>Campylomyza crocea</i> SKUSE, 1888	nomen dubium
<i>Campylomyza grandiuscula</i> SKUSE, 1890	<i>Pteridomyia grandiuscula</i> (SKUSE, 1890) comb. n.
<i>Campylomyza impexa</i> SKUSE, 1888	<i>Peromyia impexa</i> (SKUSE, 1888) comb. n. = <i>Peromyia palustris</i> (KIEFFER, 1895) syn. n.
<i>Campylomyza pallax</i> SKUSE, 1888	<i>Peromyia pallax</i> (SKUSE, 1888) comb. n., syn. n. of <i>Peromyia impexa</i> (SKUSE, 1888)
<i>Campylomyza perpallida</i> SKUSE, 1888	nomen dubium
<i>Campylomyza persimilis</i> SKUSE, 1888	nomen dubium
<i>Campylomyza subtilis</i> SKUSE, 1888	<i>Peromyia subtilis</i> (SKUSE, 1888) comb. n., syn. n. of <i>Peromyia impexa</i> (SKUSE, 1888)
<i>Campylomyza vicina</i> SKUSE, 1888	nomen dubium

### *Campylomyza sidneyensis* SCHINER, 1868:

Of the 3 female adult syntypes in the NHMW referred to by BUGLEDICH (1999) nothing remains. KOLESIK (in litt.) describes the “specimen” he had on loan from Vienna as follows: “One pin with 3 paper labels and one plastic triangular specimen holder. No insect was attached to the specimen holder. One label reads “*Campylomyza sidneyensis*”, one reads “X” and one is a simple red square.” The other two syntypes, provided they once existed, are not present nor registered as loan in the NHMW (SEHNAL, in litt.) and I regard them as lost. SCHINER’s description of this species is by modern standards useless for identification. Therefore I consider *Campylomyza sidneyensis* SCHINER to be a dubious name, or nomen dubium.

### *Campylomyza aeratipennis* SKUSE, 1888:

The holotype is labelled “Campy: aeratipennis ♀ TYPE. F. A. A. Skuse” and “Eliz: Bay. Dec 87. M”. Preserved are the head with 7 flagellomeres of one of the antennae, the thorax and the abdomen. The antennal structure is typical for a *Peromyia*. The nodes of the antennal flagellomeres are bicolored, the basal halves darker than the apical halves (JASCHHOF 1998: fig. 219h). Two sclerotized, disk-shaped spermathecae are present (l. c.: fig. 219i). These characters in combination are typical of *Peromyia muscorum* (KIEFFER, 1895). I have no doubt that *Peromyia aeratipennis* (SKUSE) and *Peromyia muscorum* (KIEFFER) are identical, so the former name becomes valid for this common, widespread species. The species is apparently widely distributed on the Australian continent as is indicated by specimens I have seen from Queensland (unpubl.). As shown below *Peromyia aeratipennis* occurs also in Tasmania.



***Campylomyza amplipennis* SKUSE, 1888:**

The cardboard holder labelled “Cy: amplipennis ♂ TYPE. F. A. A. Skuse” and “Mid: Harb. S.” is devoid of the specimen. SKUSE’s original description does not contain any information that might help to recognize this species, and even its generic affiliation remains uncertain. Consequently, I relegate this name to nomina dubia.

***Campylomyza crocea* SKUSE, 1888:**

The holotype is labelled “Campy: crocea ♀ TYPE. F. A. A. Skuse” and “Eliz: Bay. S.” The specimen is strongly shrivelled and lacks most of the appendages. It doubtless belongs to a species of *Peromyia*, but I am unable to detect any species-specific characters. SKUSE’s description is also useless for identification, so *Campylomyza crocea* is another nomen dubium.

***Campylomyza grandiuscula* SKUSE, 1890:**

The holotype specimen is labelled “*C. grandiuscula* ♂ TYPE. F. A. A. Skuse” and “Aug. 21”. Preserved are the thorax, some of the legs and the abdomen, including terminalia. The structure of the terminalia indicates *grandiuscula* is a species of the genus *Pteridomyia* JASCHHOF, 2003. The genitalic characters observed should allow recognition of this species, once fresh specimens become available for comparison and redescription. *Pseudomonardia grandiuscula* is not among the *Pseudomonardia* species known from New Zealand (cf. JASCHHOF & JASCHHOF 2003) nor among those found to occur in Tasmania (JASCHHOF, in prep.).

***Campylomyza impexa* SKUSE, 1888:**

The holotype specimen, labelled “Campy: impexa ♂ TYPE. F. A. A. Skuse” and “Eliz: Bay.”, is almost complete, but strongly shrivelled. Male genitalic characters, which are clearly visible, indicate *Campylomyza impexa* is identical to the species European workers know as *Peromyia palustris* (KIEFFER, 1895). So *Peromyia impexa* (SKUSE) becomes the valid name of this common, widespread species. I have seen specimens from Queensland (unpubl.) and Tasmania (see below).

***Campylomyza pallax* SKUSE, 1888:**

The holotype specimen, labelled “Campy: pallax ♂ TYPE. F. A. A. Skuse” and “Eliz: Bay. M/S”, is strongly shrivelled, but almost complete except for the apices of the antennae and one wing that are lacking. The terminalia, which are well preserved, indicate that *Campylomyza pallax* is identical with *Peromyia impexa* (SKUSE) (see above).

***Campylomyza perpallida* SKUSE, 1888:**

The holotype is labelled “Cy: perpallida ♀ TYPE F. A. A. Skuse” and “Sydney. S”. Preserved are the head without antennae, the thorax and one wing that lacks the apical third. These fragments indicate the specimen belongs to a species of *Peromyia*, but any structures that might provide species-specific characters are absent. SKUSE’s species description is also useless for identification. Therefore I regard *Campylomyza perpallida* as a nomen dubium.

***Campylomyza persimilis* SKUSE, 1888:**

The holotype, labelled “Cpy: persimilis ♀ TYPE F. A. A. Skuse” and “Sydney.”, is almost complete, but strongly shrivelled. It belongs to a species of *Peromyia*, but which species is impossible to determine because characters of species-specific merit are absent. The species description by SKUSE is also uninformative with respect to species-specific features. Consequently, *Campylomyza persimilis* is another nomen dubium.

***Campylomyza subtilis* SKUSE, 1888:**

The holotype is labelled “Campy: subtilis ♂ TYPE. F. A. A. Skuse” and “Eliz: Bay. M/S”. The specimen is strongly shrivelled and lacks the head and wings. The gonostyli are not preserved, but the remaining genitalic structures indicate that *Campylomyza subtilis* is identical with, and consequently another junior synonym of *Peromyia impexa* (SKUSE) (see above).

***Campylomyza vicina* SKUSE, 1888:**

The holotype of this species is labelled “Campy: vicina ♂ TYPE. F. A. A. Skuse” and “Eliz: Bay. M/S”. Preserved are the head without antennae, the thorax and the abdomen including a fragment of the terminalia, all strongly shrivelled. The specimen belongs certainly to a species of *Peromyia*, but the preserved fragments are insufficient for species identification. SKUSE’s species description is also of no help in this context. Therefore I relegate *Campylomyza vicina* to *nomina dubia*.

## The genus *Peromyia* in Tasmania

With 150 named species, including one Tertiary fossil, this cosmopolitan genus is the largest of the subfamily Micromyinae. The fact that most *Peromyia* species were described from the Holarctic Region is due to too little study elsewhere (JASCHHOF & JASCHHOF 2009). Thirty-three species, 30 endemic, were reported from New Zealand (JASCHHOF & JASCHHOF 2004), which were the only *Peromyia* known from the Australasian Region prior to this study. Dozens of *Peromyia* species may be expected to occur in Australia. Twelve species, 9 previously unnamed, are here reported from Tasmania, which increases the number of world *Peromyia* species to 159. I have seen specimens of a further 8 unnamed species from Tasmania. At present there is evidence for 16 *Peromyia* species occurring in sympatry at Warra, but further sample study and group-specific collecting will definitely uncover more. Single stands of temperate broadleaf or mixed broadleaf/coniferous forest in parts of the Palearctic Region (Germany, Fennoscandia, Japan) may provide habitat for up to 25 sympatric *Peromyia* species (JASCHHOF & JASCHHOF 2009). The current subgeneric classification recognizes 15 species groups, two of which are endemic to New Zealand (JASCHHOF & JASCHHOF 2004, 2009) and one newly introduced here. Tasmanian *Peromyia* belong to either the new species group, representing a chiefly western Pacific radiation, or various species groups that to present knowledge are chiefly Holarctic in distribution. A key to the *Peromyia* species in Tasmania is not presented at this stage, as any key for randomly caught specimens is likely to fail due to the large number of species not yet described and named.

### *Peromyia dissona* species group

#### Diagnosis:

Male antennal flagellomeres bear 2 whorls of hair-shaped translucent sensilla, one distal whorl of long sensilla and one basal whorl of shorter sensilla (Fig. 1A). Position of hair-shaped sensilla at the very bases of the flagellomere nodes is an unusual character state among peromyias, even though there are instances of sensilla that irregularly intermingle with the short subbasal setae that are universally present (see, for instance, Fig. 8A). Postocular bristles are usually arranged in 2 rows. Male terminalia have a diverse, often unusual structure, which is less pronounced in the representatives from Tasmania. This group gathers several species of previously uncertain affin-

ity: *Peromyia dissona* JASCHHOF, 2004 and *P. praeclara* JASCHHOF, 2004, both from New Zealand, *P. ayaensis* JASCHHOF, 2001 and *P. valens* JASCHHOF, 2001, both from Japan, and *P. albicornis* (MEIGEN, 1830), known to occur in the western Palearctic and possibly Japan. Four new species from Tasmania also belong here.

***Peromyia grovei* sp. n.**

(Fig. 1A-C)

**Diagnosis:**

*Peromyia grovei* is characterized by a combination of male genitalic characters as follows. The ventral emargination extends to the midlength of gonocoxites (Fig. 1B), the gonostyli are flattened and excavated mesally (Fig. 1B), and the tegmen has dark lateral stripes (Fig. 1C).

**Description:**

**Male. Body size:** 0.7-0.8 mm. **Head:** Postfrons asetose. Eye bridge 2-3 ommatidia long. Postocular bristles in 2 rows. Neck of fourth antennal flagellomere longer than node (Fig. 1A). Node subglobose, with 1 basal whorl of short hair-shaped sensilla, short subbasal setae, 1 mesal single to triple whorl of long setae and 1 distal whorl of long hair-shaped sensilla. Maxillary palpus 4-segmented, all segments with hair-shaped translucent sensilla.

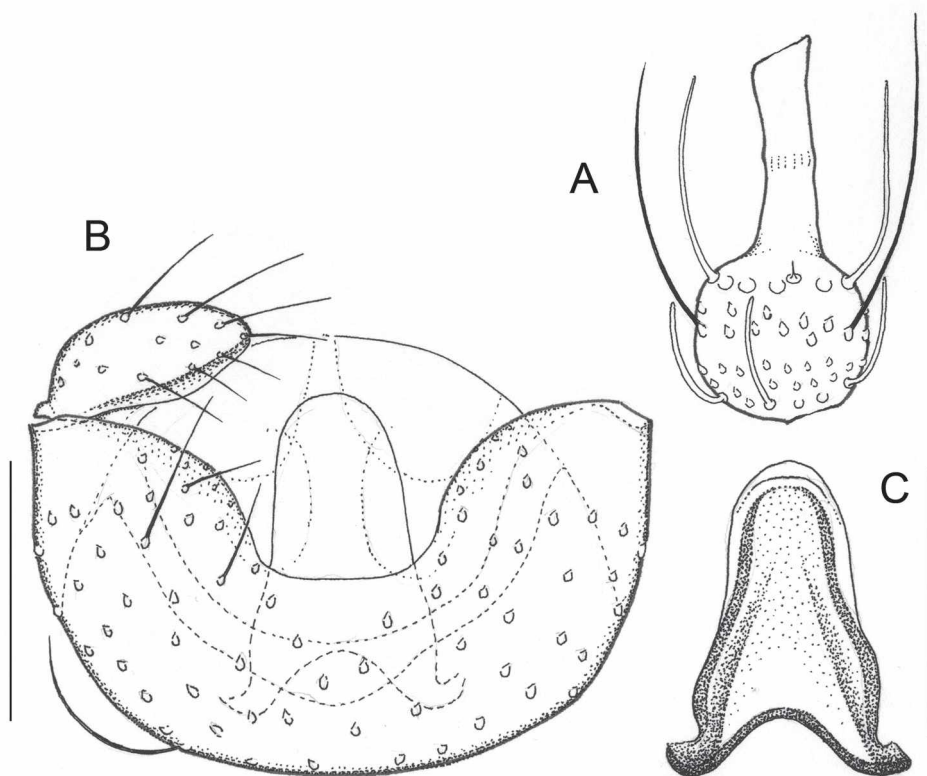


Fig. 1: *Peromyia grovei* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

**Wing:** AntC ending at juncture with R5 or extending slightly beyond R5. ApicR1 = 3 times the length of Rs. **Legs:** Pretarsal claws without teeth.

**Terminalia:** Sclerotization of tg9 mesally interrupted for a short distance. Ventral emargination of gonocoxites broadly U-shaped, extending to midlength (Fig. 1B). Gonostylus flattened, excavated dorsomesally, rounded apically (Fig. 1B). In between gonocoxites and tegmen a weak membranous pubescent lobe. Tegmen as long as gonocoxites, tapering towards apex, apically rounded, with dark lateral stripes approaching each other near apex; apical margin of ventral plate situated just below tegmen apex (Fig. 1C). Both cerci and st10 distinct, pubescent; cerci bearing a few fine setae.

**Female and immature stages.** Unknown.

#### Etymology:

The species is named to honour Dr Simon J. GROVE, Conservation Biologist with Forestry Tasmania, Hobart, whose broad, keen interest in the Natural History of Tasmania helped with the initiation of this study.

#### Types:

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Manuka Road, 14 April 2000, Malaise sample FT28645, R. BASHFORD (in AMS). **Paratypes:** 1 male, same locality but 1 March 2005, sample FT35695; 2 males, same locality but 1 April 2005, sample FT35962; 3 males, same data but sample FT35967 (in AMS and SDEL).

#### Other material:

1 male, Warra LTER site, Mt Weld, 30 March 2001, sample FT109, N. DORAN & R. BASHFORD; 1 male, same locality but 22 Jan. 2002, sample FT5898; 1 male, Tasmania, Sheffield, Dasher River, near Road C159, 24 Feb.-4 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Central Plateau, near Arthur's Lake, gravel road from Road B51 to Little Lake, 25 Feb.-4 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS.

### *Peromyia nitoda* sp. n.

(Fig. 2A-B)

#### Diagnosis:

*Peromyia nitoda* is characterized by the following male genitalic characters in combination: the ventral emargination extends to the midlength of gonocoxites (Fig. 2A), the gonostyli are thick throughout their lengths and slightly curved (Fig. 2A), and the tegmen has dark mesal stripes (Fig. 2B).

**Description** (mentioned are only those features which differ from that in *P. grovei*):

**Male. Head:** Maxillary palpus 4-segmented, first to third segments with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5. ApicR1 = 2.5-3.0 times the length of Rs.

**Terminalia:** Sclerotization of tg9 not interrupted mesally. Ventral emargination of gonocoxites broadly U-shaped, extending to midlength (Fig. 2A). Gonostylus thick, slightly curved, broadly rounded apically (Fig. 2A). Membranous lobe between gonocoxites and tegmen distinct. Tegmen shorter than gonocoxites, slightly tapering towards apex, rounded apically, with dark mesal stripes;

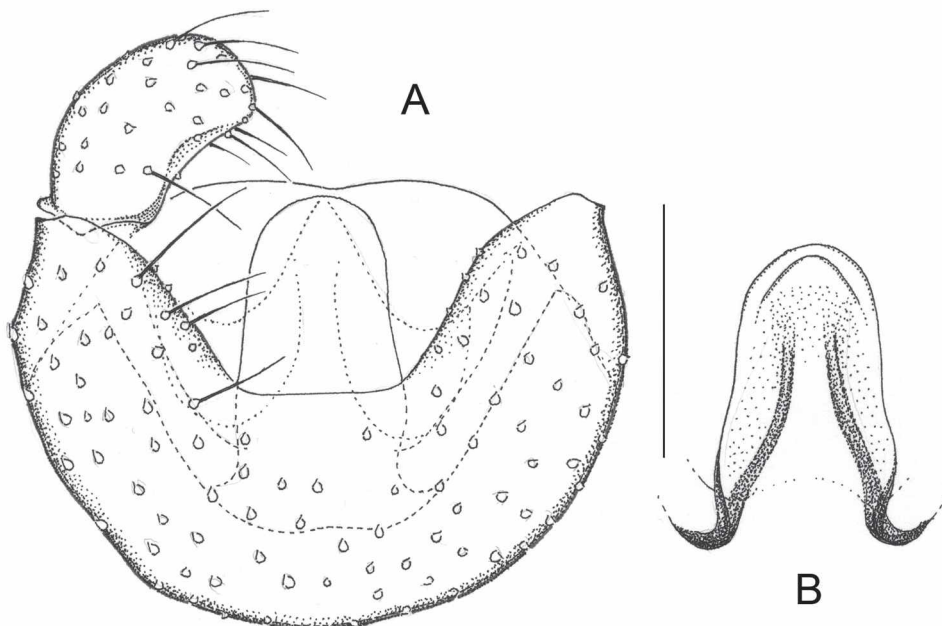


Fig. 2: *Peromyia nitoda* sp. n., holotype male. – A: terminalia, ventral view; – B: tegmen, ventral view. Length of scale bar = 0.05 mm.

apical margin of ventral plate situated just below tegmen apex (Fig. 2B). Both cerci and st10 large; cerci asetose.

**Female and preimaginal stages:** Unknown.

#### Etymology:

The species name is made up of the first two letters each of the forenames of Niklas JÖNSSON, Tobias MALM and Dawn WILLIAMS, all of Naturhistoriska Riksmuseet Stockholm, Sweden, who are the collectors of a part of the peromyias studied here.

#### Types:

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Manuka Road, 1 March 2005, Malaise sample FT35694, R. BASHFORD (in AMS). **Paratypes:** 1 male, same data as the holotype; 1 male, same locality but 1 April 2005, sample FT35962; 1 male, Tasmania, Wild Rivers National Park, Taffys Creek, near Road A10, 22 Feb.-2 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Mt. Field National Park, Lake Dobson Road, 20 Feb.-2 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Central Plateau, near Arthur's Lake, gravel road from Road B51 to Little Lake, 25 Feb.-4 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Cradle Mt National Park, creek from Crater Lake to Ronny Creek, 23 Feb.-4 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS (in AMS, NHRS and SDEI).



***Peromyia indecorata* sp. n.**

(Fig. 3A-B)

**Diagnosis:**

*Peromyia indecorata* is characterized by the following male genitalic characters in combination: the ventral emargination extends beyond the midlength of gonocoxites (Fig. 3A), the gonostyli have a simple, subcylindrical outline (Fig. 3A), and the tegmen is largely unmodified except for the apical margin of ventral plate which is occasionally discernible (Fig. 3B).

**Description** (mentioned are only those features which differ from that in *P. grovei*):

**Male. Body size:** 0.9-1.1 mm.

**Head:** Maxillary palpus 4-segmented, first to third segments with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5. ApicR1 = 3-4 times the length of Rs.

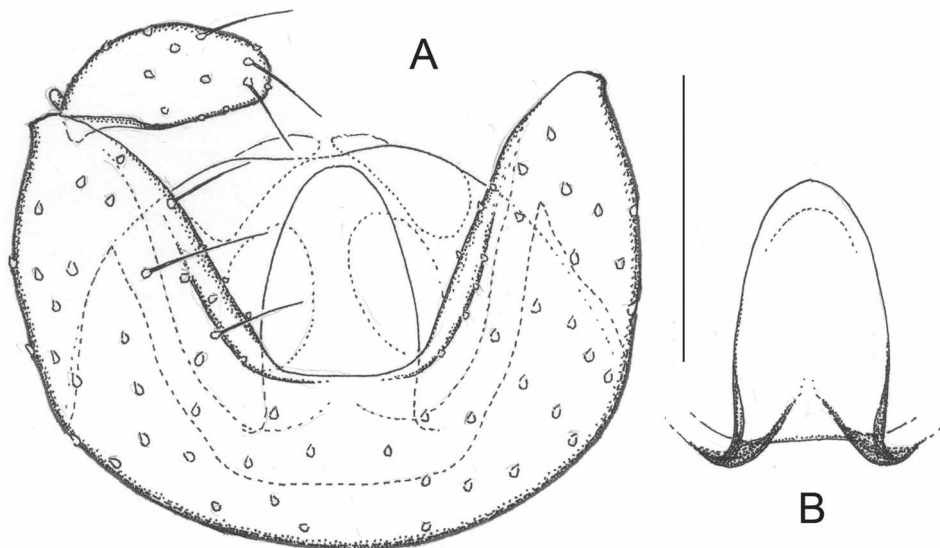


Fig. 3: *Peromyia indecorata* sp. n., holotype male. – A: terminalia, ventral view; – B: tegmen, ventral view. Length of scale bar = 0.05 mm.

**Terminalia:** Sclerotization of tg9 not interrupted mesally. Ventral emargination of gonocoxites broadly U-shaped, extending beyond midlength (Fig. 3A). Gonostylus short subcylindrical, marginally broader basally than apically, occasionally slightly curved, rounded apically (Fig. 3A). No membranous lobe between gonocoxites and tegmen. Tegmen shorter than gonocoxites, parallel-sided, rounded apically; ventral plate indistinct, its apical margin sometimes traceable just below tegmen apex (Fig. 3B). Both cerci and st10 large; cerci setose.

**Female and preimaginal stages:** Unknown.

**Remark on variation:**

There is some individual variation in the extent (depth) of the ventral emargination of gonocoxites. Some gonostyli are thicker than the one depicted (Fig. 3A) and occasionally are slightly curved.

**Etymology:**

From the Latin, meaning in a figurative sense inconspicuous.

**Types:**

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Manuka Road, 1 March 2005, Malaise sample FT35696, R. BASHFORD (in AMS). **Paratypes:** 1 male, same data as the holotype; 3 males, same data but sample FT35682; 1 male, same data but sample FT35684; 1 male, same data but sample FT35693; 1 male, same data but sample FT35695 (in AMS).

**Other material:**

1 male, same locality but 14 April 2000, sample FT28645; 1 male, same locality but 15 Aug. 2002, sample FT28939; 1 male, same locality but 19 May 2004, sample FT30632; 1 male, same locality but 1 April 2005, sample FT35953; 3 males, same data but sample FT35967; 2 males, same locality but 1 July 2005, sample FT36767; 6 males, same locality but 1 Aug. 2005, sample FT37039; 1 male, Tasmania, Mt. Field National Park, Lake Dobson Road, 20 Feb.-2 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 2 males, Tasmania, Central Plateau, near Arthur's Lake, gravel road from Road B51 to Little Lake, 25 Feb.-4 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Southwest National Park, Wedge Creek, 21 Feb.-1 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS.

***Peromyia warraensis* sp. n.**

(Fig. 4A-B)

**Diagnosis:**

Within the *Peromyia dissona* group, *P. warraensis* and *P. praeclara* (see JASCHHOF & JASCHHOF 2004: 118 f.) are the only species possessing bilobed gonostyli. Even so, the gonostylus structure in these two species is fundamentally different: while the subbasal lobe in *P. warraensis* emerges from the dorsal surface of gonostylus, it emerges from the ventral surface in *P. praeclara*. Further differences lie in the outline of gonocoxites and tegmen. For instance, the ventral emargination of gonocoxites is shallow in *P. warraensis* and deep in *P. praeclara*, and the tegmen is short and rounded in *P. warraensis* and long and pointed in *P. praeclara*.

**Description** (mentioned are only those features which differ from that in *P. grovei*):

**Male. Head:** Maxillary palpus 4-segmented, first segment with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5. ApicR1 = 3.0-3.5 times the length of Rs.

**Terminalia:** Sclerotization of tg9 not or only insignificantly interrupted mesally. Ventral emargination of gonocoxites wide and shallow, not reaching to midlength (Fig. 4A). Gonostylus bilobed, ventral lobe elongate, with dense brush of apical setae, dorsal lobe attached subbasally, sparsely setose (Fig. 4A). Tegmen small, weakly membranous, shorter than gonocoxites, slightly tapering towards apex, rounded apically; ventral plate barely traceable, its basal margin deeply incised, apical margin situated just below tegmen apex (Fig. 4B).

**Female and preimaginal stages.** Unknown.

**Etymology:**

The name is derived from the type locality, Warra.

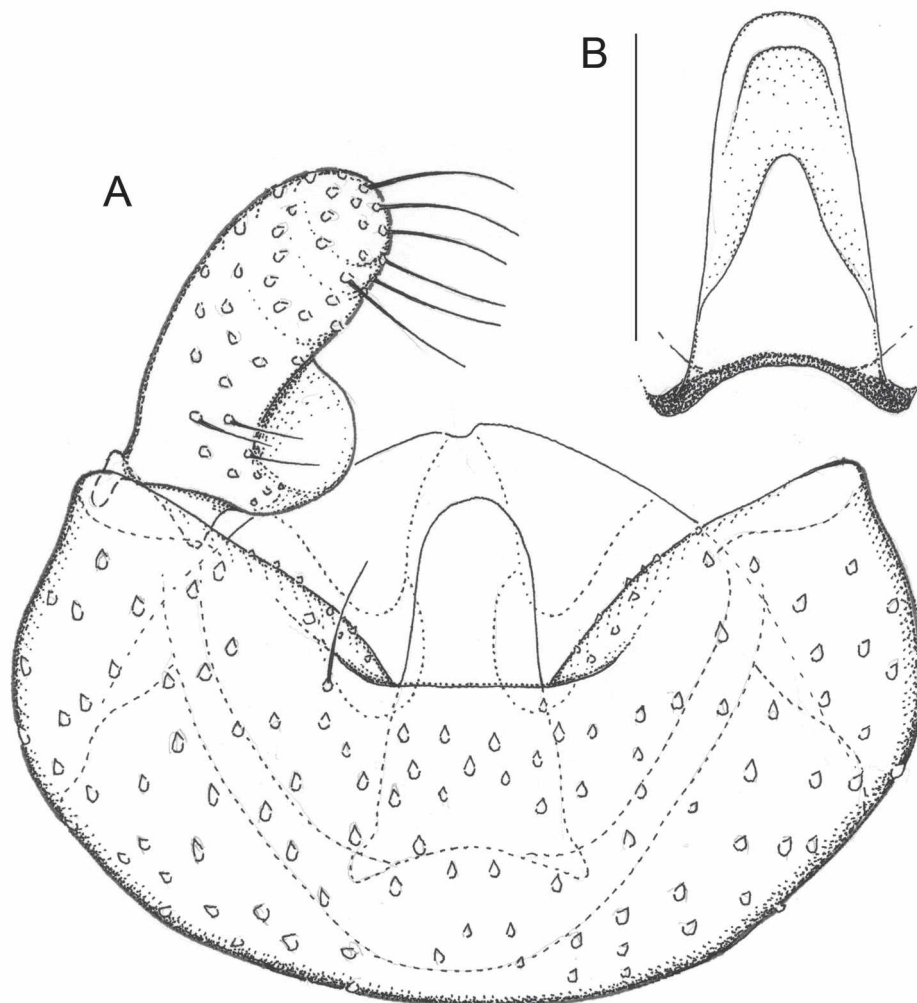


Fig. 4: *Peromyia indecorata* sp. n., male. – A: terminalia, ventral view (holotype); – B: tegmen, ventral view (paratype). Length of scale bar = 0.05 mm.

#### Types:

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Mt Weld, 27 Feb. 2001, Malaise sample FT26, N. DORAN & R. BASHFORD (in AMS). **Paratypes:** 1 male, same data as the holotype; 1 male, same data but sample FT19; 1 male, Warra LTER site, Manuka Road, 17 March 2004, Malaise sample FT30518, R Bashford; 2 males, same locality but 1 March 2005, samples FT35682 and 35685, respectively (in AMS and SDEL).

Species of *Peromyia* belonging to various other groups***Peromyia bashfordi* sp. n.**

(Fig. 5A-C)

**Diagnosis:**

*Peromyia bashfordi* is a typical representative of the *Peromyia intermedia* group as defined by JASCHHOF (1998) and reviewed subsequently (JASCHHOF 2001b, JASCHHOF & JASCHHOF 2004, 2009). It is most similar to *Peromyia obunca* JASCHHOF, 2004 from New Zealand, from which it differs in the straight gonostyli with small subapical process. The gonostyli in *P. obunca* are slightly curved and lack the process. Further, the gonocoxites in *P. bashfordi* lack the large asetose basal portion that is present in *P. obunca*.

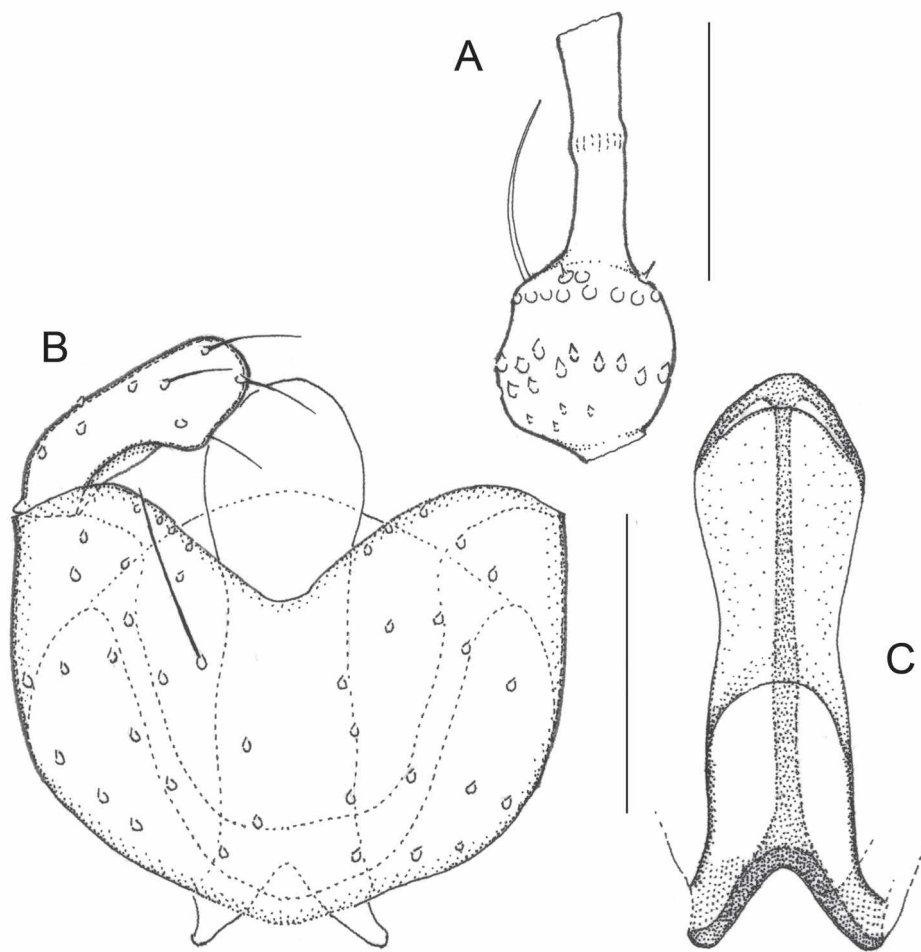


Fig. 5: *Peromyia bashfordi* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

# Description:

**Male. Body size:** 0.7-0.8 mm.

**Head:** Postfrons asetose. Eye bridge 2-3 ommatidia long. Postocular bristles in 1 row. Neck of fourth antennal flagellomere longer than node (Fig. 5A). Node subglobular, with short subbasal setae, 1 mesal single to double whorl of long setae, 1 distal whorl of long, thin hair-shaped sensilla, and 2-3 thick hair-shaped sensilla. Maxillary palpus 3-4-segmented, first and second segments with hair-shaped translucent sensilla.

**Wing:** AntC extending beyond R5 for 1-2 times the vein width. ApicR1 = 2-3 times the length of Rs. **Legs:** Pretarsal claws without teeth.

**Terminalia:** Sclerotization of tg9 widely interrupted mesally. Ventral emargination of gonocoxites broadly V-shaped, not extending to midlength (Fig. 5B). Gonostylus elongate, straight, excavated subbasomesally, with short, nose-shaped subapical process (Fig. 5B). Tegmen long, protruding beyond apical and basal margins of gonocoxites, slightly constricted at midlength and broadened on distal half, rounded apically, with distinct dark longitudinal stripe; basal margin of ventral plate distinct, situated below midlength of tegmen (Fig. 5C). Cerci very weak. St10 apparently absent.

**Female and preimaginal stages:** Unknown.

# Remark on relationships:

Male morphology suggests *P. bashfordi* and *P. obunca* are very closely related to one another, presumably sister species. So no doubt persists any longer that *P. obunca* is a member of the *intermedia* group to which it was tentatively assigned by JASCHHOF & JASCHHOF (2004).

# Etymology:

This species is named to honour Richard BASHFORD, Senior Silvicultural Technician at Forestry Tasmania, Hobart, who is in charge of the invertebrate collections at Warra LTER site.

# Types:

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Manuka Road, 1 March 2005, Malaise sample FT35682, R. BASHFORD (in AMS). **Paratypes:** 2 males, same data as the holotype; 4 males, same data but sample FT35684; 2 males, same data but sample FT35685; 3 males, same data but sample FT35693 (in AMS and SDEL).

# Other material:

2 males, same locality but 14 April 2000, sample FT28645; 1 male, Warra LTER site, Mt Weld, 27 Feb. 2001, sample FT19, N. DORAN & R. BASHFORD; 1 male, same locality but 30 March 2001, sample FT109; 1 male, same locality but 22 Jan. 2002, sample FT5833; 1 male, Tasmania, Southwest National Park, Wedge Creek, 21 Feb.-1 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS.

# *Peromyia despecta* sp. n.

(Fig. 6A-C)

# Diagnosis:

*Peromyia despecta* is a typical representative of the *Peromyia modesta* (FELT) group as defined by JASCHHOF (1998) and reviewed subsequently (JASCHHOF 2001b, JASCHHOF & JASCHHOF 2004, 2009). It is very similar to a number of species occurring in the Holarctic Region including Japan,



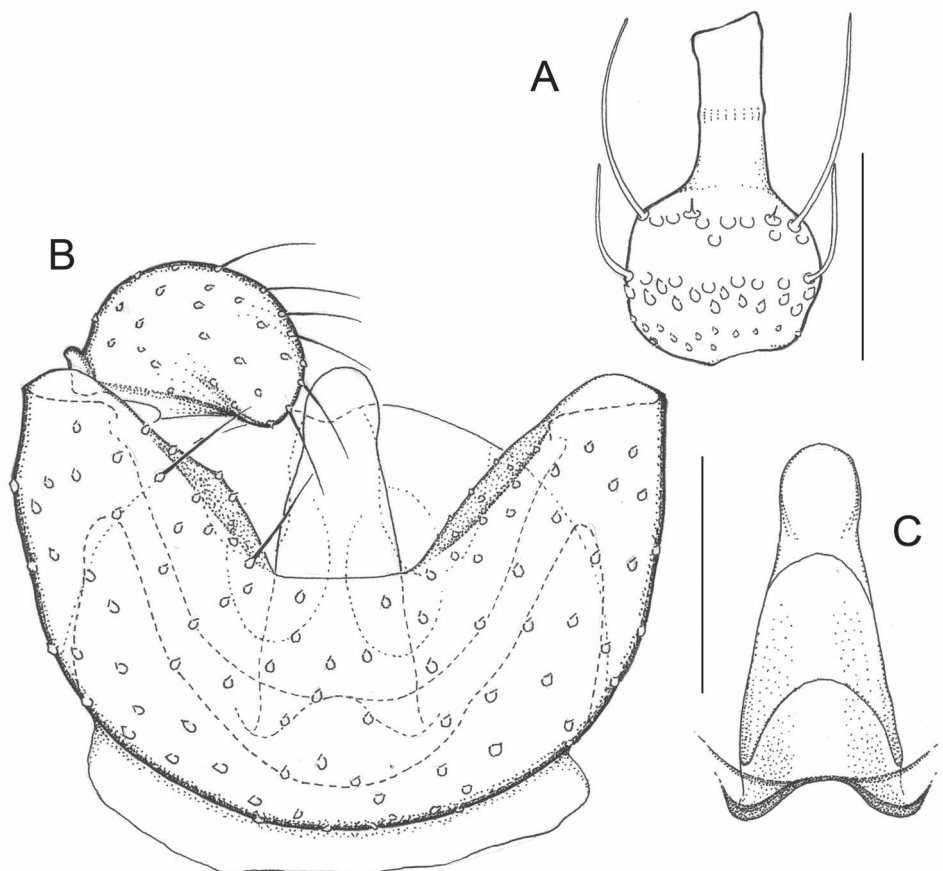


Fig. 6: *Peromyia despecta* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

in particular *Peromyia boreophila* JASCHHOFF, 2001. The following characters in combination are species-specific for *P. despecta*: postocular bristles are present in 2 rows; the whorl of short hair-like sensilla on the antennal flagellomeres is situated mesally, just beyond the double whorl of setae (Fig. 6A); the gonostyli are elongate and slightly curved (Fig. 6B); and the ventral plate of the tegmen is weak and comparatively long (Fig. 6C).

#### Description:

**Male. Body size:** 0.8–0.9 mm.

**Head:** Postfrons asetose. Eye bridge 2–4 ommatidia long. Postocular bristles in 2 rows. Neck of fourth antennal flagellomere as long as node (Fig. 6A). Node subglobular, with short subbasal setae, 1 mesal double whorl of long setae, 1 mesal whorl of short hair-shaped sensilla, and 1 irregular distal whorl of long hair-shaped sensilla. Maxillary palpus 3–4-segmented, all segments with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5 or extending beyond R5 for once the vein width.  $\text{ApicR1} = 3.5\text{--}4.0$  times the length of Rs. **Legs:** Pretarsal claws without teeth.

**Terminalia:** Sclerotization of tg9 interrupted mesally. Ventral emargination of gonocoxites broadly U-shaped, extending to midlength (Fig. 6B). Gonostylus large, comparatively long, slightly curved inwards, slightly tapering towards apex (Fig. 6B). Tegmen shorter than gonocoxites, slightly tapering towards apex, rounded apically; ventral plate weak, covering 2/3 of tegmen length, its apical and basal margins often barely traceable (Fig. 6C). Both cerci and st10 well developed, pubescent; cerci with a few fine setae.

**Female and preimaginal stages:** Unknown.

**Etymology:**

From the Latin, meaning unnoticed.

**Types:**

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Mt Weld, 27 April 2001, Malaise sample FT206, N. DORAN & R. BASHFORD (in AMS). **Paratypes:** 1 male, same data as the holotype; 4 males, same data but sample FT199; 3 males, same locality but 30 March 2001, sample FT109 (in AMS).

**Other material:**

1 male, Warra LTER site, Manuka Road, 1 May 2003, sample FT29026, R. BASHFORD; 1 male, same locality but 17 March 2004, sample FT30518; 3 males, same locality but 1 March 2005, sample FT35682; 2 males, same data but sample FT35683; 1 male, same data but sample FT35684; 1 male, same locality but 5 March 2007, sample FT40115; 2 males, same locality but 2 April 2007, sample FT40220; 1 male, Tasmania, Southwest National Park, Wedge Creek, 21 Feb.-1 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 1 male, Tasmania, Hobart, Hobart Rivulet, near Strickland Road, 27 Feb.-7 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 3 males, Tasmania, Swansea Meredith River at Road A3, 5 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS; 4 males, Tasmania, Cradle Mountain National Park, creek from Crater Lake to Ronny Creek, 23 Feb.-4 March 2006, N. JÖNSSON, T. MALM & D. WILLIAMS.

***Peromyia debilis* sp. n.**

(Fig. 7A-C)

**Diagnosis:**

The thorax in proportion to the head in *Peromyia debilis* is unusually small and the wings are rather narrow, which represents the first case of atrophy observed within the genus *Peromyia*. The whorl of short hair-shaped sensilla on the antennal flagellomeres is irregular and intermingles with subbasal setae (Fig. 7A), which is unusual among species of the *modesta* group where *P. debilis* is assigned. This character, in combination with curved gonostyli, is species-specific.

**Description:**

**Male. Body size:** 0.7-0.8 mm.

**Head:** Postfrons asetose. Eye bridge 2-3 ommatidia long. Postocular bristles in 1 row. Neck of fourth antennal flagellomere longer than node (Fig. 7A). Node subovate, with short subbasal setae intermingled with 1 irregular whorl of short hair-shaped sensilla, 1 mesal double whorl of long setae, and 1 distal whorl of long hair-shaped sensilla. Maxillary palpus 3-4-segmented, first to third segments with hair-shaped translucent sensilla.

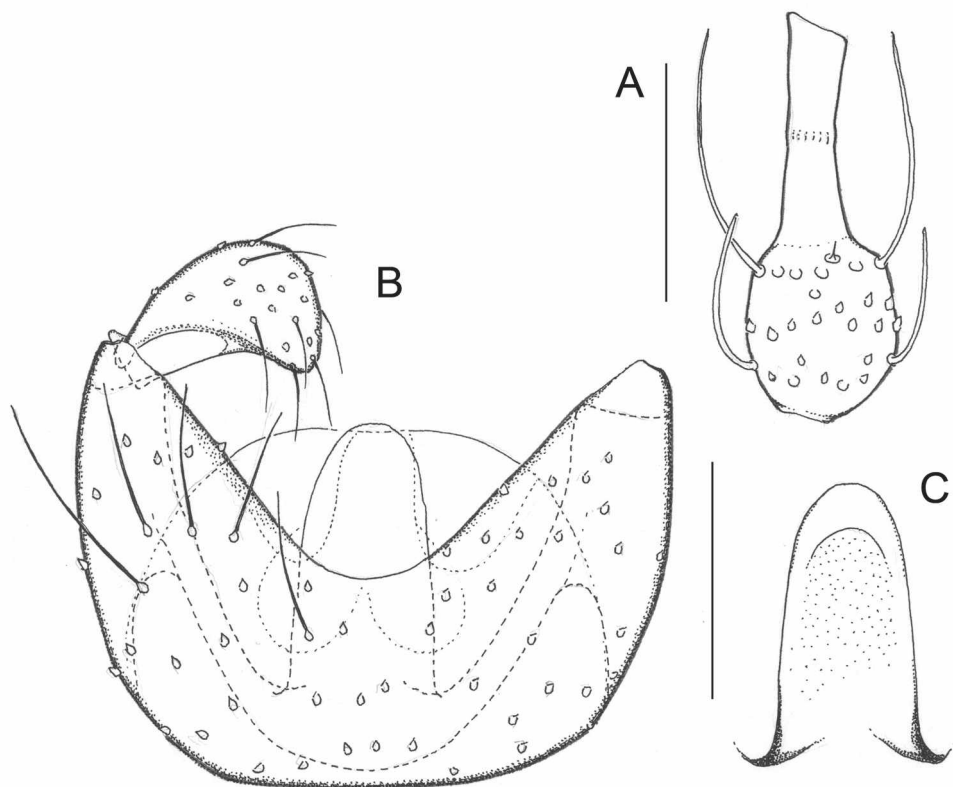


Fig. 7: *Peromyia debilis* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

**Thorax:** Small in proportion to head. **Wing:** Narrow. AntC ending at juncture with R5 or extending slightly beyond R5. ApicR1 = 3.0-3.5 times the length of Rs. **Legs:** Pretarsal claws without teeth.

**Terminalia:** Sclerotization of tg9 mesally interrupted for a short distance. Ventral emargination of gonocoxites broadly V-shaped, extending beyond midlength (Fig. 7B). Gonostylus curved inwards, tapering towards apex, excavated mesally (Fig. 7B). Tegmen shorter than gonocoxites, almost parallel-sided, rounded apically; ventral plate indistinct, traceable only by its apical margin (Fig. 7C). Both cerci and st10 well developed, pubescent; cerci setose.

**Female and preimaginal stages:** Unknown.

#### Etymology:

From the Latin, meaning feeble.

#### Types:

**Holotype:** Male, Australia, Tasmania, Warra LTER site, Bird Observation Track, 7 Dec. 2007-7 Jan. 2008, Malaise trap, M. & C. JASCHHOF (in AMS). **Paratypes:** 4 males, same data as the holotype (in AMS and SDEI).

***Peromyia cinalata* sp. n.**

(Fig. 8A-C)

**Diagnosis:**

*Peromyia cinalata* is tentatively assigned to the *modesta* group, because of the presence of two whorls of hair-shaped sensilla on the antennal flagellomeres (Fig. 8A), large gonocoxites and thick, subcylindrical gonostyli (Fig. 8B). The whorl of short sensilla is irregular and situated sub-basally on the flagellomere nodes (Fig. 8A), which is unusual among the species of the *modesta* group (but see above *Peromyia debilis*, Fig. 7A). The slender tegmen with weak ventral plate in *P. cinalata* is also atypical of this group and more often found among species of the *Peromyia san-*

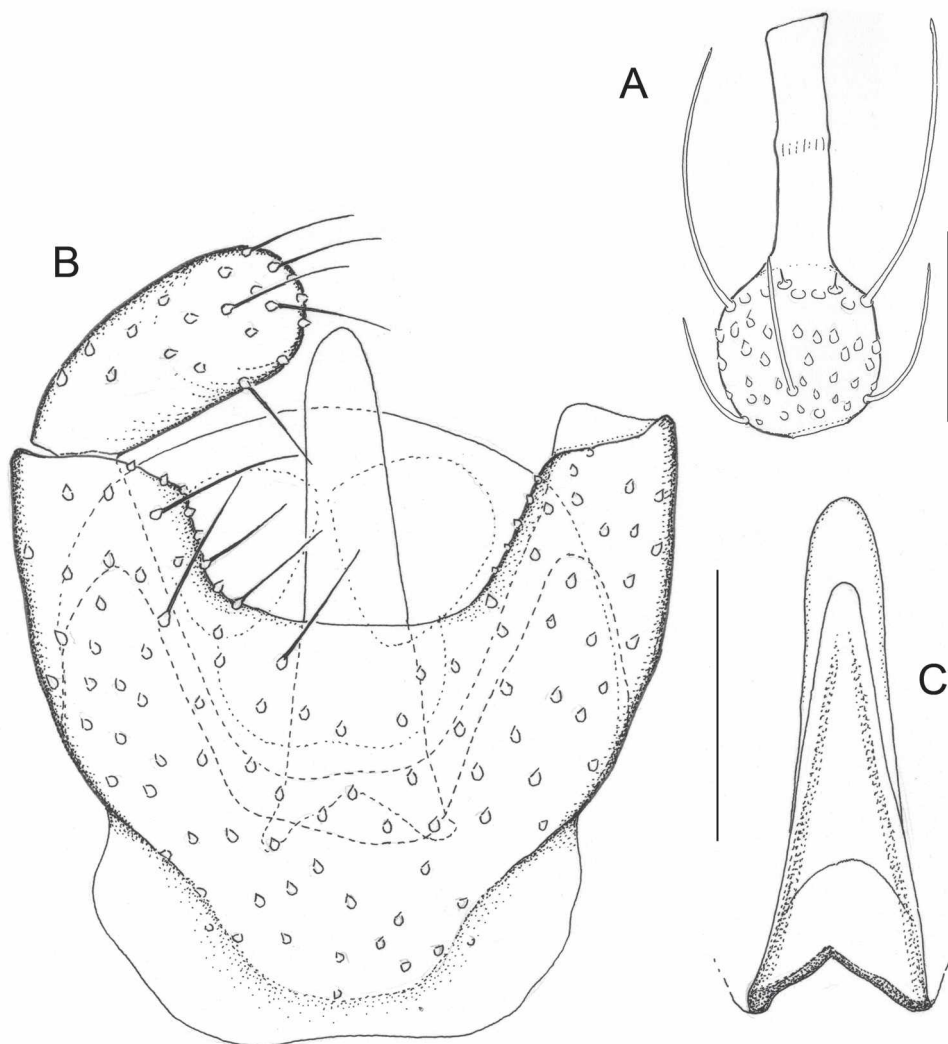


Fig. 8: *Peromyia cinalata* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

*guinea* (KIEFFER) group (cf. JASCHHOF 1998). Grey-tinged wings is another unusual character of *P. cinalata* and to my knowledge unknown in any other *Peromyia*.

#### Description:

**Male. Body size:** 1.0 mm.

**Head:** Postfrons asetose. Eye bridge 2-3 ommatidia long. Postocular bristles in 1 irregular row. Neck of fourth antennal flagellomere longer than node (Fig. 8A). Node subglobular, with short subbasal setae intermingled with 1 irregular whorl of short hair-shaped sensilla, 1 mesal double whorl of long setae, and 1 irregular distal whorl of long hair-shaped sensilla. Maxillary palpus 3-4-segmented, first and second segments with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5. ApicR1 = 2.5-3.0 times the length of Rs. Wing membrane with grey tinge, possibly resulting from unusually dense, thick microtrichia. **Legs:** Pretarsal claws without teeth.

**Terminalia:** Sclerotization of tg9 not interrupted mesally. Gonocoxites long, with poorly sclerotized, asetose basal portion, ventral emargination broadly U-shaped, not extending to midlength (Fig. 8B). Gonostylus large, thick, subcylindrical (Fig. 8B). Tegmen slender, elongate, slightly tapering towards apex, rounded apically; ventral plate weak, subtriangular, with indistinct basal and distinct apical margins (Fig. 8C). Cerci large, setose. St10 weak, apparently one-lobed, sparsely pubescent.

**Female and preimaginal stages:** Unknown.

#### Etymology:

The name is Latin, composed of *cinis*, ash, and *alatus*, winged, and refers to the grey-tinged wings of this species.

#### Types:

**Holotype:** Male, Australia, Tasmania, Southwest National Park, Wedge Creek, 21 Feb.-1 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS (in AMS). **Paratypes:** 1 male, same data as the holotype; 1 male, Tasmania, Warra LTER site, Manuka Road, 17 March 2004, Malaise sample FT30518, R. BASHFORD (in NHRS and SDEI).

### *Peromyia tasmanica* sp. n.

(Fig. 9A-C)

#### Diagnosis:

Male terminalia in *Peromyia tasmanica* are unmistakable because of the large, subtriangular gonostyli (Fig. 9B) in combination with the large, curved tegmen lacking a distinct ventral plate (Fig. 9C). Due to the peculiar set of male genitalic characters it is difficult to place this species in any of the currently recognized species groups.

#### Description:

**Male. Body size:** 0.8 mm.

**Head:** Postfrons asetose. Eye bridge 2-3 ommatidia long. Postocular bristles in 1 row. Neck of fourth antennal flagellomere longer than node (Fig. 9A). Node subglobular, with short subbasal setae, 1 mesal double whorl of long setae intermingled with 1 whorl of short hair-shaped sensilla,



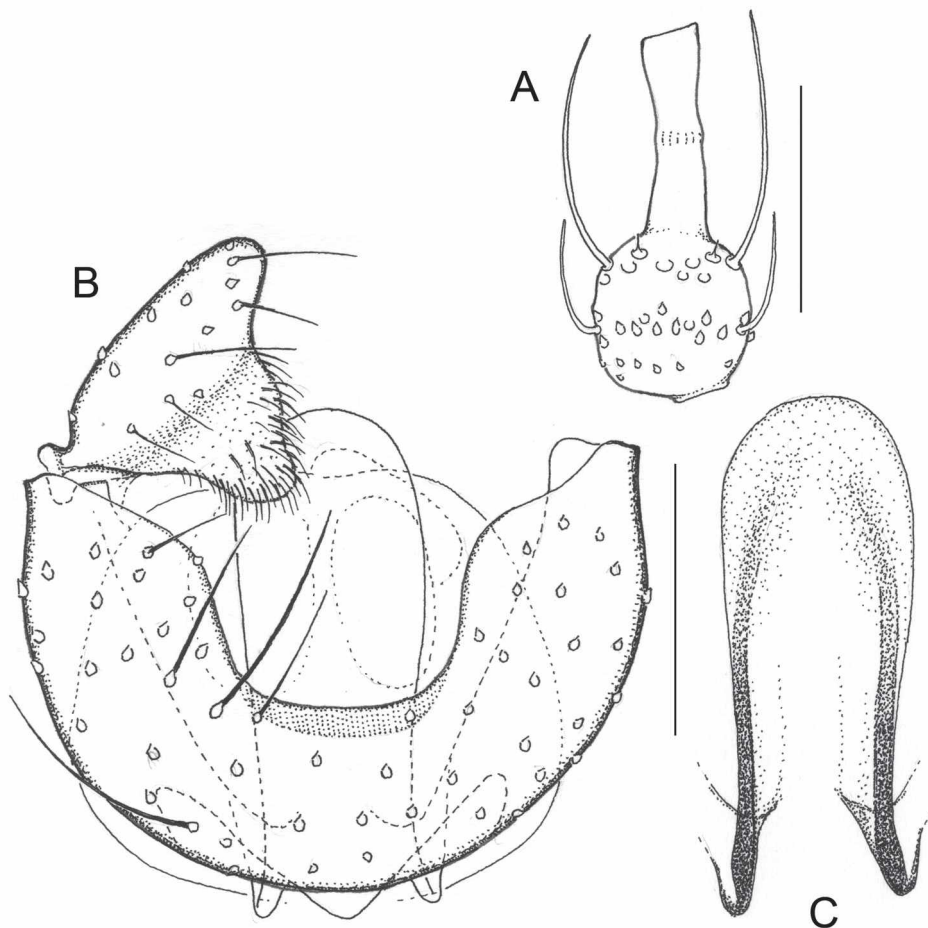


Fig. 9: *Peromyia tasmanica* sp. n., holotype male. – A: fourth antennal flagellomere, lateral view; – B: terminalia, ventral view; – C: tegmen, ventral view. Length of scale bar = 0.05 mm.

and 1 irregular distal whorl of long hair-shaped sensilla. Maxillary palpus 4-segmented, all segments with hair-shaped translucent sensilla.

**Wing:** AntC ending at juncture with R5. ApicR1 = 3.0–3.5 times the length of Rs. Legs: Pretarsal claws of midleg with fine teeth.

**Terminalia:** Sclerotization of tg9 not interrupted mesally. Dorsal portions of gonocoxites comparatively large, dorsal transverse bridge V-shaped, ventral emargination broadly U-shaped, extending to midlength, its basal margin reinforced by sclerotization (Fig. 9B). Gonostylus large, subtriangular in ventral view, mesal lobe-like portion with dense cover of long microtrichia, without ventral setae (Fig. 9B). Tegmen large, protruding beyond apical and basal margins of gonocoxites, almost parallel-sided, rounded apically, with dark lateral stripes on basal half, curved dorsally on apical half; ventral plate not traceable (Fig. 9C). Both cerci and st10 large, pubescent; cerci setose.

**Female and preimaginal stages:** Unknown.

**Etymology:**

The name is derived from Tasmania where specimens were collected.

**Types:**

**Holotype:** Male, Australia, Tasmania, Southwest National Park, Wedge Creek, 21 Feb.-1 March 2006, Malaise trap, N. JÖNSSON, T. MALM & D. WILLIAMS (in AMS). **Paratypes:** 3 males, same data as the holotype (in AMS, NHRS and SDEI).

***Peromyia aeratipennis* (SKUSE, 1888)**

*Peromyia aeratipennis* [= *Peromyia muscorum*] is found across the Palaearctic Region, throughout the Japanese archipelago including Ryukyu and Bonin Islands, in New Zealand (JASCHHOF & JASCHHOF 2004) and, as shown here, in Tasmania. A redescription of this common species was given by JASCHHOF (1998). *Peromyia aeratipennis* belongs to the *Peromyia impexa* [formerly *Peromyia palustris*] group of species as defined by JASCHHOF (1998) and reviewed subsequently (JASCHHOF 2001b, JASCHHOF & JASCHHOF 2004, 2009). Among the *Peromyia* specimens I have seen from Tasmania are several that belong to one or two new species close to *P. aeratipennis*, but the available specimens are insufficient for description.

**Material:**

1 male, Tasmania, Warra LTER site, Mt Weld, 22 Jan. 2002, sample FT5898, N. DORAN & R. BASHFORD; 1 male, Warra LTER site, Manuka Road, 1 March 2005, sample FT35684, R. BASHFORD; 1 male, same data but sample FT35693; 1 male, same locality but 7 Dec. 2007, sample FT44146; 1 male, Warra LTER site, Bird Observation Track, 7 Dec. 2007-7 Jan. 2008, M. & C. JASCHHOF.

***Peromyia impexa* (SKUSE, 1888) and related species**

Most *Peromyia* specimens from Tasmania belong to the species complex around *Peromyia impexa* [= *Peromyia palustris*]. This species complex is quite common in the Holarctic Region and also present in New Zealand (JASCHHOF 2001b, JASCHHOF & JASCHHOF 2004, 2009). Compound microscope study of male anatomy suggests there are eight or more sibling species of this complex alone in Japan, but based on just that method I am unable to ascertain the definite interspecific boundaries. The situation with *impexa*-like peromyias in Tasmania is comparable, so I refrained here from a detailed study. Among the 120 or so specimens at my disposal are several that do not differ from typical *Peromyia impexa* from Europe (cf. the species redescription by JASCHHOF 1998).

***Peromyia squamigera* JASCHHOF, 2004**

Originally described from New Zealand, *Peromyia squamigera* is here shown to occur in Tasmania. Specimens from Tasmania do not differ from those from New Zealand and exhibit the same extent of individual variation in the outline of gonostyli and tegmen (see JASCHHOF & JASCHHOF 2004: 112 f.). *Peromyia squamigera* is a member of the *Peromyia sanguinea* (KIEFFER) group of species as defined by JASCHHOF (1998) and reviewed subsequently (JASCHHOF 2001b, JASCHHOF & JASCHHOF 2004, 2009).

## Material:

1 male, Tasmania, Warra LTER site, Mt Weld, 27 Feb. 2001, Malaise sample FT19, N. DORAN & R. BASHFORD; 1 male, same locality but 27 April 2001, sample FT199; 1 male, same locality but 22 Jan. 2002, sample FT5833; 1 male, Warra LTER site, Manuka Road, 14 April 2000, sample FT28645, R. BASHFORD; 1 male, same locality but 1 May 2003, sample FT29026; 3 males, same locality but 1 March 2005, sample FT35684; 1 male, same data but sample FT35689; 1 male, same locality but 7 Feb. 2007, sample 40010; 1 male, Tasmania, Blackwood Creek, 29 Nov. 2007, R. BASHFORD.

## Acknowledgements

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