

# **THE FLEAS OF TASMANIA**

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LAUNCESTON**

## Introduction

The first checklist of Tasmanian fleas was published by Green and Munday (1971) as part of a general checklist on ectoparasites. The present checklist is designed to amend and update the former in an endeavour to more clearly define the present knowledge of the flea fauna of Tasmania. It is the result of about forty years collecting by the author, of ectoparasites from mammals and birds, and includes published and unpublished data resulting from this work and the work of others. Macquarie Island records are included in the present list because the area is politically part of the region and their sea bird hosts also occur around Tasmanian shores.

Fleas were initially preserved in 70% alcohol and sent to various authorities, principally Professor Robert Traub, University of Maryland, U.S.A., and Professor G.M. Dunnet and Dr D.K. Mardon, University of Aberdeen, Scotland, who worked on the material, subsequently retaining some for their own reference and returning representative series, mounted on glass-slides, to the Queen Victoria Museum. This material has now been registered and filed. A list of Tasmanian hosts from which fleas have been collected is also included.

Periodic updating of nomenclature has necessitated many name changes from those given in earlier publications. Additionally, the names of some hosts which were initially incorrectly identified have now been amended and include:

|                        |            |   |
|------------------------|------------|---|
| Holland, 1971b,        | p. 217     | <i>Cercartetus nanus</i> , not <i>Eudromicea lepida</i> from Fury Gorge.  |
| Dunnet & Mardon, 1974, | pp. 66, 72 | <i>Perameles nasuta</i><br>does not occur in Tasmania   |
| Dunnet & Mardon, 1974, | p. 90      | <i>Cercartetus nanus</i> , not <i>Eudromicea lepida</i>   |
|                        | p. 96      | <i>Zoothera dauma</i> , not <i>Turdus dauma</i>   |
|                        | p. 109     | <i>Antechinus minimus</i> , not <i>A. Swainsonii</i><br>from Maatsuyker Island.   |
|                        | p. 121     | <i>Eptesicus pumilus</i> has since been split into several species. That now defined as <i>E. pumilus</i> has not been found in Tasmania and the hosts listed here have since been identified as <i>E. vulturinus</i> . |

More collecting is needed to expand and further define host preference, geographical distribution, status, and in some instances, taxonomy; especially from the potoroo, pigmy possums, rodents, bats, birds. Some species are known from only a few individuals and it is probable that more await discovery. The Queen Victoria Museum is always pleased to receive material of this inconspicuous but very important group of animals for inclusion in future studies.

## Acknowledgements

The authors gratefully acknowledge the help and encouragement of the several authorities who generously mounted and identified the material. Particularly Professor Robert Traub, who with funds provided by the University of Maryland, financially supported much of the work. Mr Craig Reid, a field officer with Associated Pulp & Paper Mills, also collected much important material in the course of his mammal studies.

**SPECIES LIST**

Order.....SIPHONAPTERA

Super Family.....PULICOIDEA

Family.....PULICIDAE

**Genus *Pulex* Linne, 1758**

*P. irritans* Linne, 1758

*Trichosurus vulpecula*  
Dunnet & Mardon, 1974

**Genus *Spilopsyllus* Baker, 1905**

*S. cuniculi* (Dale, 1878)

*Rattus rattus*  
pers. comm. Mason

*Oryctolagus cuniculus*  
pers. comm. Mason

*Lepus europaeus*  
pers. comm. Mason

*Felis catus*  
Dunnet & Mardon, 1974

*Homo sapiens*  
pers. comm. Mason

Super Family.....CERATOPHYLLOIDEA

Family.....RHOPALOPSYLLIDAE

**Genus *Parapsyllus* Enderlein, 1903**

*P. australiacus* Rothschild, 1901

*Eudyptula minor*  
Dunnet & Mardon, 1974

*Diomedea cauta* (nest)  
Dunnet & Mardon, 1974

*Pachyptila turtur*  
Dunnet & Mardon, 1974

*Puffinus tenuirostris*  
Dunnet & Mardon, 1974

*Pelagodroma marina*  
Dunnet & Mardon, 1974

- Leucocarbo fuscescens*  
pers. comm. Mardon
- Homo sapiens*  
Dunnet & Mardon, 1974
- P. cardinis* Dunnet, 1961
- Macronectes giganteus*  
Dunnet & Mardon, 1974
- Pterodroma lessonii*  
Dunnet & Mardon, 1974
- Pachyptila desolata*  
Dunnet & Mardon, 1974
- P. magellanicus* Jordan, 1938
- Eudyptes cristatus*  
Dunnet & Mardon, 1974
- Pterodroma lessonii*  
Dunnet & Mardon, 1974
- P. taylori* Jordan, 1942
- Diomedea cauta*  
pers. comm. Traub
- Puffinus tenuirostris*  
Dunnet & Mardon, 1974
- Pachyptila turtur*  
Dunnet & Mardon, 1974
- Pelagodroma marina*  
Dunnet & Mardon, 1974
- Pelecanoides urinatrix*  
pers. comm. Mardon
- Homo sapiens*  
pers. comm. Traub

Family.....PYGIOPSYLLIDAE

**Genus *Hoogstraalia* Traub, 1951**

- H. vandiemeni* Smit, 1958
- Zoothera dauma*  
Dunnet & Mardon, 1974
- Petroica phoenica*  
pers. comm. Traub
- Pachycephala olivacea*  
Dunnet & Mardon, 1974
- Malurus cyaneus*  
pers. comm. Mardon

*Sericornis frontalis*  
Dunnet & Mardon, 1974

*Sericornis magnus*  
Dunnet & Mardon, 1974

*Acanthiza ewingii*  
pers. comm. Mardon

*Strepera fuliginosa*  
pers. comm. Mardon

### Genus *Bibikovana*

*B. rainbowi* Rothschild

*Rattus lutreolus*  
pers. comm. Mardon

### Genus *Pygiopsylla* Rothschild, 1906

*P. arcuata* Holland, 1971

*Rattus lutreolus*  
Holland, 1971c

*Pseudomys higginsii*  
Holland, 1971c

*P. colossus* Rothschild, 1906

*Rattus lutreolus*  
Holland, 1971c

*Pseudomys higginsii*  
Holland, 1971c

*P. hoplia* Jordan & Rothschild, 1922

*Potorous apicalis*  
Dunnet & Mardon, 1974

*Trichosurus vulpecula*  
Dunnet & Mardon, 1974

*Pseudocheirus peregrinus*  
pers. comm. Mardon

*Isoodon obesulus*  
Dunnet & Mardon, 1974

*Perameles gunnii*  
Dunnet & Mardon, 1974

*Dasyurus maculatus*  
Dunnet & Mardon, 1974

*Dasyurus viverrinus*  
Dunnet & Mardon, 1974

*Sarcophilus harrisii*  
Dunnet & Mardon, 1974

*Antechinus swainsonii*  
Dunnet & Mardon, 1974

*Antechinus minimus*  
Dunnet & Mardon, 1974

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*Rattus rattus*  
Dunnet & Mardon, 1974

*Rattus norvegicus*  
Dunnet & Mardon, 1974

*Hydromys chrysogaster*  
Dunnet & Mardon, 1974

*Mastacomys fuscus*  
Dunnet & Mardon, 1974

*Pseudomys higginsii*  
Dunnet & Mardon, 1974

*Mus musculus*  
pers. comm. Traub

*Ornithorhynchus anatinus*  
Dunnet & Mardon, 1974

*Oryctolagus cuniculus*  
pers. comm. Traub

*P. zethi* (Rothschild, 1904)

*Bettongia gaimardi*  
Dunnet & Mardon, 1974

*Potorous apicalis*  
Dunnet & Mardon, 1974

*Trichosurus vulpecula*  
pers. comm. Mardon

*Isodon obesulus*  
Dunnet & Mardon, 1974

*Perameles gunnii*  
Dunnet & Mardon, 1974

*Dasyurus maculatus*  
Dunnet & Mardon, 1974

*Dasyurus viverrinus*  
Dunnet & Mardon, 1974

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*Oryctolagus cuniculus* (*Lepus* sp.)  
Dunnet & Mardon, 1974

*Ornithorhynchus anatinus*  
Dunnet & Mardon, 1974

*Pygiopsylla* sp. n.

*Pseudocheirus peregrinus*  
pers. comm. Traub

**Genus *Notiopsylla* Jordan & Rothschild, 1914**

*N. enciari* Smit, 1957

*Pterodroma lessonii*  
Dunnet & Mardon, 1974

*N. kerguelensis* (Taschenberg, 1880)

*Pachyptila desolata*  
Dunnet & Mardon, 1974

*Puffinus griseus*  
Dunnet & Mardon, 1974

*Larus dominicus*  
Dunnet & Mardon, 1974

**Genus *Acanthopsylla* Jordan & Rothschild, 1922**

*A. rothschildi rothschildi* Jordan & Rothschild, 1922

*Thyogale billardieri*  
pers. comm. Traub

*Potorous apicalis*  
pers. comm. Mardon

*Trichosurus vulpecula*  
Holland, 1971b

*Pseudocheirus peregrinus*  
Dunnet & Mardon, 1974

*Cercartetus nanus*  
Holland, 1971b

*Isodon obesulus*  
pers. comm. Calaby

*Perameles gunnii*  
Holland, 1971b

*Dasyurus maculatus*  
Holland, 1971b

*Dasyurus viverrinus*  
Holland, 1971b

*Sminthopsis leucopus*  
Holland, 1971b

*Antechinus swansonii*  
pers. comm. Traub

*Rattus lutreolus*  
Holland, 1971b

*Pseudomys higginsii*  
Holland, 1971b

*A. rothschildi nereis* Jordan & Rothschild, 1922

*Potorous apicalis*  
Dunnet & Mardon, 1974

*A. scintilla scintilla* (Rothschild, 1936)

*Cercartetus nanus*  
pers. comm. Mardon

*Cercartetus lepidus*  
pers. comm. Mardon

*A. scintilla tasmanica* Holland, 1971

*Dasyurus viverrinus*  
Holland, 1971b

*Cercartetus nanus*  
Holland, 1971b

*Cercartetus lepidus*  
Holland, 1971b

*A. dunneti* Holland, 1971

*Antechinus swainsonii*  
Holland, 1971b

*Antechinus minimus*  
pers. comm. Traub

*A. rothschildi multidentata* Holland, 1971

*Potorous apicalis*  
pers. comm. Traub

#### **Genus *Austropsylla* Holland, 1971**

*A. brevipecten* Holland, 1971

*Potorous apicalis*  
Holland, 1971b

#### **Genus *Choristopsylla* Jordan & Rothschild, 1922**

*C. ochi* (Rothschild, 1904)

*Trichosurus vulpecula*  
Dunnet & Mardon, 1974

*Pseudocheirus peregrinus*  
Dunnet & Mardon, 1974

*Cercartetus lepidus*  
Dunnet & Mardon, 1974



**Genus *Bradiopsylla* Jordan & Rothschild, 1922**

*B. echidnae* (Denny, 1843)

*Macropus rufogriseus*  
Dunnet & Mardon, 1974

*Sarcophilus harrissii*  
Dunnet & Mardon, 1974

*Tachyglossus aculeatus*  
Dunnet & Mardon, 1974

**Genus *Lycopsylla* Rothschild, 1904**

*L. nova* Rothschild, 1904

*Vombatus ursinus*  
Dunnet & Mardon, 1974

**Genus *Uropsylla* Rothschild, 1905**

*U. tasmanica* Rothschild, 1905

*Dasyurus maculatus*  
Dunnet & Mardon, 1974

*Dasyurus viverrinus*  
Dunnet & Mardon, 1974

*Sarcophilus harrissii*  
Dunnet & Mardon, 1974

*Thylacinus cynocephalus*  
Dunnet & Mardon, 1974

Family.....STEPHANOCIRCIDAE

Subfamily.....STEPHANOCIRCINAE

**Genus *Stephanocircus* Skuse, 1893**

*S. greeni tasmanica* Traub & Dunnet, 1973

*Dasyurus maculatus*  
Traub & Dunnet, 1973

*Antechinus swainsonii*  
Traub & Dunnet, 1973

*Antechinus minimus*  
Traub & Dunnet, 1973

*Rattus lutreolus*  
Traub & Dunnet, 1973

*Pseudomys higginsii*  
pers. comm. Traub

*S. pectinipes* Rothschild, 1915

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*Rattus rattus*  
pers. comm. Mason

*Pseudomys higginsi*  
Dunnet & Mardon, 1974

*S. simsoni* Rothschild, 1905

*Dasyurus maculatus*  
Dunnet & Mardon, 1974

*Dasyurus viverrinus*  
Traub & Dunnet, 1973

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*S. dasyuri* Skuse, 1893

*Potorous apicalis*  
Dunnet & Mardon, 1974

*Isoodon obesulus*  
Dunnet & Mardon, 1974

*Perameles gunnii*  
Dunnet & Mardon, 1974

*Dasyurus maculatus*  
Dunnet & Mardon, 1974

*Dasyurus viverrinus*  
Dunnet & Mardon, 1974

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*Rattus rattus*  
Dunnet & Mardon, 1974

*Hydromys chrysogaster*  
Dunnet & Mardon, 1974

*Homo sapiens*  
Dunnet & Mardon, 1974

Family.....MACROPSYLLIDAE

**Genus *Macropsylla* Rothschild, 1905**

*M. hercules* Rothschild, 1905

*Antechinus swainsonii*  
Dunnet & Mardon, 1974

*Rattus lutreolus*  
Dunnet & Mardon, 1974

- Rattus rattus*  
Dunnet & Mardon, 1974
- Mastacomys fuscus*  
Dunnet & Mardon, 1974
- Hydromys chrysogaster*  
Dunnet & Mardon, 1974
- Pseudomys higginsi*  
pers. comm. Traub

Family.....ISCHNOPSYLLIDAE

**Genus *Porribius* Jordan, 1946**

- P. caminae* Rothschild, 1903
- Nyctophilus geoffroyi*  
Dunnet & Mardon, 1974
- Chalinolobus gouldi*  
Dunnet & Mardon, 1974
- Eptesicus vulturinus*  
Dunnet & Mardon, 1974
- Eptesicus regulus*  
Dunnet & Mardon, 1974
- Eptesicus sagittula*  
pers. comm. Traub
- Pipistrellus tasmaniensis*  
Dunnet & Mardon, 1974

Family.....LEPTOPSYLLIDAE

**Genus *Leptopsylla* Jordon & Rothschild, 1911**

- L. segnis* (Schonherr, 1811)
- Sminthopsis leucopus*  
pers. comm. Traub
- Antechinus minimus*  
Dunnet & Mardon, 1974
- Rattus lutreolus*  
Dunnet & Mardon, 1974
- Rattus rattus*  
Dunnet & Mardon, 1974
- Rattus norvegicus*  
Dunnet & Mardon, 1974
- Mus musculus*  
Dunnet & Mardon, 1974

*Pseudomys higginsii*  
pers. comm. Traub

*Felis catus*  
Dunnet & Mardon, 1974

Family.....CERATOPHILLIDAE

**Genus *Nosopsyllus* Jordan, 1933**

*N. fasciatus* (Bosc, 1801)

*Isoodon obesulus*  
pers. comm. Traub

*Dasyurus viverrinus*  
pers. comm. Mason

*Rattus lutreolus*  
Dunnet & Mardon, 1974

*Rattus rattus*  
Dunnet & Mardon, 1974

*Rattus norvegicus*  
Dunnet & Mardon, 1974

*Mus musculus*  
Dunnet & Mardon, 1974

*N. londiensis* Rothschild, 1903

*Rattus rattus*  
Dunnet & Mardon, 1974

*Mus musculus*  
Dunnet & Mardon, 1974

**Genus *Ctenocephalides* Stiles & Collins, 1930**

*C. canis* (Curtis, 1826)

*Arctocephalus pusillus*  
Dunnet & Mardon, 1974

*Canis familiaris*  
pers. comm. Mason

*Vulpes vulpes*  
Dunnet & Mardon, 1974

*Mustela putorius*  
pers. comm. Mason

*C. felis felis* (Bouche, 1835)

*Arctocephalus pusillus*  
pers. comm. Traub

*Canis familiaris*  
pers. comm. Mason

*Felis catus*  
Dunnet & Mardon, 1974

## HOST LIST

*Macropus rufogriseus*

*Bradiopsylla echidnae*

*Bettongia gaimardi*

*Pygiopsylla zethi*

*Potorous apicalis*

*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Acanthopsylla r. nereis*  
*Acanthopsylla r. multidentata*  
*Austropsylla brevipecten*  
*Stephanocircus dasyuri*

*Thylogale billardieri*

*Acanthopsylla r. rothschildi*

*Trichosurus vulpecula*

*Pulex irritans*  
*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Choristopsylla ochi*

*Pseudocheirus peregrinus*

*Pygiopsylla hoplia*  
*Pygiopsylla sp. n.*  
*Acanthopsylla r. rothschildi*  
*Choristopsylla ochi*

*Cercartetus nanus*

*Acanthopsylla r. rothschildi*  
*Acanthopsylla s. scintilla*  
*Acanthopsylla s. tasmanica*

*Cercartetus lepidus*

*Acanthopsylla s. scintilla*  
*Acanthopsylla s. tasmanica*  
*Choristopsylla ochi*

*Vombatus ursinus*

*Lycopsylla nova*

*Isodon obesulus*

*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Stephanocircus dasyuri*  
*Nosopsyllus fasciatus*

*Perameles gunnii*

*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Stephanocircus dasyuri*

*Dasyurus maculatus*

*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Uropsylla tasmanica*  
*Stephanocircus g. tasmanica*  
*Stephanocircus simsoni*  
*Stephanocircus dasyuri*

*Dasyurus viverrinus*

*Pygiopsylla hoplia*  
*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Acanthopsylla s. tasmanica*  
*Uropsylla tasmanica*  
*Stephanocircus simsoni*  
*Stephanocircus dasyuri*  
*Nosopsyllus fasciatus*

*Sarcophilus harrisii*

*Pygiopsylla hoplia*  
*Bradiopsylla echidnae*  
*Uropsylla tasmanica*

*Antechinus swainsonii*

*Pygiopsylla hoplia*  
*Acanthopsylla dunneti*  
*Stephanocircus g. tasmanica*  
*Macropsylla hercules*  
*Acanthopsylla r. rothschildi*

*Antechinus minimus*

*Pygiopsylla hoplia*  
*Stephanocircus g. tasmanica*  
*Leptopsylla segnis*  
*Acanthopsylla dunneti*

*Sminthopsis leucopus*

*Acanthopsylla r. rothschildi*  
*Leptopsylla segnis*

*Thylacinus cynocephalus*

*Uropsylla tasmanica*

*Rattus lutreolus*

*Bibikovana rainbowi*  
*Pygiopsylla arcuata*  
*Pygiopsylla colossus*  
*Pygiopsylla hoplia*

*Pygiopsylla zethi*  
*Acanthopsylla r. rothschildi*  
*Stephanocircus g. tasmanica*  
*Stephanocircus pectinipes*  
*Stephanocircus simsoni*  
*Stephanocircus dasyuri*  
*Macropsylla hercules*  
*Leptopsylla segnis*  
*Nosopsyllus fasciatus*

*Rattus rattus*

*Spilopsyllus cuniculi*  
*Pygiopsylla hoplia*  
*Stephanocircus pectinipes*  
*Stephanocircus dasyuri*  
*Macropsylla hercules*  
*Leptopsylla segnis*  
*Nosopsyllus fasciatus*  
*Nosopsyllus londiniensis*

*Rattus norvegicus*

*Pygiopsylla hoplia*  
*Leptopsylla segnis*  
*Nosopsyllus fasciatus*

*Hydromys chrysogaster*

*Pygiopsylla hoplia*  
*Stephanocircus dasyuri*  
*Macropsylla hercules*

*Mastacomys fuscus*

*Pygiopsylla hoplia*  
*Macropsylla hercules*

*Pseudomys higginsi*

*Pygiopsylla colossus*  
*Pygiopsylla hoplia*  
*Acanthopsylla r. rothschildi*  
*Stephanocircus pectinipes*  
*Leptopsylla segnis*  
*Stephanocircus greeni tasmanica*  
*Macropsylla hercules*

*Mus musculus*

*Leptopsylla segnis*  
*Nosopsyllus londiniensis*  
*Pygiopsylla hoplia*

*Lepus europaeus*

*Spilopsyllus cuniculi*

*Oryctolagus cuniculus*

*Spilopsyllus cuniculi*  
*Pygiopsylla zethi*  
*Pygiopsylla hoplia*

|                                  |  |
|----------------------------------|--|
| <i>Nyctophilus geoffroyi</i>     | <i>Porribius caminae</i>   |
| <i>Chalinolobus gouldi</i>       | <i>Porribius caminae</i>   |
| <i>Eptesicus vulturnus</i>       | <i>Porribius caminae</i>   |
| <i>Eptesicus regulus</i>         | <i>Porribius caminae</i>   |
| <i>Eptesicus sagittula</i>       | <i>Porribius caminae</i>   |
| <i>Pipistrellus tasmaniensis</i> | <i>Porribius caminae</i>   |
| <i>Felis catus</i>               | <i>Spilopsyllus cuniculi</i><br><i>Leptopsylla segnis</i><br><i>Ctenocephalides felis felis</i>                                |
| <i>Canis familiaris</i>          | <i>Ctenocephalides canis</i><br><i>Ctenocephalides felis felis</i>   |
| <i>Arctocephalus pusillus</i>    | <i>Ctenocephalides canis</i><br><i>Ctenocephalides felis felis</i>   |
| <i>Tachyglossus aculeatus</i>    | <i>Bradiopsylla echidnae</i>   |
| <i>Ornithorhynchus anatinus</i>  | <i>Pygiopsylla hoplia</i><br><i>pygiopsylla zethi</i>  |
| <i>Mustela putorius</i>          | <i>Ctenocephalides canis</i>   |
| <i>Vulpes vulpes</i>             | <i>Ctenocephalides canis</i>   |
| <i>Homo sapiens</i>              | <i>Spilopsyllus cuniculi</i><br><i>Pygiopsylla australiacus</i><br><i>Parapsyllus taylori</i><br><i>Stephanocircus dasyuri</i> |
| <i>Eudyptes cristatus</i>        | <i>Parapsyllus magellanicus</i>  |



|                               |  |
|-------------------------------|--|
| <i>Eudyptula minor</i>        | <i>Parapsyllus australiacus</i>  |
| <i>Diomedea cauta</i>         | <i>Parapsyllus australiacus</i>  |
| <i>Macronectes giganteus</i>  | <i>Parapsyllus cardinis</i>  |
| <i>Pterodroma lessonii</i>    | <i>Parapsyllus cardinis</i><br><i>Parapsyllus magellanicus</i><br><i>Notiopsylla enciari</i>     |
| <i>Pachyptila desolata</i>    | <i>Parapsyllus cardinis</i><br><i>Notiopsylla kerguelensis</i>                                   |
| <i>Pachyptila turtur</i>      | <i>Parapsyllus australiacus</i><br><i>Notiopsylla taylori</i>                                    |
| <i>Puffinus griseus</i>       | <i>Notiopsylla kerguelensis</i>  |
| <i>Puffinus tenuirostris</i>  | <i>Parapsyllus australiacus</i><br><i>Parapsyllus taylori</i><br><i>Notiopsylla kerguelensis</i> |
| <i>Pelagodroma marina</i>     | <i>Parapsyllus australiacus</i><br><i>Parapsyllus taylori</i>                                    |
| <i>Pelecanoides urinatrix</i> | <i>Parapsyllus taylori</i>   |
| <i>Leucocarbo fuscescens</i>  | <i>Parapsyllus australiacus</i>  |
| <i>Larus dominicus</i>        | <i>Notiopsylla kerguelensis</i>  |
| <i>Zoothera dauma</i>         | <i>Hoogstraali vandiemeni</i>  |
| <i>Petroica phoenica</i>      | <i>Hoogstraali vandiemeni</i>  |

*Pachycephala olivacea*

*Hoogstraali vandiemeni*

*Malurus cyaneus*

*Hoogstraali vandiemeni*

*Sericornis frontalis*

*Hoogstraali vandiemeni*

*Sericornis Magnus*

*Hoogstraali vandiemeni*

*Acanthiza ewingii*

*Hoogstraali vandiemeni*

*Strepera fuliginosa*

*Hoogstraali vandiemeni*

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