

APPENDIX I

ECTOPARASITES OF AUSTRALIAN, NEW ZEALAND AND ANTARCTIC BIRDS

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INTRODUCTION

The format followed is the same as previously with the same qualifications for accepting data and reasons for giving avian subspecies. Only published data have been listed (excluding records considered to be stragglers or contaminants), because it was thought that much of the material in collections needs to be re-examined to avoid a perpetuation of errors. Only those hosts are listed on which, or in association with which, ectoparasites have been found. Absence of a host from the list means ignorance of its ectoparasites. The nomenclature of hosts follows that of HANZAB and, in the main, subspecies are not given. However, it must be emphasized that subspecies of hosts are important as they usually differ in distribution, and their ectoparasites, such as fleas and ticks, have distinct geographical distributions of their own related to the conditions that favour survival of the several stages of their life cycles, both on and off the host. Even lice, which live permanently on their hosts, may differ between subspecies of their hosts. The subspecies of hosts are given, therefore, where they are considered to be relevant and informative.

This checklist covers all bird species included in Volume 5 of HANZAB and is the first of three that will cover all passerines in the HANZAB region. The list of lice and fleas is not as extensive as in previous lists in this series. This reflects not only the absence of published material but also taxonomic difficulties associated with these groups of ectoparasites. A consequence is that most of the bird lice are only identified as far as genus. Palma & Barker (1996) is the basic reference for lice in this checklist. A table on the lice of the families of passerines is not given as it is considered that it will be more meaningful to present it when the final part of this unit of the checklist is published.

Ticks pose a different problem. Aust. passerines are infested by immature stages of ticks that have mammalian hosts when they are adults. Keys for the identification of immature stages are inadequate, so only the genus is given and whether the ticks were larvae (L) or nymphs (N).

Mites have been included for the first time. The lifting of the lid of this Pandora's box has been possible by the participation of Matthew Shaw. Mites are small, mostly between 0.3 mm and 1.0 mm long, and many are difficult to see with the naked eye. They inhabit niches similar to those used by lice, fleas and ticks as well as additional regions of a bird's body. There is a large fauna that live on, or in, feathers and each species of bird can be expected to harbour one or more species; of this type, only those of some NZ birds are reported. Another group infests the

skin of the body, the scaly legs and the bill. Yet others infest the nares, the nasal chambers and even the trachea and air-sacs; these mites are generally known as intra-nasal mites and species of *Ptilonyssus*, *Sternostoma* and *Boydaiia* are listed. Species of *Dermanyssus* and *Ornithonyssus* mites are like many fleas: they await the return of a host to a nest and visit the host for a blood meal. Often their presence is known only when they are found in nesting material; such records are noted in the checklist as '(NEST)'. Birds can also be hosts of the immature stages of trombiculid mites and some are recorded in the checklist. Most trombiculid mites, like many ticks, probably wait in vegetation for a passing host. The bias towards Meliphagidae is because R. Domrow, a respected acarologist, made extensive collections from honeyeaters in Qld.

A list of the ectoparasites of NZ birds compiled by Bishop & Heath (1998) has proved valuable. Their checklist raises another problem associated with mites: the fluid state of taxonomy at the generic level as taxonomists confront an enormous task. Occasionally, the genus to which a mite belongs is given as 'closest to a genus' in their list. An asterisk (*) next to a generic name in the checklist indicates where Bishop & Heath have reported such reservations. The names of mites are given in alphabetical order of the genus.

Lastly, as stated in earlier volumes, the threatened state of a bird is also a threat to its parasites. The importance of continuing to collect ectoparasites cannot be overemphasized: only if specimens have been collected can appropriate taxonomists make their contribution to our understandings of diversity and relationships.

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MITES

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TICKS

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CHECKLIST OF ECTOPARASITES

Family ACANTHISITTIDAE

Acanthisitta chloris chlorisLICE: *Menacanthus* sp.**Xenicus longipes variabilis**MITES: *Hemialges* sp.*Neodectes* sp.*

Family PITTIDAE

Pitta versicolorLICE: *Picicola australis* Somadder & Tandan, 1977MITES: *Ptilonyssus pittae* Domrow, 1964

Family MENURIDAE

Menura novaehollandiaeLICE: *Brueelia menuraelyrae* (Coinde, 1859)*Menacanthus menura* (Le Souëf & Bullen, 1902)TICKS: *Ixodes* sp. (N)

Family CLIMACTERIDAE

Cormobates leucophaeusMITES: *Liponyssoides adsonis* Domrow, 1992*Neotrombicula comata* Domrow, 1961**Climacteris picumnus**MITES: *Liponyssoides lukoschusi* Domrow, 1979*Ptilonyssus sittae* Fain, 1965

Family MALURIDAE

Malurus cyaneusLICE: *Myrsidea strangeri* Clay, 1970*Brueelia* sp.*Philoaterus* sp.MITES: *Guntheria coorongensis* (Hirst, 1929)**Malurus splendens**LICE: *Myrsidea strangeri* Clay, 1970**Malurus amabilis**MITES: *Boydaia maluri* Domrow, 1969**Malurus melanocephalus**MITES: *Boydaia maluri* Domrow, 1969*Cheletonata miles* Womersley, 1956 (NEST)*Pellonyssus reedi* (Zumpt & Patterson, 1952) (NEST)*Ptilonyssus maluri* Domrow, 1965**Stipiturus malachurus**

LOUSE-FLIES:

Orthithoica stipituri (Schiner, 1868)

Family MELIPHAGIDAE

Anthochaera carunculataLICE: *Menacanthus eurysternus* (Burmeister, 1838)*Myrsidea* sp.*Brueelia* sp.*Philoaterus* sp.**Anthochaera paradoxa**LICE: *Brueelia* sp.*Philoaterus* sp.**Anthochaera chrysoptera**MITES: *Ornithonyssus sylvianum* (Canestrini & Fanzago, 1877)*Ptilonyssus thymanzae* Domrow, 1964*Ptilonyssus myzanthae* Domrow, 1964**Acanthagenys rufogularis**MITES: *Ptilonyssus thymanzae* Domrow, 1964**Plectorhyncha lanceolata**MITES: *Ptilonyssus philemoni* Domrow, 1964**Philemon argenticeps**MITES: *Leptotrombidium nissani* (Dumbleton, 1947)**Philemon corniculatus**

LOUSE-FLIES:

Orthithoica stipituri (Schiner, 1868)MITES: *Boydaia spatulata* Fain, 1955*Neoschoengastia posekanyii* Wharton & Hardcastle, 1946*Odontacarus australiensis* (Hirst, 1925)*Odontacarus* sp.*Ptilonyssus philemoni* Domrow, 1964**Philemon citreogularis**MITES: *Boydaia spatulata* Fain, 1955*Fainocoptes meliphagidae* (Lukoschus & Lombert, 1979)*Leptotrombidium nissani* (Dumbleton, 1947)*Neoschoengastia posekanyii* Wharton & Hardcastle, 1946*Ptilonyssus philemoni* Domrow, 1964**Entomyzon cyanotis**MITES: *Neoschoengastia americana* (Hirst, 1921)*Odontacarus adelaideae* (Womersley, 1944)*Ptilonyssus philemoni* Domrow, 1964**Manorina melanocephala**LICE: *Myrsidea* sp.*Brueelia* sp.*Philoaterus* sp.FLEAS: *Echidnophaga gallinacea* (Westwood, 1875)MITES: *Leptotrombidium nissani* (Dumbleton, 1947)*Neoschoengastia posekanyii* Wharton & Hardcastle, 1946*Ornithonyssus sylvianum* (Canestrini & Fanzago, 1877)*Ptilonyssus myzanthae* Domrow, 1964*Ptilonyssus thymanzae* Domrow, 1964**Manorina flavigula**LICE: *Brueelia* sp.*Philoaterus* sp.MITES: *Ptilonyssus myzanthae* Domrow, 1964**Xanthotis macleayana**MITES: *Ptilonyssus balimoensis* Sakakibara, 1968**Xanthotis flaviventris**MITES: *Boydaia myzomelae* Domrow, 1969*Leptotrombidium nissani* (Dumbleton, 1947)*Leptotrombidium robustum* (Gunther, 1941)*Ptilonyssus balimoensis* Sakakibara, 1968**Meliphaga lewinii**MITES: *Neoschoengastia posekanyii* Wharton & Hardcastle, 1946*Odontacarus australiensis* Hirst, 1925*Ptilonyssus thymanzae* Domrow, 1964TICKS: *Ixodes* sp. (L, N)**Meliphaga notata**MITES: *Leptotrombidium nissani* (Dumbleton, 1947)*Leptotrombidium robustum* (Gunther, 1941)*Ptilonyssus philemoni* Domrow, 1964*Ptilonyssus thymanzae* Domrow, 1964**Meliphaga gracilis**MITES: *Ptilonyssus philemoni* Domrow, 1964**Lichenostomus chrysops**MITES: *Ptilonyssus meliphagae* Domrow, 1966*Ptilonyssus thymanzae* Domrow, 1964TICKS: *Ixodes* sp. (N)**Lichenostomus unicolor**MITES: *Ptilonyssus stomioperae* Domrow, 1966**Lichenostomus flavus**MITES: *Leptotrombidium nissani* (Dumbleton, 1947)

- Leptotrombidium robustum* (Gunther, 1941)
Odontacarus sp.
Ptilonyssus stomioperae Domrow, 1966
- Lichenostomus flavicollis**
 LICE: *Myrsidea* sp.
Ricinus sp.
Philoaterus sp.
 MITES: *Dermanyssus hirundinis* Hermann, 1804
- Lichenostomus melanops**
 MITES: *Ptilonyssus thymanzae* Domrow, 1964
- Lichenostomus ornatus**
 LICE: *Brueelia* sp.
Philoaterus sp.
- Lichenostomus fuscus**
 MITES: *Ptilonyssus thymanzae* Domrow, 1964
- Lichenostomus flavescens**
 MITES: *Ptilonyssus pseudothymanzae* Fain & Lukoschus, 1979
- Lichenostomus penicillatus**
 MITES: *Ptilonyssus thymanzae* Domrow, 1964
- Melithreptus validirostris**
 LICE: *Menacanthus* sp.
Myrsidea sp.
Brueelia sp.
Philoaterus sp.
- Melithreptus albogularis**
 MITES: *Leptotrombidium nissani* (Dumbleton, 1947)
Ptilonyssus meliphagae Domrow, 1966
Ptilonyssus pseudothymanzae Fain & Lukoschus, 1979
- Melithreptus affinis**
 LICE: *Myrsidea* sp.
Brueelia sp.
Philoaterus sp.
- Notiomystis cincta**
 LICE: *Myrsidea* sp.
 MITES: *Hemialges* sp.
Ornithonyssus bursa (Berlese, 1888) (NEST)
- Lichmera indistincta**
 MITES: *Harpirhynchus monstrosus* Fritsch, 1954
Ornithocheyletia lichmerae Smiley, 1984
Ptilonyssus gliciphilae Domrow, 1966
Sternostoma gliciphilae Domrow, 1966
- Grantiella picta**
 MITES: *Ptilonyssus conopophilae* Fain & Lukoschus, 1979
- Phylidonyris pyrrhoptera**
 LICE: *Philoaterus* sp.
- Phylidonyris novaehollandiae**
 LICE: *Menacanthus eurysternus* (Burmeister, 1838)
Myrsidea sp.
- Brueelia* sp.
Philoaterus sp.
- MITES: *Guntheria coorongensis* (Hirst, 1929)
Guntheria lappacea (Womersley, 1952)
Harpirhynchus monstrosus Fritsch, 1954
Neoschoengastia posekanyi Wharton & Hardcastle, 1946
- TICKS: *Ixodes* sp.
- Ramsayornis fasciatus**
 MITES: *Ptilonyssus condylocoxa* Fain & Lukoschus, 1979
Sternostoma gliciphilae Domrow, 1966
- Conopophila rufogularis**
 MITES: *Fainocoptes conopophilae* (Lukoschus & Lombert, 1979)
Ptilonyssus conopophilae Fain & Lukoschus, 1979
- Acanthorhynchus tenuirostris**
 TICKS: *Ixodes* sp. (N)
- Certhionyx pectoralis**
 MITES: *Boydaia spatulata* Fain, 1955
Harpirhynchus monstrosus Fritsch, 1954
Ptilonyssus gliciphilae Domrow, 1966
- Myzomela obscura**
 MITES: *Leptotrombidium nissani* (Dumbleton, 1947)
Leptotrombidium robustum (Gunther, 1941)
Ptilonyssus myzomelae Domrow, 1965
- Myzomela sanguinolenta**
 MITES: *Boydaia myzomelae* Domrow, 1969
Ptilonyssus lymozemae Domrow, 1965
Ptilonyssus myzomelae Domrow, 1965
- Anthornis melanura obscura**
 LICE: *Myrsidea* sp.
Brueelia sp.
- Anthornis melanura melanura**
 LICE: *Menacanthus eurysternus* (Burmeister, 1838)
Myrsidea sp.
Brueelia sp.
 MITES: *Exochojoubertia lobulata* (Trouessart, 1885)
Hemialges sp.
Neodectes sp.*
Protalgis australis antipodium Trouessart, 1885
- Prosthamera novaeseelandiae novaeseelandiae**
 LICE: *Menacanthus eurysternus* (Burmeister, 1838)
Myrsidea sp.
Brueelia sp.
 MITES: *Analges* sp.
Exochojoubertia lobulata (Trouessart, 1885)
Hemialges sp.
Neodectes sp.*
Pterodectes sp.