

Black Mountain Symposium Background Paper No. 10
Invertebrate animals of Black Mountain, Canberra, ACT

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Abstract. Some aspects of the insect fauna and a few other invertebrate animals of Black Mountain, a forested peak in Canberra, Australia, are discussed. Most of the peak is contained in a nature reserve containing high quality native vegetation, with a rich flora and a correspondingly rich invertebrate fauna. A checklist of approximately 2030 species in selected groups of insects, arachnids, millipedes and velvet worms recorded from Black Mountain is provided. The list is not complete and further work is required to obtain a full picture of the area's invertebrate fauna.

1. Introduction

The dark, forested bulk of Black Mountain rises to 812 metres, dominating central Canberra on the surrounding plain at about 500 metres. It is one of a number of peaks of similar height rising within and around the city, most of them reserved for nature conservation and public recreation as components of Canberra Nature Park. Black Mountain Nature Reserve comprises about 450 hectares of native vegetation in predominantly good condition. The upper slopes carry a low open forest dominated by species of *Eucalyptus* above a diverse ground layer of sparse shrubs and tussock grasses. The foot slopes of the mountain grade into a more open grassy woodland, with different eucalypt species dominant. Aspect has a significant influence on the flora: the steep southern slope is largely shaded in winter and protected from strong radiation in summer. The vegetation of the area is described in more detail by Doherty (2018) and the plants by Purdie (2018a).

Invertebrates are not easy to study. They are small, often live in concealed places, many are active only at night and a given species may have a short annual period of activity in close response to specific environmental cues. Even once samples are obtained, the general poor state of taxonomic knowledge of the fauna and the lack of specialist workers can discourage study.

Black Mountain's invertebrates have been relatively well surveyed, due mainly to 90 years of sampling by entomologists based at CSIRO's Australian National Insect Collection (ANIC) on the mountain's lower eastern slopes (see also Purdie 2018b). Although >5000 insect species have been reported to occur there (e.g. Heritage Week Committee 1993) this paper is the first known attempt to collate a list of invertebrates recorded from Black Mountain since collecting began, even though many specimens have yet to be fully identified.

2. Methods

Records of species observed or collected within the study area were obtained from the following sources:

- direct perusal of specimens held by the ANIC;
- Biolink, the ANIC in-house specimen database;
- Canberra Nature Map, a citizen science website (<https://canberra.naturemapr.org>);
- Atlas of Living Australia (ALA; <https://www.ala.org.au>) database search, March 2017, for insect species recorded within a 1 km radius of the summit of Black Mountain;
- Australian Faunal Directory (<https://biodiversity.org.au/afd/home>) database search, March 2017, for species with 'Black Mountain' as a type locality;
- the taxonomic and ecological literature; and
- input from colleagues with specialist knowledge of taxonomic groups.

This paper draws from a larger project documenting the insect diversity of the Australian Capital Territory (ACT). The ANIC preserves a large amount of material collected from Black Mountain and other places in the ACT, but very little of it is databased. Consequently, the chief method being used to compile lists of insects is simply to visually scan the locality labels on specimens held in the collection and record the ACT presence of taxa against a national list. Unsorted or unidentified material of ACT provenance is sorted and identified where possible. The ACT project is incomplete and ongoing: Diptera (flies), Lepidoptera (butterflies and moths) and about half of the Coleoptera (beetles) have been examined, with Hemiptera (bugs), Hymenoptera (ants, bees and wasps) and the smaller orders remaining. The bulk of the Lepidoptera species listed in this paper is the result of a re-examination of ANIC holdings in selected groups of 'macro-lepidoptera' using the draft ACT list.

The literature search for this paper was neither systematic nor comprehensive; a serious search of the taxonomic literature in particular would be sure to add a considerable number of records.

Many specimens sighted in the ANIC give only 'Black Mountain' as the place they were collected. In the absence of more precise data, it is not possible to know whether these specimens were collected inside or outside the boundary of Black Mountain Nature Reserve. For the sake of completeness, and because the distances involved are small, all species are included in the lists unless they are known only from cultivated parts of the Australian National Botanic Gardens (ANBG).

3. Results and discussion

A list of species of the selected groups is presented in Appendix 1 (insects: class Insecta of phylum Arthropoda) and Appendix 2 (other invertebrates, covering spiders (order Araneae), scorpions (order Scorpiones), flat-backed millipedes (order Polydesmida) and velvet worms (phylum Onychophora)). The arthropod fauna of Black Mountain documented here comprises approximately 2030 species, although the true total is expected to be at least two or three times greater.



Fig 1. Native bees on Sticky Everlasting (*Xerochrysum viscosum*) (left) and a bristle fly *Rutilia* sp. on Burgan (*Kunzea ericoides*) (right). Photos: R Purdie.

A breakdown of the figures for the orders and families would not give a true picture of the fauna, due to differences between the groups in sampling effort, species-level taxonomic knowledge, and the amount of effort invested in this study. However, it is worth noting that 30 species of *Castiarina* jewel beetles, 38 species of ladybird beetles (Coccinellidae), 53 species of native bees, at least 85 species of ants (Formicidae), no less than 160 species of 'looper' moths (Geometridae) and one velvet worm (Phylum Onychophora) are recorded from Black Mountain. Around 21 species are not native to Australia, but the majority of these are probably not resident within natural vegetation in the reserve.

An exception would be the Honey Bee (*Apis mellifera*), whose colonies have been able to occupy tree hollows and rely on nectar and pollen from the native flora.

Sampling of moths of the lower eastern slope of Black Mountain (or at least the phototactic ones) was substantially aided by the nightly operation of a fixed mains-powered mercury vapour light trap in bushland behind the CSIRO site for a period of about two decades in the late 1900s (see also Purdie 2018b). The device also attracted a large variety of beetles and other insects. The preparation and processing of this stream of material must have been a significant load on ANIC technical staff.

In terms of biogeographical relationships, the insect fauna of Black Mountain may be termed a South-eastern Australian Tablelands fauna. Some elements seem restricted to southern NSW, while others extend more widely north and/or south, in some cases even into Tasmania. A minor ‘inland’ component seems to infiltrate from the west. With the exception of a minority of widely distributed species (e.g. large and strong-flying Lepidoptera and Odonata), the fauna is largely distinct from that of the coastal region of NSW 100 km to the east, and also distinct from that of the higher, colder and mostly wetter mountainous parts of the western and southern ACT.

Black Mountain is significant as the type locality¹ of numerous invertebrate (principally insect) species, mainly reflecting the large number of specimens collected from the area. Some 180 species (including 75 Diptera) have been described from Black Mountain (excluding cultivated parts of ANBG), and there are undoubtedly more.



Fig. 2. Termite mounds (Order Blattodea) (left) and the Golden Orb Weaver (*Nephila edulis*) (right) are commonly seen on Black Mountain. Photos: R Purdie.

4. Using the lists

The lists provided in the appendices are arranged alphabetically by order, family, genus and species; genus names are listed only once, with multiple congeners (i.e. species belonging to the same genus) separated by a semicolon. Species names are usually binomial, written as *Genus species*, but may be trinomial or quadriminomial, the latter written as *Genus (Subgenus) species subspecies*. To save space, authors’ names are not given; these can be found in other sources such as the Australian Faunal Directory.

Species known to be introduced to Australia by human agency (either intentionally or accidentally) carry an asterisk (*). A ‘[T]’ following a name indicates that the type locality of the species is Black Mountain. The abbreviation ‘sp.’, meaning species (singular), is used with a genus name to indicate that one or more species of that genus is represented in the study area, but none is identified. The abbreviation ‘nr’ (near) indicates a species similar to but apparently distinct from the name following.

¹ A ‘type’ in this context is the original specimen on which the official naming and description of a species new to science is based; the place where that specimen was found is the ‘type locality’ of the species.

5. Acknowledgements

I thank the following people who contributed species lists: Stuart Harris (Araneae); Laurence Mound (Thysanoptera); Suzi Bond (butterflies), Michael Mulvaney (records in Canberra Nature Map) and Adrienne Nicholson (Lepidoptera). Ms Nicholson voluntarily worked several months in the ANIC to reduce an unpublished ACT insect list to a Black Mountain list in selected families. Robyn Meier kindly searched the CSIRO Biolink database for Black Mountain records. Anthony Whalen organised the extraction of information on invertebrate type specimens from the Australian Faunal Index database.

I am grateful to CSIRO for providing me with an Honorary Fellowship to prepare a catalogue of ACT insect species, and to Rosemary Purdie who invited me to contribute to the Black Mountain Symposium.

6. References

- Doherty, MD (2018) Vegetation types and vegetation dynamics on Black Mountain. Black Mountain Symposium 2018 Background Paper No. 3. Friends of Black Mountain, Canberra.
- Heritage Week Committee (1993) Hills of Canberra – people and place. Heritage ACT, pp. 42–55.
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Invertebrates recorded from Black Mountain: Class Insecta (insects)

ORDER ARCHAEOGNATHA (BRISTLETAILS)**Meinertellidae***Machiloides* sp.**ORDER BLATTODEA (COCKROACHES, TERMITES)****Blaberidae***Laxta granicollis**Panesthia australis***Blattidae***Melanozosteria capitolina* [T]**Ectobiidae***Ellipsoidion australe**Johnrehnia solida* [T]*Robshelfordia biramustyla* [T]**Kalotermitidae***Bifiditermes improbus**Ceratokalotermes spoliator**Glyptotermes eucalypti**Neotermes insularis***Rhinotermitidae***Coptotermes frenchi***Termitidae***Amitermes neogermanus*; *xylophagus* [T]*Nasutitermes dixonii*; *exitiosus***ORDER COLEOPTERA (BEETLES, WEEVILS)****Acanthocnemidae***Acanthocnemis nigricans***Aderidae***Syzetonellus alpicola***Anthicidae***Anthicus scydmaenideus**Lemodes coccinea**Trichananca* sp.**Anthribidae***Araecerus palmaris**Taburnus neglectus***Archeocrypticidae***Enneboeus fossoris**Gondwanenneboeus minutissimus***Belidae***Rhinotia filiformis*; *suturalis***Biphyllidae***Diplocoelus angustulus*; *dilataticollis***Bostrichidae***Bostrychopsis jesuita**Lyctodon bostrychoides**Lyctus brunneus*; *parallelcollis**Mesoxylion collaris*; *cylindricus**Minthea acanthacollis**Trogoxylon ypsilon**Xylobosca canina**Xylodeleis obispa**Xylotillus lindi***Bothrideridae***Deretaphrus erichsoni*; *ignarus*; *piceus*; *viduatus***Brentidae***Cordus* sp.*Perapion antiquum***Buprestidae***Agrilus hypoleucus**Anilara angusta*; *anthaxoides?*; *obscura?**Castiarina australasiae*; *balteata*; *commixta*;*crenata*; *decemmaculata*; *deyrollei*;*erythroptera*; *hilaris*; *hoffmannseggi*; *humilis*;*ignota*; *indistincta*; *kerremansi*; *klugi*;*mustelamajor*; *nasuta*; *ochreiventris*;*octomaculata*; *octospilota*; *producta*;*rufipennis*; *scalaris*; *sexplagiata*; *skusei*;*subpura*; *subvicina*; *testacea*; *thomsoni*; *vicina*;*xystra* [T]*Diphucrania acuducta*; *gibbera*; *heroni*; *kohouti*;*leucosticta*; *marmorata*; *patricia*; *pulleni**Ethonion fissiceps*; *reichei**Helperella frenchi**Hypocisseis suturalis**Meliboeithon bicostatum**Melobasis* nr *fulgurans*; *nervosa*; *nitidiventris*;*propinqua*; *purpurascens?**Nascio vetusta**Nascioides parryi**Neocuris coeruleans*; *gracilis**Pseudanilara purpureicollis**Selagis aurifera**Temognatha limbata*; *thoracica***Cantharidae***Chauliognathus lugubris*; *tricolor**Heteromastix* sp.**Carabidae***Adelotopus dytiscides*; *montisatri* [T];*nemosomoides**Agonocheila antipodum*; *biguttata*; *cribripennis*;*fenestrata**Anomotarus (Anomotarus) minor*; *moorei* [T];*unimaculatus*; *variegatus obscuripennis**Anomotarus (Lithostrotus) caerulescens**Arthropterus* sp.*Cainogenion (Cainogenion) ipsoides ipsoides*

Cainogenion (Procaingenion) ehippiatum
Carenum laevigatum
Clivina (Clivina) quadratifrons
Craspedophorus australasiae
Demetriida suturata
Euthenarus bicolor [T]
Laccopterum foveigerum
Microlestodes (Cyclolestodes) ovatus [T]
Philophaeus australis
Pseudagonica minuta elongata [T]
Sarothrocrepis civica; humerata
Scopodes boops; sexpunctus sexpunctus; sigillatus
Setodyschirius wilsoni
Sphallomorpha costalis [T]; *guttigera*;
hydroporoides; maculata; nitiduloides;
rhomboidalis; ruficollis [T]
Trigonothops (Trigonothops) flavofasciata

Cerambycidae

Adrium artifex
Aesiotyche favosa
Ancita australis
Atesta chiangi [T]; *ibidionoides; latifasciata*;
stigmosa; thornтони
Bethelium signiferum
Brachytria erosa
Coleocoptus senio
Coptocercus pedator; pubescens; robustus;
rubripes
Distichocera macleayi
Ectosticta cleroides
Epithora dorsalis
Eroschema poweri
Eurynassa australis
Hesthesis sp.
Macrones exilis
Neostenus saundersi
Oroderes humeralis; mimulus
Pachydissus sp.
Paratesta chiangi; dorsalis
Phacodes obscurus; personatus
Phoracantha acanthocera; alternata; concolor;
flavopicta; mastersi; obscura; porosa;
punctata; recurva; semipunctata; synonyma;
tricuspis
Rhytiphora sp.
Sceleocantha glabricollis
Syllitus sp.
Tessaroma undatum
Tropis lepturoides; roei; rubea
Uracanthus triangularis
Xystrocera virescens
Zoedia divisa

Chrysomelidae

Acanthoscelides obtectus
Altica corrusca
Aporocera (Aporocera) lugubris
Augomela hypochalcea
Aulacophora hilaris
Cadmus (Cadmus) litigiousus

Callosobruchus maculatus
Calomela curtisi; juncta; maculicollis; parilis;
vittata
*Chrysolina hyperici**
Dicranosterna immaculata
Eurispa howitti; simplex
Longitarsus victoriensis
Neodiaphanops sp.
Oulema medioplagiata
Paropsis aspera; atomaria
Paropsisterna beata; intacta; irina
Semelvillea waraganjae

Ciidae

Cis canberrae [T]; *eremicus* [T]; *fuscipes; setiferus*
Glyphidope variabilis
Malleecis flavus

Cleridae

Blaesiophthalmus accinctus
Crobenia irwini [T]
Cylidrus basalis; nigrinus
Eleale aspera; pulchra; simplex
Eunatalis flavopilosa; mastersii; planipennis;
porcata; spadicea; spinicornis
Lemidea australiae; cicatricosa; concinna; exilis;
hilaris; nitens; simulans; spinipennis; subaenea
Necrobia ruficollis; rufipes
Phlogistus chrysurus; corallipes; eremita;
modestus
Scrobiger idoneus; splendidus
Stigmatium acerbum; gilberti; victoriae
Tarsostenodes guttulus
Tarsostenus carus; hilaris; univittatus
Tenerus abbreviatus
Trogodendron fasciculatum; mirabilis
Zenithicola crassus

Coccinellidae

Bucolellus sp.
Bucolus frater; idyleae
Cleobora mellyi
Coccinella (Coccinella) transversalis
Cryptolaemus montrouzieri
Diomus capital; frater; impictus; notescens;
planulatus; sphragitis; sydneyensis
Harmonia conformis
Micraspis frenata
Orcus australasiae; bilunulatus
Rhyzobius cyaneus; discolor; forestieri; gordonii;
hirtellus; lophanthi; nitidus; pulchellus;
noctuabundus; umbratus; waterhousei;
ventralis
Rodatus bakewelli; boucardi; chaetonotus
Rodolia cardinalis
Scymnus blackburni; bunya; queenslandicus
Telsimia obscuripes
Wioletta elongatula

Corylophidae

Orthoperus sp.
Sericoderus sp.

Cryptophagidae

Anchicera sp.
Chilatomaria sp.
*Cryptophagus cellaris**

Cucujidae

Platysus angusticollis; *integricollis*

Curculionidae

Amycterus elongatus
Chrysolopus spectabilis
Titinia sp.

Dermestidae

Anthrenocerus confertus; *intricatus* [T]; *piliatus* [T]; *stigmaphilus*
Anthrenus (*Nathrenus*) *verbasci*
Dermestes ater
Reesa vespulae
Trogoderma apicale; *froggatti*

Dytiscidae

Allodessus bistrigatus
Antiporus femoralis; *gilbertii*; *interrogationis*
Chostonectes nebulosus
Copelatus australiae
Hydaticus parallelus
Lancetes lanceolatus
Liodessus shuckhardii
Megaporus hamatus; *howittii*
Necterosoma penicillatum; *undecimlineatum*
Onychohydus scutellaris
Platynectes bakewelli; *decempunctatus*; *octodecimmaculatus*
Rhantus suturalis

Elateridae

Agrypnus caliginosus; *divaricatus*; *duplex*; *humilis*; *mamillatus*; *marginipennis*; *pictipennis*; *variabilis*
Anchastus sp.
Anilicus attenuatus; *parvus*; *xanthomus*
Arachnodima xenikon
Conoderus alternatus; *aphiloides*; *bruckii*; *submarmoratus*; *tabidus*
Crepidomenus decoratus; *fulgidus*
Drymelater australis
Glypheus nigrinus
Hapatesus (*Hapatesus*) *hirtus*
Lingana illita
Litotelater divaricatus
Megapenthes automolus
Melanoxanthus futilis
Ophidius elegans
Paracalais funereus
Paracardiophorus assimilis [T]; *consputus*; *dimidiatus*
Pseudaolus bimaculatus
Pseudotetralobus australasiae
Rangsia macleayi

Endomychidae

Holoparamecus castaneus; *caularus*

Idiophyes brevis

Erotylidae

Cnecosa insueta
Cryptophilus integer
Leucohimatium arundinaceum
Thallis australiae; *bifasciata*; *compta*; *janthina*; *vinula*

Eucnemidae

Dromaeolus sp.
Dyscharachthis minutus
Euryptychus concolor; *porosus*

Geotrupidae

Australobolbus gayndahensis
Elephastomus gellarus; *meraldus* [T]

Heteroceridae

Heterocerus flindersi

Histeridae

Chlamydopsis ectatommae; *inaequalis*; *lawrencei* [T]; *pygidialis*; *reticulata*
Pheidoliphila sp.
Saprinus pseudocyanus

Hydrophilidae

Berosus approximans; *australiae*; *involutus*; *majusculus*; *nutans*; *veronicae*
Chaetarhria nigerrimus
Enochrus elongatulus; *maculiceps*; *samae*
Helochares (*Hydrobaticus*) *percyi*; *tristis*
Hydrochus australis; *granicollis*; *obsoletus*
Hydrophilus albipes; *brevispina*; *latipalpus*
Laccobius decipiens
Limnoxenus zealandicus
Paracymus pygmaeus; *spenceri*
Sternolophus marginicollis

Laemophloeidae

Cryptolestes sp.
Placonotus sp.

Latridiidae

Aridius bifasciatus; *minutus*; *nodifer*; *semicostatus*
Corticaria elongata; *ferruginea*; *japonica*; *lindensis*; *ovalipennis*
Corticaria cuspidata; *hirtalis*; *laticollis*; *luzonica*
Metophthalmus sp.

Leiodidae

Myrmecholeva acutifrons

Lucanidae

Figulus trilobus
Lamprima aurata

Lycidae

Calochromus sp.
Porrostoma rhipidium

Lymexylidae

Australimexylon fuscipennis
Atractocerus kreuslerae

Melandyridae

Talayra elongata

Meloidae

Palaestra foveicollis

Melyridae

Dicranolaius bellulus; *villosus*

Helcogaster nr *gagatinus*

Balanophorus brevipennis

Hypattalus abdominalis

Mordellidae

Hoshihananomia dumbrelli; *leucosticta*;
multiguttata

Mordella limbata; *promiscua*; *v-fasciata*; *wiburdi*

Paramordellistena exilis

Tomoxioda aterrima

Zeamordella monacha

Mycetophagidae

Litargops intricatus

*Litargus balteatus**

*Typhaea stercorea**

Myraboliidae

Myrabilia brevicollis; *grouvelliana*; *lawrencei*

Nitidulidae

Amlearcha elegantior; *obscurior*

Australaethina pilistriata

Brachypeplus basal; *binotatus*

Carpophilus aterrimus; *hemipterus**; *luridipennis*

Cryptarcha australis; *laevigata*; *subnitida*

Cychrampodes murrayi

Epuraea californica; *meyricki*; *sparsior*; *sloanei*

Macleayana vesca

Rixerodes cornutulus

Thalycrodes australe; *cylindricum*; *mixtum*;
pulchrum

*Urophorus humeralis**

Phalacridae

Austroporus sp.

Litochrus major

Plalacrus sp.

Ptinidae

Calymmaderus sp.

Deltocrypta sp.

Diplocotes familiaris

Dorcatoma sp.

Dryophilodes sp.

*Ernobius mollis**

Hadrobregmus australiensis

*Lasioderma serricorne**

Methemus sp.

*Mezium affine**; *americanum**

*Ptinus clavipes**; *exulans*

Stagetomorphus sp.

Rhipiceridae

Rhipicera femorata

Ripiphoridae

Euctenia sp.

Macrosiagon difficile; *novaeollandiae*;
rufofasciatum; nr *tricolor*

Neonephrites partiniger

Ptilophorus gerstaeckeri; *persimilis*

Rhipidioides sp.

Scarabaeidae

Acrossidius tasmaniae

Adoryphorus coultonii

Anomalomorpha giveni

Anoplognathus chloropyrus; *hirsutus*; *montanus*;
pallidicollis; *pindarus* [T]; *porosus*; *suturalis*;
velutinus; *viriditarsis*

Antitrogus morbillosus

Automolius vulgaris

Bisallardiana gymnopleura

Chlorobapta bestii; *frontalis*

Chondropyga dorsalis

Clithria eucnemis

Cryptodus caviceps; *paradoxus*; *tasmannianus*

Dasygnathus trituberculatus

Eupoecila australasiae

Frenchella hirticollis

Gnaphalopoda carnei [T]

Heteronyx aequaliceps; *aphodioides*; *australis*;
chlorotica; *constans*; *excisus*; *glabrata*;
granum; *major*; *oblongus*; *ovatus*; *piceus*;
pilosellus; *praecox*; *puncticollis*; *relictus*;
rugosipennis; *simius*; *sloanei*;

Liparetrus pectinatus [T]

Maechidius brevis; *corrosus*; *latus*; *longitarsus*;
sordidus; *variolosus*

Microvalgus spp.

Neorrhina punctata

Onthophagus anchommatum; *australis*; *declivis*;
dunningi; *granulatus*; *pexatus*; *squalidus*

Ophropyx hispida

Phyllotocus macleayi; *rufipennis*

Repsimus aeneus

Rhopaea decipiens

Scitala aureorufa; *rorida*; *sericans*

Semanopterus subcostatus

Sericesthis consanguinea; *geminata*; *ignota*;
micans; *nigrolineata*; *parallela*

Telura alta; *petiolata* [T]

Trichaulax philipsii

Scirtidae

Austrocyphon aculeatus [T]

Nanocyphon australicus [T]

Nothocyphon ypsilon [T]

Peneveronatus actensis [T]

Prionocyphon uncatatus [T]

Silphidae

Ptomaphila lacrymosa

Silvanidae

Australodendrophagus australis

Austronausibius leai

Cryptamorpha blackburni; *delicatula*; *victoriae*

Macrohyliota lucius; militaris
*Oryzaephilus surinamensis**

Sphindidae

Aspidiphorus globosus

Staphylinidae

Leptostibina blackmontis [T]
Nasutiphilus flavus [T]; *niger* [T]
Neohypnus andinus
Thyrecephalus cyanopterus; orthodoxus;
rufitarsis
Xanthophius luridipennis

Tenebrionidae

Adelium angulicolle; brevicorne; licinoides;
orphana; porcatum; pustulosum
Amarygmus aeger
Atoichus bicolor
Celibe striatipennis
Chalcopteroides columbinus; cupripennis;
spectabilis
Cillibus incisus
Cyphaleus metallescens
Ecnolagria grandis
Helea ovata
Homotraxis cisteloides; laticollis; limbata; lugubris
Lepturidea fastigiata; fusca; opacicollis; pulchra;
punctulaticollis; unicolor; viridis
Meneristes australis
Metistete gibbicollis; pimelioides; subsulcata
Metriolagria formicicola
Nyctozoilus deyrollei
Phanechloros punctipennis
Platyphanes pilosus
Prophanes simplex
Pterohelaeus granuliger; guerini; hirtus; oblongus;
piceus; planus; socialis; striatopunctatus
Saragus marginellus
Tanychilus sp.
Titaena columbina
Toxicum insigne
Uloma planimentoides; sanguinipes
Ulomoides heroni; tetraspilotus
Yarranum crenicolle

Trogossitidae

Ancyrona vesca
Leperina lacera
Peltonyxa invalida

Ulodidae

Dipsaconia pyritosa
Meryx aequalis
Notocerastes blackburni
Ulodes hispidus

Zopheridae

Orthocerodes australis

ORDER DIPTERA (FLIES)

Agromyzidae

Liriomyza cassiniae [T]; *impolita* [T]
Phytobia optabilis [T]

Apioceridae

Apiocera similis [T]

Asilidae

Neoaratus abludo

Bibionidae

Dilophus tetrascolus [T]

Bombyliidae

Balaena abscondita; latelimbata
Comptosia stria

Calliphoridae

Calliphora augur; stygia

Cecidomyiidae

Trichotoca fraterna [T]

Ceratopogonidae

Allohelea harpagonifera [T]
Culicoides sigmoidus [T]
Forcipomyia (Lepidohelea) bullata [T]; *parvicrater*
[T]
Forcipomyia (Metaforcipomyia) colona [T]
Forcipomyia (Pedilohelea) proavia [T]
Lanatomyia miles [T]
Leptoconops (Leptoconops) riverinaensis [T]

Chamaemyiidae

Leucochthiphila photophila [T]
Pseudoleucopis benefica [T]; *nigromontana* [T];
trichaeta [T]

Chironomidae

Cricotopus annuliventris
Riethia zeylandica
Tanytarsus bispinosus; commoni [T]

Chloropidae

Gaurax sabroskyi [T]
Lipara australis [T]
Tricimba lata [T]

Culicidae

Aedes alboannulatus

Dolichopodidae

Amblypsilopus montanorum; triscuticatus
Austrosiciapus actensis [T]
Mesorhaga canberrensis [T]
Nothorhaphium aemulans
Parentia dispar; nigropilosa
Sympycnus (Sympycnus) claudicans [T]
Systemus australis [T]
Thrypticus australis [T]

Empididae

Anaclastoctedon prionton [T]

Fanniidae

Fannia capitalis [T]

Fergusoninidae

Fergusonina atricornis; *carteri*; *curriei*; *frenchi*;
nicholsoni

Heteromyzidae

Diplogeomyza conformis [T]
Zentula vittata [T]

Lauxaniidae

Homoneura eurymelon; *fuscicornis*; *stricta*
Trypetisoma vulgare

Limoniidae

Geranomyia sp.
Molophilus (Austromolophilus) warriuka [T]

Muscidae

Atherigona alpha [T]; *collessi* [T]
Musca vetustissima

Pipunculidae

Clistoabdominalis colophus
Eudorylas australinus [T]; *cernuus* [T]

Platypezidae

Lindneromyia australaquila [T]

Platystomatidae

Duomyia capitalis [T]; *personata* [T]

Psychodidae

Psychodocha squamipleuris [T]

Pyrgotidae

Adapsona commoni [T]
Cardiacera nigrescens [T]
Facilina commoni [T]; *tertia* [T]
Frontalia noctua [T]; *tonnoiri* [T]
Osa commoni [T]; *simplex* [T]; *sinclairae* [T]

Scatopsidae

Colobostema bihastatum [T]; *diversum diversum*
[T]; *retusum* [T]; *rhamphe*
Diamphidicus australis [T]
Reichertella digitata [T]

Scenopinidae

Paratrichia lobosa [T]

Sphaeroceridae

Howickia subsinuata [T]
Pseudocollinella difficilis [T]

Stratiomyidae

Exaireta spinigera

Syrphidae

Melangyna (Austrosyrphus) collatus; *sellenyi*

Tabanidae

Scaptia patula

Tachinidae

Anagonia commoni [T]; *lasiophthalma* [T]; *minor*
[T]; *norrissi* [T]; *zentae* [T]
Austronilea livida [T]
Carcelia (Euryclea) flavitibia [T]
Chetogaster canberra [T]

Geraldia biseta [T]

Microtropesa canberra [T]; *sinuata*
Rutilia sp.

Tephritidae

Austrotephritis pelia; *poenia*; *pumila*
Ceratitella loranthei
Dioxyna conflict
Euaresta aequalis
Hyalopeza schneiderae
Oedaspis apicalis
Parahyalopeza pantosticta [T]
Paraspathulina apicomacula [T]
Spathulina acroleuca
Sphenella ruficeps
Trupanea glauca

Therevidae

Acupalpa albitarsa
Agapophytus antheliogynaion [T]; *aterrimus*;
australasiae; *chrysoisysyrus* [T];
dioctriaeformis; *galbicaudus*; *ruficaudus*
Anabarhynchus danielsi; *decipiens*; *helvenacus*;
hyalipennis; *niveus*; *plumbeoides* [T];
plumbeus; *projectus*; *tristis*
Bonjeania angelikae; *clamosis*; *flavofemoralis*;
nitidifrons
Laxotela gaimarii [T]
Nanexila manni
Neodialineura nitens

Tipulidae

Leptotarsus (Leptotarsus) clavatus; *macquartii*
flavolateralis [T]

Trichoceridae

Nothotrichocera cranstoni [T]

ORDER EMBIOPTERA (WEBSPINNERS)**Australembiidae**

Metoligotoma ingens [T]

ORDER HEMIPTERA (BUGS)**Acanthosomatidae**

Eupolemus marginatus

Aphididae

*Aulacorthum (Aulacorthum) solani**
*Brachycaudus (Brachycaudus) helichrysi**
*Capitophorus elaeagni**; *hippohaes**
*Lipaphis pseudobrassicae**
*Macrosiphum (Macrosiphum) rosae**
Toxoptera citricida

Cicadellidae

Macroceps sp.
Putoniessa sp.
Rhotidoidea sp.
Rosopaella aldutra; *crofta*; *evansi* [T]; *geoffroyi*;
leurensis; *lopada*; *magnata* [T]; *nr napais*;
nigroflava; *praeda* [T]; *swani*

Rubria brevifrons
Trocnada minuta

Cicadidae

Galanga labeculata
Psaltoda moerens
Yoyetta nr denisoni

Cixiidae

Chidaea dayi [T]
Ronaldia fennahi [T]

Clastopteridae

Chaetophyes compacta

Coccidae

Coccus hesperidum
Parthenolecanium persicae
Pulvinaria psidii

Eriococcidae

Eriococcus confusus; *coriaceus*
Lobimargo donaldsoni [T]

Geocoridae

Stylogeocoris biroi

Lygaeidae

Nysius vinitor
Spilostethus pacificus

Miridae

Austrocapsus antennatus
Creontiades dilutus

Nepidae

Laccotrephes (Laccotrephes) tristis

Notonectidae

Anisops doris

Pentatomidae

Agonoscelis rutila
Commius elegans
Cuspicona privata
Dictyotus caenosus
Menida plebeia
Nezara viridula
Ocirrhoe dallasi
Oncocoris apicalis
Piezodorus oceanicus

Pseudococcidae

Australicoccus grevilleae
Nipaecoccus exocarpi
Planococcus citri; *minor*
Pseudococcus longispinus

Psyllidae

Acizzia pendulae [T]
Cardiaspina albitextura
Creiis lituratus
Cryptoneossa triangula
Glycaspis brimblecombei; *immaceria* [T]
Hyalinaspis nigricamera [T]; *pallidinota* [T];
semispherula [T]; *vitreipelta* [T]

Reduviidae

Aradelloides wilsoni
Gminatus australis
Leistarches serripes
Ptilocnemus pallidus

Rhyparochromidae

Lamproceps australis
Porander scudderi

Scutelleridae

Choerocoris paganus
Scutiphora pedicellata

Tingidae

Australocader kerzhneri [T]

Triozidae

Schedotrioza eucalypti

ORDER HYMENOPTERA (ANTS, BEES, WASPS)

Apidae

Amegilla (Zonamegilla) asserta
*Apis mellifera**
Exoneura (Exoneura) sp.

Bethylidae

Eupsenella baada; *barada*; *bilingara*; *ceciliae*;
diemenensis; *insulana*; *jaburara*

Braconidae

Amyosoma rufescens [T]
Chelonus fischeri [T]
Choeras dissors [T]
Diolcogaster adiastrata [T]
Jarra phoracantha [T]
Phanerotomella obscura [T]
Pirramurra tuberculata
Pseudosyngaster annulicornis
Simplicibracon nigratarsus [T]

Colletidae

Euryglossa depressa
Goniocolletes subdulus
Hylaeus (Euprosopis) elegans
Hylaeus (Planihylaeus) daviesiae [T];
probligenatus [T]; *quadriceps*
Hylaeus (Prosopistemon) sp.
Hyleoides concinna
Hyphesma atromicans; *federalis* [T]
Leioproctus (Leioproctus) amabilis; *clarki*;
plumosus; *versicolor*
Trichocolletes nigroclypeatus; *venustus*

Crabronidae

Rhopalum grahami [T]
Trypoxylon schmiedeknechti connexum

Dryinidae

Bocchopsis australis [T]

Embolemidae

Ampulicomorpha australis [T]

Eulophidae*Goetheana rabelaisi* [T]**Eurytomidae***Austrophotismus daicles***Formicidae***Acropyga myops*; *pallida**Amblyopone longidens*; *michaelseni**Anonychomyrma* sp.*Aphaenogaster longiceps**Arnoldius* sp.*Austromorium flavigaster**Camponotus aeneopilosus*; *consobrinus*; *evae zeuxis*; *gasseri*; *intrepidus*; *lownei*; *nigriceps*; *nigroaeneus*; *suffusus**Cardiocondyla nuda**Cerapachys* sp.*Crematogaster* sp.*Doleromyrma darwiniana**Dolichoderus scabridus**Epopostruma natalae*; *quadrispinosa*; *wardi**Heteroponera* sp.*Iridomyrmex bicknelli*; *calvus*; *chasei*; *discors*; *infuscus* [T]; *mayri*; *mjobergi*; *obscurior*; *purpureus*; *rufoniger*; *sucheroides*; *suchieri*; *victorianus**Mayriella ebbei**Melophorus* sp.*Meranoplus* sp.*Mesostruma bella*; *exolympica**Monomorium fieldi*; *kiliani*; *leae*; *rothsteini*; *sordidum*; *sydneyense*; *tambourinense**Myrmecia forceps*; *fulvipes*; *gulosa*; *nigriceps*; *picta*; *piliventris*; *pilosula*; *pyriformis*; *simillima*; *tepperi**Myrmecorhynchus emeryi**Notoncus hickmani**Nylanderia rosae**Ochetellus* sp.*Orectognathus clarki**Papyrius nitidus**Parapatrechina minutula**Pheidole* sp.*Plagiolepis* sp.*Platythyrea turneri**Podomyrma gratiosa**Polyrhachis ammon*; *leae*; *phryne*; *schwiedlandi**Ponera leae**Prolasius* sp.*Pseudonotoncus* sp.*Rhytidoponera metallica*; *tasmaniensis*; *victoriae**Solenopsis* sp.*Sphinctomyrmex* sp.*Stigmacros barretti**Strumigenys* sp.*Tapinoma* sp.*Technomyrmex* sp.*Tetramorium* sp.**Gasteruptiidae***Pseudofoenus iqballi* [T]**Halictidae***Homalictus (Homalictus) punctatus*; *sphecodoides*; *urbanus**Lasioglossum (Australictus) peraustrale**Lasioglossum (Chilalictus) bicingulatum*;*brunnesetum*; *calophyllae*; *clelandi*; *cognatum*;*erythrurum*; *gilesi*; *hemichalceum*; *humei*;*instabilis*; *lanarium*; *litteri*; *opacicolle*;*orbatum*; *platycephalum*; *pulvitectum*;*repraesentans*; *victoriellum*; *vitripenne*; *willsi**Lasioglossum (Parasphecodes) hiltacum*; *lacthium*; *subrussatum*; *sulthicum*; *tribuarium**Lipotriches (Austronomia) nr flavoviridis***Ichneumonidae***Akymichneumon rufipes**Asmenophylax* sp.*Australochus clypeator* [T]*Casinaria hesperiophaga* [T]*Enicospilus skeltonii*; *sausi**Eucaphila vulgaris**Junctivena gallowayi**Lycorina canberra* [T]*Megaceria pagana**Nebostenus terebratus* [T]*Neolophron canberra* [T]*Orthocentrus trichomma**Sciron fundator**Xylostenus curtus* [T]**Megachilidae***Megachile (Eutricharaea) maculariformis*; *serricauda**Megachile (Hackeriapis) oblonga*; *tosticauda**Megachile* [unplaced] *lucidiventris***Monomachidae***Monomachus antipodalis***Mymaridae***Boccacciomymar decameron* [T]**Peradeniidae***Peradenia micranepsia* [T]**Pompilidae***Ctenostegus binghi*; *chicha*; *murrumbidgee*; *ouyen**Idiaporina canberra* [T]*Psoropempula nulgarra* [T]; *puna* [T]**Scelionidae***Embidobia australica* [T]; *metoligotomae* [T]*Mirobaeoides ater*; *scutellaris**Scelio asperatus*; *chortoicetes*; *edeowie*;*improcerus*; *orientalis*; *parvicornis*;*striatifacies*; *unidentis* [T]*Trissolcus egeria*; *oedipus*; *oeneus*; *ogyges***Stephanidae***Parastephanellus isoglyptos***Torymidae***Megastigmus quinquesetae* [T]

Vespidae

Polistes (Polistella) humilis
*Vespula germanica**

ORDER LEPIDOPTERA (BUTTERFLIES, MOTHS)**Anthelidae**

Anthela ferruginosa; nicotiae; ocellata; varia
Chelepteryx collesi
Chenuala heliaspis
Nataxa flavescens
Pterolocera sp.

Bucculatricidae

Ogmograptis barloworum [T]; *maxdayi* [T];
paucidentatus [T]; *racemosa*

Coleophoridae

Coleophora albiradiata [T]

Cosmopterigidae

Leptozestis toreutica
Macrobathra alternatella

Cossidae

Culama australis?; *glaucia*
Endoxyla affinis; arachnophora; encalypti;
epicycla; lichenea; liturata; nubila
Sympycnodes digitata; dunnorum; rhapsodes
Zyganisus fulvicollis

Crambidae

Achyra affinalis; massalis
Anemosa exanthes
Anydraula glycerialis
Autarotis milvellus
Calamotropa dielota; leptogrammellus; paludella
Canuza euspilella
Culladia cuneiferella
Deuterarcha xanthomela
Diasemiopsis ramburialis
Diathrausta ochreipennis
Dichocrocis clytusalis
Eclipsiodes crypsixantha
Eudonia anthracias; leodoralis
Glaucocharis dilatella
Glycythyma leonina
Glyphodes microra
Hednota acontophora; bifractella; bivittella;
crypsichroa; diargyra; grammella; invalidella;
longipalpella; opulentella; panteucha;
pedionoma; relatalis; xylophaea
Hellula hydralis
Hygraula nitens
Ischnurges illustralis
Metallarcha diplochrysa
Metasia achroa; dicealis; familiaris; liophaea
Musotima nitidalis; ochropteralis
Nacoleia mesochlora; oncophragma; rhoeoalis
Nomophila corticalis
Notarcha chrysoplata
Omiodes diemenalis

Ostrinia furnacalis
Palpita austrounionalis
Parapoynx polydectalis; tullialis
Parotis atlitalis
Phanomorpha dapsilis
Ptochostola microphaeella
Pyrausta panopealis
Sceliodes cordalis; crocospila; exhibitilis;
paracycla
Sedenia cervicalis; rupalis
Spoladea recurvalis
Strepsinoma foveata
Tawhitia pentadactylus
Tipanaea patulella
Uresiphita ornithopteralis

Elachistidae

Elachista (Atachia) coalita [T]; *floccella* [T]
Elachista (Elachista) platina [T]; *sandaraca* [T]

Erebidae

Achaea argilla; janata
Aloa marginata
Amata aperta; trigonophora; xanthura
Amyna natalis; punctum
Anestia ombrophanes; semiochrea
Anomis involuta
Arrade destituta; leucosmalis
Artigisa impropria; melanephele
Asura lydia
Calamidia hirta
Calathusa ischnodes; thermosticha
Castulo doubledayi
Corgatha dipyra; molybdophaes; sideropasta
Crioa hades
Damias pelochroa
Dasypodia cymatodes; selenophora
Diatenes aglossoides; gerula
Dichromia quinquialis
Donuca lanipes; spectabilis
Dysgonia frontinus
Eilema plana
Ericcia subsignata
Eublemma cochylioides; inconspicua; leucodesma;
nymphodora
Eudesmeola lawsoni
Eudocima materna
Euproctis baliolalis; edwardsii; marginalis
Eutane terminalis
Grammodes justa; ocellata; oculicola
Halone coryphoea; sejuncta; servilis
Heliosia jucunda
Hypena masurialis
Hypocala deflorata
Icta fulviceps
Iropoca rotundata
Laelia obsoleta
Lophotoma diagrapha; metabula
Manulea replana
Mataeomera coccophaga; ligata; mesotaenia
Meranda susialis

Meyrickella torquesauria
Narangodes nigriscata
Nyctemera amicus
Ophiusa parcemacula
Orgyia anartoides
Ozarba chryasapis
Palaeosia bicosta
Pantylia canescens; diemeni; sparsa
Phaeophlebosia furcifera
Phenacomorpha bisecta
Philenora irregularis
Philogethes metableta
Phytometra formosalis; laevis
Praxis difficilis; edwardsii; marmarinopa;
pandesma; porphyretica
Prionoapterina grammatistis
Prorocopia euxantha
Rhapsa suscitatalis
Rhodina falculalis
Sandava scitisignata; xylistis
Scaptosyle monogrammaria
Scoliacma bicolora; nana
Sophita concavata
Spilosoma canescens; curvata; glatignyi
Stenoscaptia venusta
Tathorhynchus fallax
Teia anartoides
Termessa gratiosa; laeta; nivosa; shepherdii;
xanthomelas; zonophanes
Thallarcha albicollis; chrysochares; fusa;
jocularis; oblita; partita; pellax; phalarota;
sparsana; trissomochla
Thermeola sp.
Threnosia heminephes
Tigrioides alterna
Trigonistis demonias
'Trigonistis' asthenopa
Utetheisa lotrix; pulchelloides

Ethmiidae
Ethmia clytodoxa; eupostica

Gelechiidae
Ardozyga hemichlaena; telopis
Macrenches clerica
Scrobipalpa aptatella
Symmetrischema tangolias

Geometridae
Adeixis inostentata
Aeolochroma metarhodata
Amelora anepiscepta; arotraea; demistis; goniota;
leucaniata; mesocapna
Amphiclasta lygaea
Anachloris subochraria; uncinata
Androchela milvaria
Anomocentris trissodesma
Antasia flavicapitata
Antictenia punctunculus
Apodasmia rufonigraria
Arhodia lasiocamparia
Austroterpna paratorna

Authaemon stenonipha
'Boarmia' panconita
'Camptogramma' severata; squamulata
Capusa cuculloides; senilis; stenophara
Casbia melanops; pallens; tetramera;
Cassythaphaga macarta
Chlenias banksiaria; belophora; ochrocrana
Chloroclystis approximata; filata; pallidiplaga
Chlorocoma stereota; vertumnaria
Chrysolarentia heliacaria; imperviata;
leptophrica; lucidulata; mecynata; subrectaria;
vicissata
Ciampa arietaria; chordota; heteromorpha
Circopetes obtusata
Cryphaea xylinea
Crypsiphona oculitaria
Cyneoterpna alpina; wilsoni
Dichromodes ainaria; atrosignata; confluaria;
consignata; disputata; estigmara
Didymoctenia exsuperata
Dissomorphia australiaria
Dithalama cosmospila
Dolabrossa sp.
Dysbatus stenodesma
Eccymatoge callizona; fulvida; morphna
Ectropis bispinaria; excursaria; fractaria
Epicyme rubropunctaria
Epidesmia hypenaria; perfabricata
Epyaxa hyperythra; sodaliata; subidaria
Eucyclodes buprestaria; insperata
Euloxia meandraria
Fisera belidearia; eribola
Gastrina cristaria
Gastrinodes argoplaca; bitaeniaria
Gastrophora henricaria
'Gynopteryx' ada
'Hydriomena' plagiocausta
Hypobapta diffundens; percomptaria
Hypodoxa muscosaria
Idaea costaria; inversata; nephelota
Idiodes apicata
Isturgia penthearia
Lipogya experimentaria
Maxates centrophylla
Melanodes anthracitaria
Microdes diplodonta; squamulata; villosata
Mictodoca toxenta
Mnesampela comarcha; lenaea; privata
Monoctenia smerintharia
Nearcha aridaria; nullata; pseudophaes; ursaria
Niceteria macrocosma
Nisista notodontaria; serrata
Oenochroma privata; subustaria; vetustaria;
vinaria
Paralaea ochrosoma; porphyrinaria; sarcodes
Paraterpna harrisoni
Parosteodes fictiliaria
Phallaria ophiusaria
Phelotis cognata
Phrataria bijugata; transcissata

Phrissogonus laticostata
Pingasa cinerea
Plesanemma fucata
Poecilasthena pulchraria
Prasinocyma rhodocosma; *semicrocea*
Psilosticha absorpta; *actata*; *pristis*
Rhinodia rostraria
Rhuma argyraspis
Rhynchopsota rhyncophora
Sauris lichenias
Scioglyptis chionomera; *loxographa*; *lyciaria*
Scopula oppilata; *perlata*; *rubraria*
Smyriodes aplectaria
Stibaroma melanotoxa
Syneora praecisa
Taxeotis endela; *exsectaria*; *intextata*; *subvelaria*
Tephrosia' *externaria*
Thalaina clara
Visiana brujata
Xanthorhoe anaspila; *anthracinata*; *strumosata*;
vacuaria; *xanthospila*
Zermizinga sinuata
Zeuctophlebia squalidata

Hepialidae

Abantiades barcas; *labyrinthicus*; *magnificus*
Oncopera rufobrunnea
Oxycanus antipoda; *dirempta*; *silvanus*
Trictena atripalpis

Herminiidae

Lithilaria ossicolor
Mormoscopa phricozona; *sordescens*

Hesperiidae

Dispar compacta
Netrocoryne repanda
Ocybadistes walkeri
Taractrocera papyria
Toxidia peron
Trapezites luteus; *phigalia*; *phigalioides*

Hypertrophidae

Allotropha percussana
Eupselia axiepaena; *carpocapsella*; *melanostrepta*;
metabola; *satrapella*; *theorella*

Lasiocampidae

Pernattia pusilla
Entometa apicalis; *decorata*; *guttularis*
Genduara acedesta; *punctigera*
Opsirhina lechriodes
Pararguda australasiae; *crenulata*; *nasuta*
Pinara cana; *obliqua*
Porela delineata; *vetusta*
Symphyta colpodes?

Lecithoceridae

Crocantes prasinopis

Limacodidae

Doratifera oxleyi; *pinguis*; *quadriguttata*
Pseudanapaea transvestita

Lophocoronidae

Lophocorona melanora [T]

Lycaenidae

Acrodipsas aurata
Candalides acasta; *heathi*; *hyacinthinus*
Hypochrysops delicia
Jalmenus evagoras; *ictinus*
Lampides boeticus
Nacaduba biocellata
Neolucia agricola
Ogyris olane
Theclinesthes serpentatus
Zizina otis

Noctuidae

Acontia clerana; *detrita*; *hieroglyphica*; *nivipicta*
Acrapex albicostata; *exsanguis*
Aedia leucomelas
Agrotis infusa; *ipilon*; *munda*; *porphyricollis*;
radians
Apina callisto
Athetis tenuis
Australothis rubescens
Bathytricha truncata
Buciara bipartita
Callopietria rivularis
Chasmina pulchra;
Chrysodeixis argentifera; *eriosoma*; *subsicens*
Cirphis ebriosa
Comocrus behri
Condica aroana
Cosmodes elegans
Cruria donowani
Ctenoplusia albostrigata
Dasygaster padockina
Diarsia intermixta
Ectopatria horologa; *mniodes*; *mundoides*;
paurogramma
Epicyrta leucostigma; *melanops*
Eremochroa alphitias
Eulocastra tripartita
Eutrichopidia latinus
Hecatesia fenestrata
Helicoverpa armigera; *punctigera*
Heliocheilus aberrans; *cramboides*; *eodora*;
ionola; *moribunda*; *pallida*; *vulpinotatus*
Heliothis punctifera
Himerois basiscripta
Hypoperigea tonsa
Idalima affinis
Ipanica cornigera
Leucania cruegeri; *diatrecta*; *stenographa*; *uda*
'Leucania' exarans; *obumbrata*; *obusta*
Maliattha amorpha; *ritsemae*
'Mamestra' dictyota
Musothyma cyanastis
Mythimna convecta;
Neumichtis expulsa; *mesophaea*; *nigerrima*;
saliaris; *signata*; *spumigera*
Paromphale caeca

Periscepta polysticta
Persectania dyscrita; *ewingii*
Phalaenoides glyciniae
Prometopus inassueta
Proteuxoa atra; *bistrigula*; *capularis*; *cinereicollis*;
florescens; *heliosema*; *hydraecioides*;
marginalis; *mesombra*; *metaneura*; *microspila*;
oxygona; *paragypsa*; *porphyrescens*; *restituta*;
spodias; *testaceicollis*; *tortisigna*
Sasunaga tenebrosa
Spodoptera exigua; *litura*; *mauritica*
Xanthodes amata; *congenita*
'*Xanthoptera*' *macrosema*

Nolidae

Armactica columbina; *conchidia*
Austrocarea ioccephala
Earias chlorodes; *huegeliana*; *paralella*;
smaragdina
Elesma subglauca
Nanaguna clopea
Nola albalis; *delograptia*; *irenica*; *paromoea*;
phaeogramma; *pleurosema*; *semograptia*;
tetralopha
Orthocraspis leptoplasta
Uraba lugens

Notodontidae

Destolmia lineata
Epicoma contristis; *melanospila*; *tristis*
Hobartina eusciera
Hylaeora capucina; *caustopis*; *dilucida*
Neola semiaurata
Sorama bicolor
Trichiocercus sparshalli

Nymphalidae

Acraea andromacha
Charaxes sempronius
Danaus petilia; *plexippus*
Geitoneura klugii
Heteronympha merope; *paradelpha*; *penelope*
Hypolimnas bolina
Junonia villida
Tirumala hamata
Vanessa itea; *kershawi*

Oecophoridae

Acanthodela protophaes
Ageletha hemiteles
Agriophara axesta; *gravis*
Anomozancla scopariella
Atholosticta oxypeuces
Brachynemata cingulata
Catacometes hemiscia
Catoryctis sciastris
Cirromitra tetratherma
Cnecophora cinetica
Coeranica isabella
Coesyra phaeozona
Coracistis erythrocosma
Corethralpa melanoneura

Crepidoscetes orthomochla
Cryptolechia triphaenatella
Delexocha ochrocausta
Ericibdela delotis
Eulechria electrodes; *isogramma*; *xeropterella*
Hemibela hemicalypta
Hoplomorpha camelaeta
Ioptera demica
Ironopolia sobriella
Maroga melanostigma
Myrascia bracteata
Notodryas vallata
Olbonoma triptycha
Olenacantha egelida
Oxythecta acceptella; *loxomochla*
Palimmeces habrophanes
Parergophela melirrhoa
Petalanthes hexastera
Phauloplana illuta
Philobota auxolyca; *chionoptera*; *lysizona*;
productella
Phryganeutis cinerea
Phthonerodes peridela [T]
Phytotrypa propriella
Piloprepes anassa
Prepalla tephрина
Ptochosaris horrenda
Satrapia thesaurina
Stathmopoda melanochra
Tanyzancla marionella
Telecrates laetiorella
Thema macroscia
Tisobarica thyteria
Tortricopsis aulacois; *uncinella*
Wingia lambertella

Oenosandridae

Discophlebia catocalina?; *lucasia*
Oenosandra boisduvalii

Papilionidae

Graphium macleayanum
Papilio aegaeus; *anactus*; *demoleus*

Pieridae

Appias paulina
Belenois java
Catopsilia pyranthe
Delias aganippe; *harpalyce*
Eurema smilax
*Pieris rapae**

Psychidae

Ardiosteres moretonella; *velutinana*
Cebysa leucotelus
'*Chalia*' *grisea*
Clania ignobilis; *lewini*
Hyalarcta huebneri
Lepidoscia arctiella; *carlotta*; *cataphracta*;
characota; *tyrobathra*
Lomera boisduvalii
'*Plutorectis*' *capnaea*

Trigonocyttara clandestina

Pterophoridae

Imbophorus aptalis
Platyptilia celidotus
Sinpunctiptilia emissalis
Stangeia xerodes
Stenoptilia zophodactylus

Pyralidae

Asarta fuliginosa
Heteromicta pachytera
Lasiosticha canilinea
Spectrotrota fimbrialis

Saturniidae

Opodiphthera eucalypti; *helenae*

Sphingidae

Agrius convolvuli; *godarti*
Hippotion celerio; *scrofa*
Hyles livornicoides

Thyrididae

Aglaopus centiginosus; *pyrrhatus*

Tineidae

Edosa ochracea
Moerarchis inconcisella

Tortricidae

Epiphyas asthenopis; *postvittana*
Epitymbia cosmota
Crociosema plebejana
Strepsicrates ejectana

Uraniidae

Lobogethes interrupta

Zygaenidae

Hestiochora furcata
Pollanisus apicalis; *lithopastus*; *viridipulverulenta*

ORDER MANTODEA (MANTIDS)

Mantidae

Tenodera australasiae

ORDER MECOPTERA (SCORPIONFLIES)

Bittacidae

Harpobittacus australis

Choristidae

Chorista australis

ORDER MEGALOPTERA (DOBSONFLIES)

Corydalidae

Archichauliodes deceptor

ORDER NEUROPTERA (LACEWINGS)

Coniopterygidae

Coniopteryx (Xeroconiopteryx) tillyardi
Neosemidalis (Neosemidalis) longiscapa [T]

Hemerobiidae

Micromus tasmaniae

Mantispidae

Campion tenuistrigus

Myrmeleontidae

Glenoleon sp.

ORDER ODONATA (DRAGONFLIES)

Aeshnidae

Adversaeshna brevistyla

Austropetaliidae

Austropetalia patricia

Corduliidae

Hemicordulia tau

Gomphidae

Austrogomphus guerini

Lestidae

Austrolestes analis; *annulosus*; *leda*

Libellulidae

Nannophya dalei
Orthetrum caledonicum
Pantala flavescens

Megapodagrionidae

Austroargiolestes icteromelas

Synthemistidae

Parasynthemis regina
Synthemis eustalacta

Telephlebiidae

Austroaeshna parvistigma; *unicornis*

ORDER ORTHOPTERA (CRICKETS, GRASSHOPPERS)

Acrididae

Acrida conica
Austracris guttulosa
Austroicetes frater; *pusilla*; *vulgaris*
Coryphistes ruricola
Gastrimargus musicus
Goniaea australasiae
Macrotona australis
Oedaleus australis
Phaulacridium vittatum
Praxibulus duplex

Gryllotalpidae

Gryllotalpa sp.

Tettigoniidae

Caedicia simplex
Conocephalomima barameda

Lanciana montana
Nanodectes harpax
Terpandrus jumbunna
Zaprochilus australis

ORDER PHASMIDA (PHASMIDS)

Phasmatidae

Podacanthus typhon
Tropidoderus childrenii

ORDER PLECOPTERA (STONEFLIES)

Gripopterygidae

Dinotoperla serricauda
Illiesoperla australis
Riekoperla karki

Notonemouridae

Austrocerca tasmanica

ORDER PSOCODEA (LICE, BOOKLICE, BARKLICE)

Elipsocidae

Propsocus pulchripennis

Peripsocidae

Propsocus pulchripennis

Psocidae

Blaste taylori
Ptycta glossoptera; umbrata

ORDER THYSANOPTERA (THRIPS)

Aeolothripidae

Andrewarthaia kellyana
Desmothrips obsoletus; uniguttus
Franklinothrips vespiformis
Lamprothrips miltoni

Phlaeothripidae

Allothrips greensladei; hamideae [T]; *stannardi*
Apterygothrips australis
Baenothrips caenosus; moundi
Bocathrips okazimai [T]
Callococcithrips fuscipennis
Cariantothrips acti; casuarinae; loisthus; miskoi;
mjobergi; reedi [T]
Cartomothrips nevoissi
Cryptothrips amneius
Deplorothrips capitalis [T]; *minaei* [T]
Emprosthiothrips niger
Giraultithrips nigricoxa
Haplothrips anceps; bituberculatus; froggatti;
victoriensis
Holothrips australis [T]; *eurytis*
Hoplandrothrips hemiflavus [T]; *quadriconus*
Idolothrips spectrum
Jacotia glyptus [T]
Lissothrips talagandai
Minaeithrips alicaeae [T]

Nesothrips carveri; propinquus
Pelinothrips ornatus
Phaulothrips anici; oakeyi
Podothrips websteri [T]
Priesneria peronis [T]
Psalidothrips taylori [T]
Rhopalothripoides froggatti
Stephanothrips barretti
Strepterothrips barbatus [T]; *tuberculatus*
Zemiathrips trisetata [T]

Thripidae

Anaphothrips ambiguus; chortinus [T]; *cucurbiti;*
exocarpi; exocarpoides [T]; *obscurus;*
parsonsiae [T]; *sudanensis; westringiae* [T]
Aptinothrips rufus
Australothrips bicolor
Bhattithrips frontalis
Caprithrips moundi
Chirothrips frontalis; manicatus
Frankliniella schultzei
Heliothrips haemorrhoidalis
Limothrips cerealium
Lomatothrips pinopsidis [T]
Neohydatothrips argenticinctus
Odontothripiella australis
Pezothrips kellyanus
Pseudanaphothrips achaetus; aureolus; casuarinae
Scirtothrips australiae
Tenothrips frici
Thrips australis; imaginis; nigropilosus; simplex;
tabaci

Non-insect invertebrates recorded from Black Mountain: Class Arachnida (spiders, scorpions), Class Diplopoda (millepedes) and Phylum Onychophora (velvet worms)

CLASS ARACHNIDA

ORDER ARANEAE (SPIDERS)

Actinopodidae

Missulena occatoria

Araneidae

Argiope protensa

Arachnura higginsi

Austracantha minax

Celaenia excavata

Eriophora pustulosa; *transmarina*

Phonognatha graeffei

Clubionidae

Clubiona sp.

Corinnidae

Nyssus albopunctatus; *coloripes*

Desidae

Badumna insignis

Hersiliidae

Tamopsis sp.

Lamponidae

Lampona cylindrata

Linyphiidae

Erigone sp.

Lycosidae

Artoria quadrata

Tasmanicosa godeffroyi; *leuckartii*

Nemesiidae

Stanwellia sp.

Nephilidae

Nephila edulis

Oxyopidae

Oxyopes rubicundus

Pholcidae

Pholcus phalangioides

Salticidae

Apricia jovialis

Holoplatys mascordi

Jotus auripes

Maratus calcitrans [T]; *vespertilio*

Neon australis

Ocrisiona leucomis

Sandalodes scopifer

Saratus hesperus

Servaea incana

Sparassidae

Delena cancerides

Holconia immanis

Isopeda sp.

Neosparassus calligaster; *diana*

Typostola barbata

Theridiidae

Latroectus hasselti

Thomisidae

Sidymella sp.

Stephanopis cambridgei

Zodariidae

Habronestes hunti

ORDER SCORPIONES (SCORPIONS)

Buthidae

Lychas marmoreus; *variatus*

Urodacidae

Urodacus manicatus

CLASS DIPLOPODA (MILLIPEDES)

ORDER POLYDESMIDA (FLAT-BACKED MILLIPEDES)

Paradoxosomatidae

Akamptogonus novarae

Dicladosomella sp.

PHYLUM ONYCHOPHORA (VELVET WORMS)

Peripatopsidae

Euperipatoides rowelli