no legs or many spineless and wild

Laura Levens





no legs

or many spineless and wild

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Preface

I hope that the few photographs in this book will encourage casual observers to take a keener interest in the myriad of less obvious denizens of the natural environment. The first book I used when my children asked "What's this?" was a first edition of John Child's 'Australian insects', the only book for the layman I could find in the early 1960s. How things have changed!

I have come across and recorded small creatures during twenty years of weeding, wandering, wondering and being amazed by natural marvels from flatworms to beetles and butterflies, wasps, ants, spiders and little hopping, buzzing, crawling things among the wildflowers and trees.

The variety of shapes and coloured patterns is limited only by the number of species, each of which has a unique design, sometimes one for each sex, sometimes more than one for each sex! And spiders and caterpillars often confuse things by changing their design with each moult.

Some photographs were taken in-situ, others after the specimen had been subjected to some time in the refrigerator so they would stand still. This is why some look a trifle tipsy.

Naming of some creatures without an accompanying specimen has been unsure. These might have a family or genus; a few are left with only a general term (e.g. wasp). Professional naturalists' hair will possibly stand on end.

Sections are arranged by the number of legs. The "How Many Legs?" section is for living creatures who have legs that are hidden, difficult to identify as legs, legs that are too numerous to count or the number is variable across the group. For example caterpillars have between none and eighteen legs and some projections that are not legs but prolegs or claspers.

Common names and length of head and body are used where available. Common names as used with photographs are included in the index.

Some plants are mentioned in "Walk Where the Wild Lives Live" to enable a more in-depth picture of the habitat of these creatures.

Walk where the wild lives live

The subjects in the photographs have been observed in grassy woodland on a steep hillside near Upper Beaconsfield, Victoria where the tallest trees are eucalypts. Small springs are dotted about amongst frequently occurring granite boulders, creating many micro-habitats.

Other habitats throughout Australia harbour the same or similar animals without backbones, but this is dependent on the available food source.

At the top of the hill under broad-leaf peppermint and manna gums; wattles, she-oaks and wild cherry form a second level and under that are shrubs (smaller wattles, austral indigo, cassinia) and herbs and grasses of which kangaroo grass is dominant. Wallaby grass, love grass, weeping grass and tussock grass also grow there. Scattered in a fire break, in a spring-rich area, are greenhood, bearded, sun and onion orchids and also lobelia, austral buttercup, sweet hounds tongue, several lily species and other wildflowers. Mosses and maidenhair ferns indicate the site of springs. necklace and rock ferns grow at the foot of boulders.

A short way downhill black wattles form a dominant second level understorey with an under layer of sword-grass, sawsedges and Poa grasses in a wide band across the slope. This band comes to an abrupt end, giving way to messmates with blackwood wattles forming a second level. A similar selection of wildflowers among saw-sedges, sword-grass and tussock grasses grow as ground cover though there are very few orchids. An unusual adder's-tongue fern finds a home in thick moss on a huge boulder just visible above ground.

As the slope becomes shallower in stringy-bark woodland swamp gums and mealy stringy-barks form the top layer with black she-oak as the second layer. Hakea, seeds of which are keenly sought by yellow-tailed black cockatoo, is the dominant shrub. Smaller tussock grasses are the main ground cover interspersed with lilies, bearded orchids, everlasting daisies, spider and midge orchids, and an exciting number of other species. There are also several smaller wattles and red and yellow pea-flowered shrubs.

A narrow band of wet shrub-land lies along the northern boundary of the property where swamp gum stands over prickly tea-tree, swamp she-oak, and more hakeas. Ground covers include reeds, rushes, creeping bossieae and screw fern.

This has been a walk through a real 'web of life': a grassy woodland where trees, shrubs and grasses are home to birds, mammals, insects and spiders; where the larger eat the next size down; where the smallest things eat the green things or destroy eggs of other creatures. All the leftovers are reduced to compost by fungi that can even bring a tall tree crashing to the ground where it is commandeered by different species of animal life.

No legs

Flatworms



Order: Tricladida

Family: Geoplanidae

Geoplana sp.

Flatworms. These fragile beasties live in very damp places often under rocks or logs. They move on fine hairs. Most are egg laying carnivores. I have seen the yellow and brown species (left) devouring one of the khaki and cream species (below). The khaki one had stretched to 8cm long.





Order: Gastropoda

Family: Limacidae (introduced) Limax maximus

Leopard slugs are reputed to eat only dead plant material.

Snails



Order: Gastropoda

Family: Paryphantidae Victaphanta atramentaria

A native carnivorous snail. Notice that the shell lies horizontally.

Spider egg cases



Order: Araneae

Family: **Argiopidae Cyclosa** sp. Egg case. (see also adult p.32)

Family: **Deinopidae Deinopis subrufa** Egg case. (see also adult p.33)

Family: **Drassidae Hemicloea major** Egg case. 20mm diameter. (see also adult p.33)

Scale



Order: Hemiptera

Family: Coccidae Cryptes baccatus Wattle scale.

Family: Margardidae Icerya purchasi

1cm. Often on Acacia species in Australia, cottony scale devastated citrus in USA.

Lerps



Lacewing eggs



Family: Psyllidae

Lerp. A more common sugary cover is white. They are built only over immature psyllid insects.

(see also immature psyllid p.11)

Order: Neuroptera



The green or brown lacewings in these families lay eggs in this formation. (see also green/brown lacewings p.26)

Order: Hymenoptera



The reason for a few blades of grass dangling from a hole in a eucalypt trunk became obvious when a piece of split firewood revealed a tunnel filled with grass. Members of The Victorian Field Naturalists Club identified it as the nest of an unidentified grass-carrying wasp in a tunnel made by a beetle. The grass used is sweet vernal grass.

4 | No Legs

Six legs

Wasps



Order: Hymenoptera

Family: Ichneumonidae Lissapimpla excelsa

The orchid dupe or Ichneumon wasp attempts to mate with Cryptostylis species orchids and is the only pollinator for these species.

Family: Ichneumonidae Xanthopimpla sp.

Unidentified wasp.

Ants

Order: Hymenoptera

Ant species are identified through their workers. There are about 4000 species of ant in Australia.



Family: Formicidae Amblyopone sp. A queen ant.



Family: Formicidae Camponotus nigriceps Sugar ant on a Ghania radula leaf.

Family: Formicidae Myrmecia forficata (the small black ant)

Beetles



Order: Coleoptera

Family: **Anobiidae** Red beetle with white spots. Spots are on top of peaks. 3mm.

Family: **Anthicidae** Watermark beetle. 1.5cm. Pattern changes like watermarked silk

Family: Buprestidae Castiarina kerremansi

Adults of this jewel beetle are nectar feeders.



Family: **Cantharidae Chaliognathus lugrubis** Soldier beetle. 8mm.

Family: **Cerambycidae** (1200 species) **Phoracantha tricupis** Longicorn beetle.

Family: **Cerambycidae** Longicorn beetle.

Family: **Chrysomelidae Paropsis** sp. One of 300 species of eucalyptus leaf beetle. 9mm.

Family: Chrysomelidae Peltoschema orphana

Fireblight beetle. Larvae of this leaf beetle have been known to strip most flower buds from black wattle which recovered in time for next season. 8mm.













Family: **Cleridae Phlogistus** sp. Soldier beetle. 8mm.

Family: **Coccinellidae Cleobora mellyi** Ladybird beetle. 8mm.

Family: Elateridae Crepidomenus sp.

This click beetle has a unique mechanism of a spine that fits into a hollow in the wing covers enabling it to jump up to 1.5 metres into the air.

Family: **Lucanidae Lamprina** sp. Female stag beetle. 2.5cm.

Family: Lycidae Metriorrhynchus sp. Lives among foliage and blossom. 2.5cm.

Family: **Melyridae Dicranolaius** sp. Red and black beetle. 1cm.





Family: **Passalidae Mastachilus** sp. 5.5cm.

Family: Passalidae Parochilus sp. 3.2cm.



Family: Scarabaeidae Chondropyga gulosa



Family: **Scarabaeidae Xylonychus** sp. 3cm.

Family: Staphylinidae

There are 922 described species of rove beetle in Australia though there are probably twice that number. They live in soil, leaf litter, dung and fungi.

Eulsissus chalcopterus

Rove beetle. 5cm.



Family: **Staphylinidae Paederus** sp. Rove beetle. 5cm.



Family: **Tenebrionidae Adelium** sp. This beetle has a flange either side of the first part of it's body. 1.3cm.





Family: **Tenebrionidae Ecnolagria grandis** Honeybrown beetle. 1.5cm. (see also larvae p.37)

Unidentified tan beetle with one spot on each side. 1cm.



Unidentified black beetle with white spots.

Weevils



Order: Coleoptera

Family: Belidae Rhinotia hemisticus

Long-nosed weevil. 1.5cm. Feeds on wattles.

Family: **Curculionidae Chrysolopus spectabilis** Botany Bay weevil. 2.5cm.



Family: **Curculionidae** Weevil.

Psyllids



Bugs



Order: Hemiptera

Family: Psyllidae

Immature psyllid (nymph) on eucalypt leaf. The nymph lives under a lerp, sucking sap, until ready to fly. (see also lerp p.4)

Order: Hemiptera

Family: **Pentatomidae Dolycorus bascarum** Brown shield bug.





Family: **Pentatomidae Notius** sp. Black shield bug.

Family: **Pentatomidae Commins elegans** Shield bug.



Family: **Reduviidae Zelus** sp. Assassin bug.

Family: **Reduviidae** Immature assassin bug.

Butterflies

Order: Lepidoptera

Family: Nymphalidae

This family appears to have only four legs as one pair of legs has been reduced to a hair-like form.

Geitoneura acantha

Eastern ringed xenica. 2.5cm.



Family: **Nymphalidae Heteronympha merope** Common brown (female). 3cm.



Family: **Nymphalidae Vanessa kershawi** Australian painted lady. 2cm.



Family: **Pieridae Anapharis java** Caper-white. Blown from NSW duing migration.



Family: **Pieridae Delias harpalyce** Imperial white, under side. 3cm.





Family: Pieridae Delias aganippe

Wood-white. 3cm. (left) underside of a specimen not long emerged from a cocoon and sunning its wings to fully extend them ready for flight. (above) top view.

The most obvious difference between butterflies and moths is the way they hold their wings when at rest. Butterflies sit with wings upright when they land after a flight. Moths' wings are usually folded down to cover the body. Both stretch their wings sideways when newly emerged from a cocoon.



Order: Lepidoptera

Family: Anthelidae Anthela ocellata Eyespot anthelid moth. 3cm.



Family: Anthelidae Chelepteryx collesii (see also larvae p.38)

Family: **Anthelidae** Anthelid moth. 1.8cm.

Family: **Anthelidae** Anthelid moth. 1.8 cm.

There has been little work done on the Anthelidae and few have been named. Dr Don Herbison-Evans (2007) highlights the difficulties and lack of attention to this family:

"The trouble is that variations of wing colour and pattern within some species are greater than the differences between different species. For example one species held at Macleay Museum at Sydney University has green ones and red ones, some with no pattern and some with complex patterns. As the family Anthelidae occurs only in Australia and New Guinea, entomologists in US and Europe aren't very interested in it, and the whole family is in great neglect."



Family: Arctiidae Anestia ombrophones Clouded footman. 1cm.



Family: **Arctiidae Asura lydia** Orange spotted moth.



Family: Arctiidae Nyctemera amica Magpie moth. 1.5cm. (see also larvae p.38)



Family: Arctiidae Scolacma bicolora







Family: Arctiidae Utetheisa lotrix Heliotrope moth. 2cm.

Family: **Crambidae Hednota pleniferillus** Pasture web worm moth. 2cm.

Family: Crambidae Hednota sp.

This genus of moths hang under grass as they emerge and after disturbance.



Family: Crambidae Hednota sp. 1.2cm.

Family: Crambidae Hednota sp. 1.5cm.

Family: **Crambidae Hednota relatalis** Pasture web worm moth. 2cm. (left above) moth full length and (left) head.



Family: Geometridae Chlorocoma declorania 10mm.

Family: Geometridae Chrysolarentia insulata











Family: **Geometridae Circopetes obtusa** Twisted moth. 2.5cm.

Family: **Geometridae Epidesmia chilonaria** Triangular moth. 4cm.

Family: Geometridae Phrissogonus laticostata

Male. 1cm. The female does not have the peaks at front of wings. Reminds me of stealth fighter plane.

Family: **Geometridae Thalaina clara** Clara satin moth. 2cm.

Family: **Hepialidae Aenaetus ligniveren** Splendid ghost moth. 4cm.



Family: Hepialidae Elhamma australasiae

18 | Six legs



Family: Hepialidae Oxycanus dirempta 3cm.





Family: Lymantriidae Acyphas semiochrea

White tussock moth. Female with gold hairs at end of abdomen. 3cm.

Family: Noctuidae Agrostis infusa

Bogong moth. 1.5cm. This moth migrates to the Australian Alps in spring where, in the past, Aborigines feasted on them.

Family: **Noctuidae Dasypoda selenophora** Old lady moth. 3cm.



Family: Noctuidae Mamestra dictyota 2cm.

Family: Noctuidae Mythimna convecta 2cm.

Family: Noctuidae Pantydia sparsa 2cm.

Family: **Noctuidae Persectania** sp. Note the elaborate antennae of a male.

Family: Noctuidae Proteuxoa atra





Family: Noctuidae Sandava scitisignata 1.5cm.

Family: **Noctuidae Uraba lugens** Gum-leaf skeletoniser. 2.5cm.

Family: Oecophoridae Piloprepes anassa



Family: **Pyralinae Pyralis farinalis** 2cm.



Family: **Thaumetopoeidae Epicoma melanospila** Black-spot moth. 2cm.

Cockroaches



Dragonflies

Order: Blattodea

Family: Blattodae Laxta granicola

A native cockroach. Some species of cockroaches can take up to six years to mature.

Order: Odonata



Unidentified dragonfly.

There are six families of dragonfly known/unique in Australia. Dragonflies always hold their wings horizontally when at rest.

Grasshoppers



Order: Orthoptera

Family: Acrididae Goniaea sp. Furry grasshopper. 5cm.

Family: Pyrgomorphidae Actromorpha sp.

One of 24 species of cone-headed grasshopper in Australia. 4cm.

Family: Acrididae Grasshopper

Crickets



Flies

Order: Orthoptera

Family: Gryllotalpidae Gryllotalpa nitidula

Mole cricket. The volume of the male's call is increased by internal walls of the burrow that are smoothed in the shape of an amplifying horn.

Order: Diptera

Family: Asilidae Cerdistus constrictus Robber fly. 9mm.





Family: Asilidae

Neoaratus sp.

Robber fly. 4.5cm.

This large fly captures prey in mid-air with lightning fast movements of its clawed legs! Once prey is captured it sits on vegetation to suck juices from the victim.

(left above) top view and (left) underside.

Family: Asilidae Robber fly.



Family: Dolichodidae

Long-legged fly. One of 320 species that have metallic green to bronze bodies. Other insects become their food.

Family: **Mantispidae** (45 species) Mantis fly. 2cm.

Family: **Psychodidae** Moth fly. 3mm.

Family: **Syrphidae** Hover fly on Australian bluebell. 1.5cm.

Family: **Tabinidae Scaptia** sp. This fly is related to march and horse flies but is a nectar eater.

(left above) top view and (left) front.



Unidentified fly.

Mosquitoes



Order: Diptera

Family: Culicidae

(275 species)

Male mosquitoes are vegetarian. This one is enjoying cooked swede. Longlegged flies and scorpion flies are sometimes mistaken for mosquitoes but they do not have the long sucking mouth part (proboscis).

Scorpion flies



Order: Mecoptera

Family: Bittacidae Harpobitticus tillyardi

Scorpion fly. The very long legs give it an ungainly gait. Flying prey is caught by claws on hind legs.

Lacewings





Order: Neuroptera

Green lacewing. 1.1cm. (see also lacewing eggs p.4)

Family: **Hemerobiidae Micromus tasmaniae** Brown lacewing. 1cm. (see also lacewing eggs p.4)



Family: Nymphidae

Nymphes myrmeleonides

Yellow lacewing. This lacewing lays its eggs without stems in a 'U' formation on a leaf. Imagine tiny white Australian rules footballs arranged end to side alternately like a string of beads.



Family: Myrmeleontidae Glenurus circuiter

Ant lion is a lacewing larvae that catches ants that tumble into its conical hole.

Termites



Order: Isoptera

Family: Kalotermitidae Glyptotermes sp.

This termite forms nests in dead wood in ground.

Family: **Termopsidae Porotermes adamsoni** A damp-wood termite soldier.

Leafhoppers



Order: Hemiptera

Family: **Cicadellidae** (664 species)

Brunotartesus fulvus

Brown leafhopper. 8mm. Leaf hoppers are sap suckers.

Family: **Cicadellidae** This insect is possibly a leafhopper. 5mm.

Family: Flatidae Siphanta acuta

Green leafhopper. Looks like spines when a group lines up on a stem.

Super Family Fulgoroidae. Blue fulgoroidid leafhopper.

Stick Insects

Order: Phasmatodea



Family: Phasmatidae

Stick insects are foliage-eaters that lay up to 1000 eggs. These can take several years to hatch according to conditions.

(left) green stick insect and (below) red stick insect.





Family: **Phasmatidae Tropidoderus childrenii** Children's stick insect.

Mantids

Order: Mantodea



Family: Amorphoscelidae Gyromantis sp.



Tenodera australasiae

Praying mantis. (above) full length and (left) here's looking at ya!

Eight legs

Scorpions



Order: Scorpiones

Family: Buthidae Lychas variatus Marbled scorpion. 3cm when tail is extended.

False scorpions

Order: Pseudoscorpionida

Family: Pseudoscorpionidae Neopseudogarypus scutellatus

Pseudo scorpion. 1cm. The 'arms' with claws are really modified legs.

Order: Araneae

Family: Araneidae Spiders in this family always sit head down in the web.

Eriophora biapicata 1.2cm.

Family: Araneidae Eriophora heroine Garden spider. 1.5cm.











Family: Araneidae

(most likely)

Eriophora transmarina

Garden orb-spinner spider resting in a daytime haunt. 1.6cm. There are a variety of colour and design variations in this species.

Family: **Argiopidae Araneus** sp. Enamelled spider. 1.4cm.

Family: Argiopidae Argiope keyserlingi St Andrew's Cross spider. 1.4cm.





Family: Argiopidae Argiope trifasciata



Female. 2cm. (left) underside and (centre) top view; Male 6mm (right).









Family: **Argiopidae Cyclosa** sp. 8mm. (see also egg case p.3)

Family: Argiopidae Gasteracantha minax

Spiny spider. Lives in colonies on untidy web complex. 1.5cm.

(left above) top view and (left) underside.

Family: **Argiopidae Gea theridioides** 6mm.

Family: **Argiopidae Arachnura higginsi** Tailed spider. 1cm.

Family: Cinaphosidae Stephanopsis sp.

Appears to be wearing ankle warmers on its front legs. 1cm.











Family: Clubionidae

Supunna sp.

1.5cm. Runs very fast on only six legs, mimicking a hunting wasp by waving the two forelegs above its head.

Family: Deinopidae Deinopis subrufa

Net-casting spider. 2cm. Members of this family have the remarkable ability to catch their prey, even moths in flight, by casting a net over it.

(see also egg case p.3)

Family: **Drassidae Hemicloea major** 2cm. (see also egg case p.3)

Family: Linyphiidae Duramos sp. 1.2cm.

Family: **Lycosidae** Female wolf spider carrying young. The only family to do this.



Family: Salticidae

Jotus auripes

Top view showing distinctive white ridge. 4mm.

Family: **Salticidae Maratus** sp. Jumping spider. 5mm.

Family: **Salticidae Breda jovialus** Jumping spider. 1.2cm.

Family: **Salticidae Servaea** sp. Jumping spider. 1.3cm.

Family: **Salticidae Helpis** sp. Slender jumping spider. 1.5cm.

Family: **Sparassidae Delena cancerides** Brown huntsman. 2cm.



Family: Sparassidae Halconia immanis

Grey huntsman. 2.5cm. Folklore says that if this spider comes inside it will rain soon!

Family: Tetragnathidae Phonognatha sp.

This is the spider that sits in a curled leaf with only its long legs showing at the bottom. 1cm.

Family: Theridiidae Achaeranea veruculata 4mm.

Family: **Thomisidae Cymbacha** sp. Flower spider. 4mm.

Family: **Thomisidae Diaea** sp. Flower spider. 3mm.



Family: **Thomisidae Diaea** sp. Flower spider

Family: Thomisidae Hedana sp.

Family: **Thomisidae Rucinia elongata** 1cm.

Mites



Order: Acarina

Family: **Trombidiidae Trombidium** sp. Red-velvet mite. 6mm.

Harvestmen



Order: Opilionida

Family: Phalangiidae Opiliones sp.

Harvestman. 6mm. Unlike spiders this tiny creature does not have a waist. Another distinuguishing feature is the one pair of extra long legs.

How many legs?

Grubs



Order: Coleoptera

Family: **Tenebrionidae Ecnolagria grandis** Larvae skeletonising fallen leaf. 1.5cm. (see also adult p.10)

Case-moths

Order: Lepidoptera

Cases can be indicative of species but not enough research has been undertaken to enable identification of some.



Family: Psychidae Cebysa lencotelus 2cm.

Family: **Psychidae Hyalacarta huebneri** Leaf case-moth on sedge. 1.5cm.

Family: **Psychidae** Lepidoscia sp. Case-moth. 1.5cm.

Family: **Psychidae** Case-moth.



Family: **Psychidae Metura elongatus** Saunder's case-moth

Caterpillars

Order: Lepidoptera

The number of legs that caterpillars have range from none to 18 which seemed to be a good reason to include them in this section. The adults of different species can have four or six legs.



Family: **Anthelidae Chelepteryx collesii** Caterpillar. 8cm. (see also adult p.15)

Family: Anthelidae Chelepteryx sp.

Family: **Arctiidae Nyctemera amica** Magpie moth caterpillar. (see also adult p.16)

38 | How many legs?



Family: **Geometridae Chelnias** sp. Chelnias moth caterpillar.

Family: Geometridae Crypsiphona ocultaria Red-lined geometrid.

Family: Geometridae

Sub-family Oenochrominae. Possibly **Gastrophora** sp. 3cm. In captivity this caterpillar ate broad-leafed eucalyptus leaves at night.

Family: Geometridae Phallaria ophiusaria

This brown leaf moth caterpillar holds itself immobile to mimick a twig even while held in your hand.

Family: Lymantriidae Teia anartoides Painted acacia moth caterpillar.

Family: **Noctuidae Hecatesia fenestrata** Whistling moth caterpillar.

Family: **Thaumetopoeidae Trichiocercus sparshalli** Sparshalli moth caterpillar.

Centipedes

Order: Scutigeromorpha



Family: Scutigeridae Scutigera coleoprata

House centipede (introduced). 3.5cm. Each leg is powered by 34 muscles.



Family: Julidae Ommatoiulus moreletti Portugese millipede. Introduced and can be a pest. (left) juvenile and (right) adult 4cm.

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There are many books and magazines available from libraries and good bookshops. In addition, here are some internet sites to try: Dr Don Herbison-Evans 2007: http://ozmoths.topcities.com/larvae.html; University of Queensland: http://www.usq.edu.au/spider/find/family.htm; Macleay Museum, University of Sydney; Melbourne Museum; CSIRO.

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Scientific names may change as they are continually under review. I take full responsibility for any mistakes in any text but live in hopes that none get through.

Proceeds from this book will be forwarded to the Upper Beaconsfield Conservation Group Inc.

