

**Pollinator Insects of the South West slopes of NSW and North East Victoria**

This guide has been prepared to aid identification of a selection of common pollinator insects.

This guide provides a good starting point, but many species can look similar. Please see the references and websites listed if you would like help with accurate species identification.



Orange ichneumon wasp *Ichneumonidae*

**Online pollinator information resources**

Aussie Bee [aussiebee.com.au](http://aussiebee.com.au)

Bee Aware Australia [beeawareaustralia.org](http://beeawareaustralia.org)

Australian Museum Plant2pollinator [australianmuseum.net.au/welcome-to-plant2pollinator](http://australianmuseum.net.au/welcome-to-plant2pollinator)

PaDIL Australian Pollinators [padil.gov.au/pollinators](http://padil.gov.au/pollinators)

Bowerbird [bowerbird.org.au](http://bowerbird.org.au)

Victorian butterflies [museumvictoria.com.au/bioinformatics/butter/images/bthumbmenu.htm](http://museumvictoria.com.au/bioinformatics/butter/images/bthumbmenu.htm)

Atlas of Living Australia [ala.org.au](http://ala.org.au)

Wild Pollinator Count [wildpollinatorcount.com](http://wildpollinatorcount.com)

**Photography**

All photographs have been donated by Manu Saunders, Karen Retra, James Abell

Cover photograph: Plague soldier beetle, *Cantharidae*

**Acknowledgements**

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# Pollinator Insects of the South West slopes of NSW and North East Victoria

An identification and conservation guide



**Hymenoptera: Bees**



Blue-banded bee *Apidae*



Chequered cuckoo bee *Apidae*



Common spring bee *Colletidae*



European honey bee *Apidae*



Golden-browed resin bee *Megachilidae*



Halictid bee (*Lipotriches* sp.) *Halictidae*

**Hymenoptera: Bees**



Halictid bee *Halictidae*



Hylaeus bee *Colletidae*



Hylaeus bee (bubbling) *Colletidae*



Large *Lasioglossum* sp. *Halictidae*



Leafcutter bee *Megachilidae*



Red bee *Halictidae*

**Hymenoptera: Bees**

- Around 2,000 native bee species currently known.
- Mostly found in sunny, open woodlands, gardens and meadows with lots of flowers.
- Active when it is warm, fine and calm or only lightly breezy.
- Nest in bare sandy soil, or cavities of dead wood or stone walls.
- Size range: 5 mm to over 2 cm; colours: black, gold, red, yellow or green, often with stripes on abdomen.

**Hymenoptera: Wasps, Ants & Sawflies**



Ant *Formicidae*



Cream-spotted ichneumon wasp *Ichneumonidae*



Cuckoo wasp *Chrysididae*



European wasp *Vespidae*



Flower wasp (female, wingless) *Tiphidae*



Flower wasp (male) *Tiphidae*

**Hymenoptera: Wasps, Ants & Sawflies**



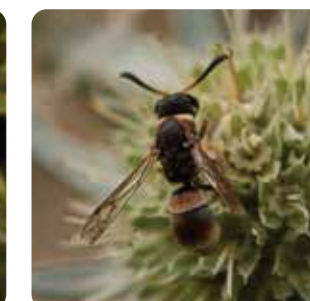
Gasteruptionid wasp *Gasteruptionidae*



Hairy flower wasp *Scoliidae*



Orange ichneumon wasp *Ichneumonidae*



Paper wasp *Vespidae*



Paper wasp *Vespidae*



Sawfly adult *Tenthredinidae*

**Hymenoptera: Wasps, Ants & Sawflies**

- Around 8,000 native species currently known; many more undescribed.
- Found in all habitats. Wasps lay eggs in leaf litter, cavities, bare soil or other insects; ants build nests underground or in trees; sawflies lay eggs under leaves.
- Size range: 0.1 mm to over 10 cm; colours: black, red, orange, brown, gold.
- Wasps are also predators and parasitoids of other insects; sawfly larvae (some species called 'spitfires') can be pests of eucalypts when abundant; ants are predators of other insects and some species contribute to soil health.

## Diptera: Flies



**Bee fly (hairy)**  
Bombyliidae



**Bee fly (large)**  
Bombyliidae



**Blow fly**  
Calliphoridae



**Blow fly**  
Calliphoridae



**Drone fly**  
Syrphidae



**Flesh fly**  
Sarcophagidae



**Hover fly (Ischiodon sp.)**  
Syrphidae



**Hover fly (Melangyna sp.)**  
Syrphidae



**Lauxaniid fly**  
Lauxaniidae



**March fly**  
Tabanidae



**Rhiniid fly**  
Rhiniidae



**Soldier fly**  
Stratiomyidae

### Diptera: Flies

- About 7,000 native species currently known; many more undescribed.
- Found in all types of habitat; lay eggs in leaf litter, cavities, bare soil, other insects, or rotting organic matter.
- Active through winter and at lower temperatures, compared to native bees.
- Size range: 1 mm to over 3 cm; colours: black, yellow, orange, green, grey, brown. Usually distinguished from bees and wasps by lack of waist and large bulbous eyes.
- Most species are predators or parasitoids of other insects.

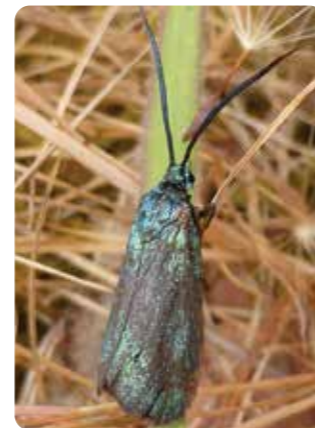
## Diptera: Flies



**Australian painted lady**  
Nymphalidae



**Bogong moth**  
Noctuidae



**Burnet**  
Zygaenidae



**Cabbage white**  
Pieridae

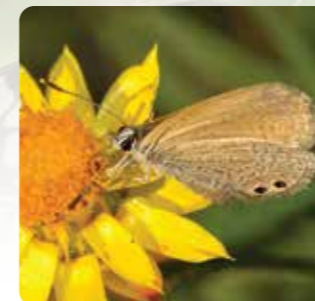


**Common grass blue**  
Lycaenidae



**Common grass blue**  
Lycaenidae

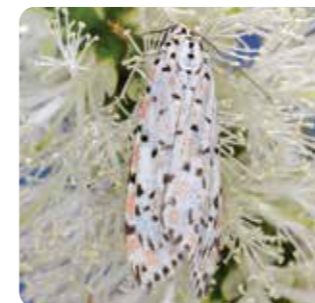
## Lepidoptera: Butterflies & Moths



**Double-spotted line blue**  
Lycaenidae



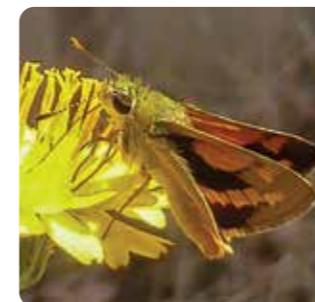
**Hawk moth**  
Sphingidae



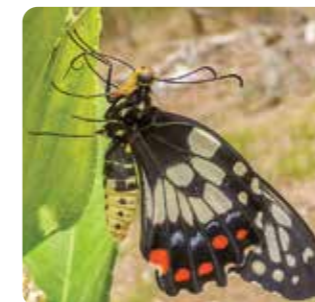
**Heliotrope moth**  
Arctiidae



**Red-spotted Jezebel**  
Pieridae



**Skipper**  
Hesperiidae



**Swallowtail**  
Papilionidae

### Lepidoptera: Butterflies & Moths

- About 10,000 native species currently known; more undescribed.
- Found in all types of habitat; lay eggs in leaf litter or on plants.
- Pupa stages found hanging from tree stems (butterfly chrysalis) or spun around branches or leaves (moth cocoon).
- Butterflies mostly active in day, moths generally active at night; but many day-flying moths too!
- Most larvae feed on plants (foliage or wood), a few feed on other insects; can be pests when present in high numbers.
- Size range: wingspan 3 mm to over 20 cm.

## Lepidoptera: Butterflies & Moths

### Why do pollinators matter?

- Many flowering plants (food crops and native plants) rely on insect pollinators to set fruit.
- In Australia, there are many specialised native plant-pollinator relationships, so pollinator conservation is not just about focusing on the most common species.
- While honey bees are perhaps the most recognised pollinators, they are an introduced species. However, there are thousands of Australian native pollinators too.
- Many of these insects play other important roles in the ecosystem in addition to pollination, such as biological control or waste decomposition, and are important contributors to biodiversity generally.



*Many native plants have co-evolved with native pollinators*

### How can I help?

- Make sure your property supports a diversity of flowering plants and that flowers are available for most of the year.
- Pollinators need non-floral resources too, e.g. tree resins, nest sites, water.
- Provide pollinator nest sites: bee hotels, dead wood or plant stems, small areas of bare sandy ground and leaf litter patches.
- Reduce your use of chemical sprays. Many pesticides will kill pollinators as well as pests; overuse of herbicides can remove many of the flowering herbs that pollinators rely on throughout the year.
- Record and share your observations to help build knowledge about these species. Citizen science projects including websites and mobile apps allow you to share your sightings with others and may help you with identification, e.g. BowerBird.org.au and the biannual Wild Pollinator Count.

*N.B. Not all insects on flowers are true pollinators. Some might be eating pollen on one flower without transferring it to another (which is how pollination happens). You won't always be able to tell, but you can have an educated guess based on the insect and its activity on the plant. Tiny, flightless insects that rarely move between flowers will probably not be great pollinators. If the plant has male and female flowers on separate plants, the insect will need to move between plants to cause pollination. However, in general, most insects you see on flowers can be considered 'potential' pollinators.*

## Coleoptera: Beetles



**Golden stag beetle**  
Lucanidae



**Jewel beetle**  
Buprestidae



**Ladybird**  
Coccinellidae



**Longicorn beetle**  
Cerambycidae



**Pintail**  
Mordellidae



**Plague soldier beetle**  
Cantharidae

### Coleoptera: Beetles

- Over 20,000 native species currently known; many more undescribed.
- Found in all habitats, terrestrial and freshwater; diverse life histories in 3 main groups: herbivores, predators and scavengers.
- Not all species are pollinators, or even flower visitors! Beetles don't fly far, so most potential pollinator beetles will be found on flowers.
- Size range: 0.4-80 mm; characterised by hard forewings (elytra)