



# national science week 2020

## Backyard Bioblitz – Insects at night

*Insects such as ants, dragonflies, butterflies, and grasshoppers are most active during the day but, apart from pesky mosquitoes, what insects are most active at night?*

### Safety

When doing science activities outdoors at night, wear long pants and a long-sleeved shirt to protect your skin from biting insects, and, if necessary, protect exposed skin with insect repellent (although this might affect the results of this activity). Wear comfortable, closed-in shoes.

### What you need

A white pillowcase, a small glass jar with a lid, and a bright torch or lantern. A yellow-coloured light won't work as well as white or blueish light. If you have access to a blacklight, that is even better.



### What to do

The aim is to light up the white pillowcase to attract as many insects as possible.

1. Find a dark location, away from other sources of light, and near some plants.
2. Either hang the pillowcase vertically or lay it flat on a small table or on the ground.
3. Place the torch or lantern close to the pillowcase to cast as much light as possible on the white fabric.
4. Wait for some nocturnal insects to arrive and record what you see. Try photographing the insects with a good quality camera or smartphone, or sketch the insects in the space provided on the next page. To take a closer look, catch an insect in a small glass jar and release it again after you have finished looking at it.
5. Identify the insects using online resources, such as the CSIRO insect identification website: <http://anic.ento.csiro.au/insectfamilies>

If you don't find many insects, try again on a warmer evening when insects are more active, or move the activity to a different location.



Lacewing

Image by: [Jean and Fred](#)



Bogong moth

Image by: [Atlas of Living Australia](#)





## What's happening?

Some common insects that are attracted to light at night are: moths, beetles, bugs, and flies. Nocturnal insects have the advantage of moving around while predators are sound asleep, but why are some of them attracted to artificial light? The behaviour of an animal moving towards a light source is "positive phototaxis". The opposite, moving away from light, is "negative phototaxis" and this behaviour can be seen in a cockroach as it scurries under a cupboard when a light is switched on. There is no clear answer as to why insects, such as moths, are attracted to light. It could be that some insects use moonlight for navigation, keeping the Moon to one side as they fly in a certain direction. An artificial light might confuse an insect and cause it to fly in circles in an attempt to keep the light on one side of its body, but nobody really knows for sure.

## Results

How many different nocturnal insects did you see?

Take photographs of your discoveries or sketch them here.

## Did you know?

There are an estimated 200,000 species of insects in Australia which means that most of the animals in Australia are insects. The features that make something an insect are a body made up of three segments (head, thorax and abdomen), an exoskeleton (hard outer covering), and at least three pairs of legs. Entomologists (scientists who study insects) organise insects into a number of groups including: beetles (Coleoptera); butterflies and moths (Lepidoptera); flies (Diptera); dragonflies (Odonata); bees, wasps, and ants (Hymenoptera); and true bugs (Hemiptera). The term 'true bugs' refers to insects such as cicadas and stink bugs which have mouths that can suck fluids but cannot chew food.

## Find out more

- Discover more about common insects in your backyard or local park with Backyard Buddies <https://www.backyardbuddies.org.au/explore/bugs-and-insects>
- Delve into entomology at the Australian Museum website <https://australianmuseum.net.au/learn/animals/insects/>
- Explore the importance of the Bogong moth (*Agrotis infusa*) in Wiradjuri culture <https://youtu.be/NPI-YIOW6-A>  
[https://austhrutime.com/aboriginal\\_use\\_bogong\\_moths.htm](https://austhrutime.com/aboriginal_use_bogong_moths.htm)