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CATERPILLARS

Caterpillars are the larvae of moths and butterflies. It's often easier to find the larvae than the adults because they tend to stay in one place, more or less. Isn't it amazing that these are the same animal?

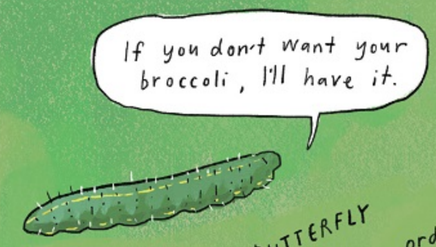
Calcarifera ordinata WATTLE CUP MOTH

Caterpillars can make silk and some of them use it like a bungee rope to get away quickly from predators. They drop off a leaf and dangle upside down in midair, hoping that by the time they've climbed back up their thread the danger has passed.

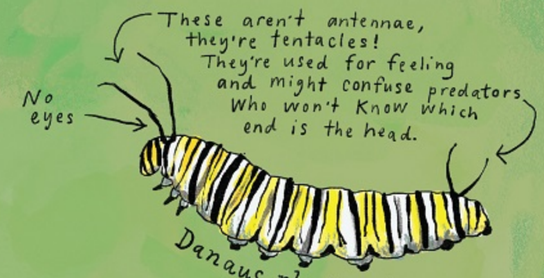
While some caterpillars have extravagantly bright skin that makes them look poisonous, others are masters of hide and seek.

CLASSIC CATERPILLAR CAMOUFLAGE

Caterpillars are fussy eaters, so if you find one crawling up your sleeve, see if you can put it back in the right spot.



Pieris rapae
WHITE CABBAGE BUTTERFLY
Eats plants in the Brassicales order which includes cabbage, broccoli and nasturtium



Danaus plexippus
MONARCH BUTTERFLY
Eats milkweed plants

Opodiphthera eucalypti
GUM EMPEROR MOTH
Usually found dining on eucalyptus tree leaves

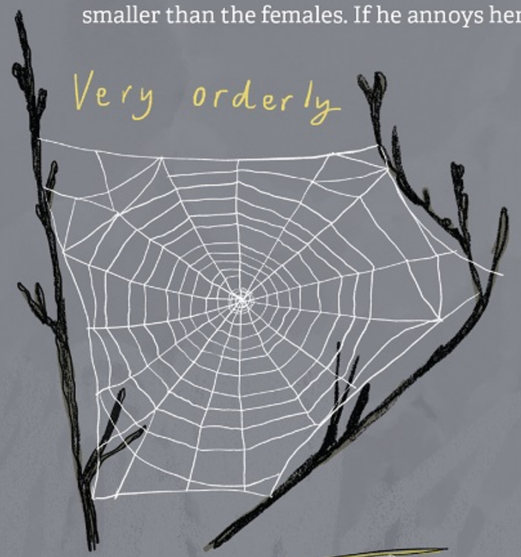
Uresiphita polygonalis maorialis
KŌWHAI MOTH
Only eats plants in the pea and bean family (Fabaceae)

Caterpillars that make this shape with their bodies when they walk are called LOOPERS

If you're hunting for caterpillars, you might first spot droppings in a pile at the base of a leaf. If the droppings are pale it means they're fresh and the caterpillar must be very close by.

DIFFERENT WEBS FOR DIFFERENT SPIDERS

Spiders are wonderful engineers and build webs in lots of different forms. Here are just a few of them. It's usually only female spiders that build webs. Occasionally you'll see a male spider on a web, inching cautiously towards a female he'd like to mate with. He has to plan his approach carefully because in many cases male spiders are much smaller than the females. If he annoys her, she might eat him.

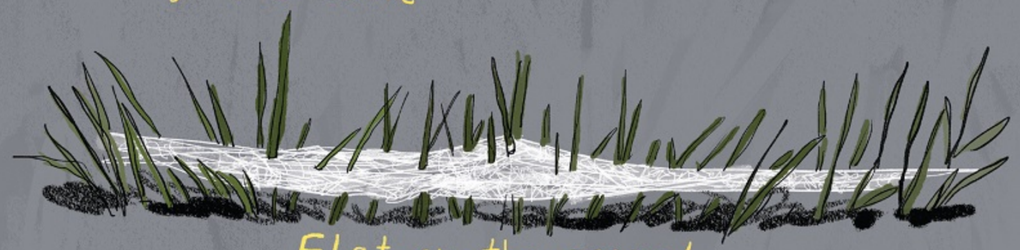


Very orderly

A snug home for the whole family

Young nursery web spiders

Messy but effective



Flat on the ground

A particularly good time to look at spider webs is on a dewy morning. Each silk thread hangs heavy with tiny, sparkling beads of water. It's very pretty.

BEES

Honey bees and bumblebees are the types of bee you're most likely to encounter. Happily, they're small but not microscopic so we can easily see what they're doing. See if you can spot a bee cleaning herself. She'll use her legs to comb her hair in a way that's almost catlike.

If you let a bee mind her own business and you're not disturbing her hive, she's very unlikely to sting you, so there's no need to be afraid when you see one.

SOME HONEY BEE BUSINESS

People keep honey bees in hand-built hives all over the world, so they're not wild animals. But you can't put a leash on a bee, let alone 50,000 bees from one hive. Luckily, they're nice to have around. The scientific name for honey bees is *Apis mellifera*, meaning "bee that bears honey".

Honey bee drones (males) have one purpose: to mate with a queen bee so she'll lay eggs. Mating can be over quite quickly. The honey bees that you see on flowers are all females.

A HONEY BEE DRONE

If a bumblebee lifts its middle leg it means "LEAVE ME ALONE!"

This spotty mushroom is probably the most famous fungus in the world. Just about everyone recognizes it, but not everyone knows its name. It's called *Amanita muscaria*, or fly agaric, because of its traditional use as an ingredient in fly traps.

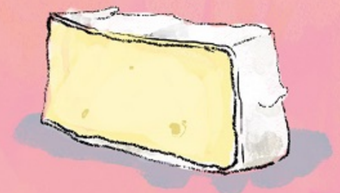
Lots of small creatures like to eat fungi. Look very, very closely and you'll see tiny beetles, grubs, snails and slugs having a feast.

LITTLE BROWN MUSHROOMS (LBMs)

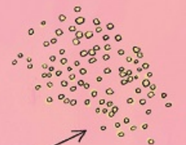
Identifying different species of fungi can be so tricky that sometimes even experts struggle to know which is which without studying them in a laboratory. There are so many types of little brown mushroom that that's exactly what scientists call them when they're not sure precisely what sort of little brown mushroom they are. So, if you find one, you can say with confidence: I have found a Little Brown Mushroom!

EVERYDAY FUNGAL ENCOUNTERS

Inside a compost bin



The silky white layer covering Camembert cheese



Dried balls of yeast from a packet

Yeast is a type of fungus. Thank a fungus for warm, crusty bread!

Microscopic wild yeast in the air all around us

A delicate, wispy fungus growing on a dog poop

When you forget to empty your school lunch box for a couple of days

ANTS

A crack in the pavement or a little gap at the bottom of a concrete wall is just the sort of place that an ant (and her 10,000 sisters) might live. Ants are always busy doing something, which makes them very interesting to observe. There's so much to learn about ants that the study of them gets a name of its own: myrmecology.

Ants belong to the order Hymenoptera, which includes wasps and bees. And like some of their Hymenoptera cousins, ants live in colonies. Other things they have in common:


Some species have a stinger for injecting venom


Their mouthparts have evolved to chomp and chew


Their larvae are quite maggotty in form


Gathers food


Looks after the eggs and young ants


Defends the nest

Every ant colony has at least one queen. She's the only one who can lay eggs. A queen ant is made when a larva is fed a particular diet. Newborn queens have wings so that they can fly away and start a new colony far from where they were born. Once they've settled down, they lose their wings and stay safely ensconced in their nest.

The ants you see out and about are female worker ants. They perform many different jobs to keep the colony running smoothly.

Male ants only have one job—leave the colony and find a queen to mate with!

KNOW YOUR ANTS!

Some ant species won't mind if you sit next to them and quietly watch what they're doing. Other kinds of ant will not tolerate it AT ALL and could give you a painful bite or a sting, such as the bull ant of Australia or the American bullet ant. So bear that in mind.

BLACK HOUSEHOLD ANT

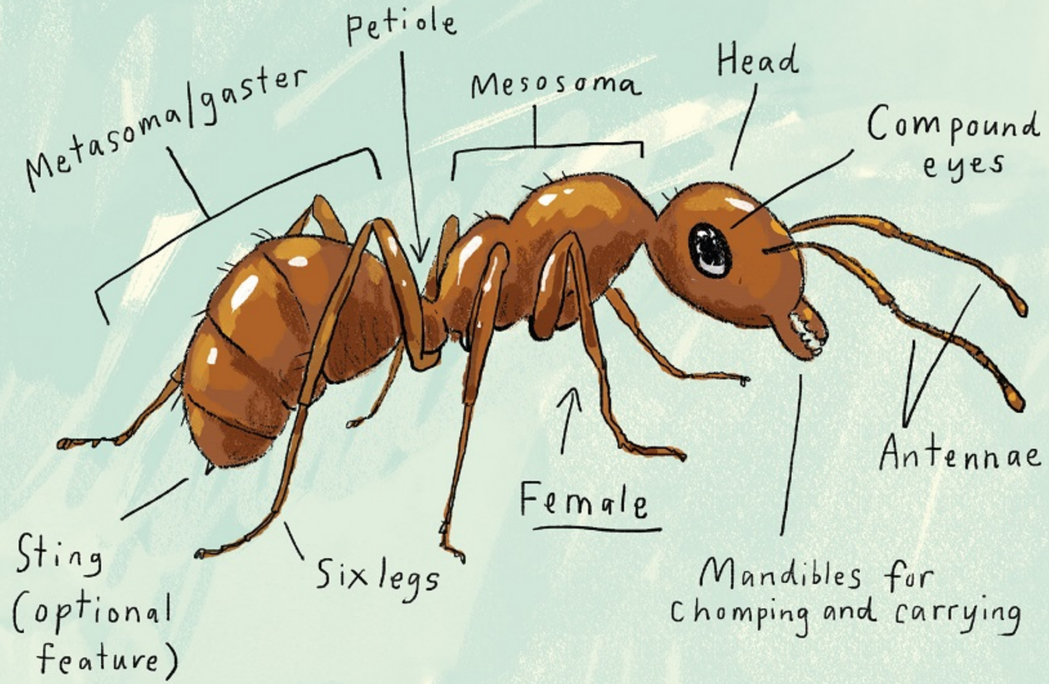
tickles

BULL ANT

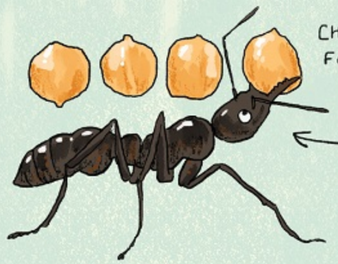
Stings

A TYPICAL WORKER ANT

Ants are built a bit differently from most insects: instead of an abdomen and thorax, they have a mesosoma and a metasoma (or gaster).



Actual size of a Carebara bruni worker ant



You can follow a highway of ants to find out where they're going and what they're doing.