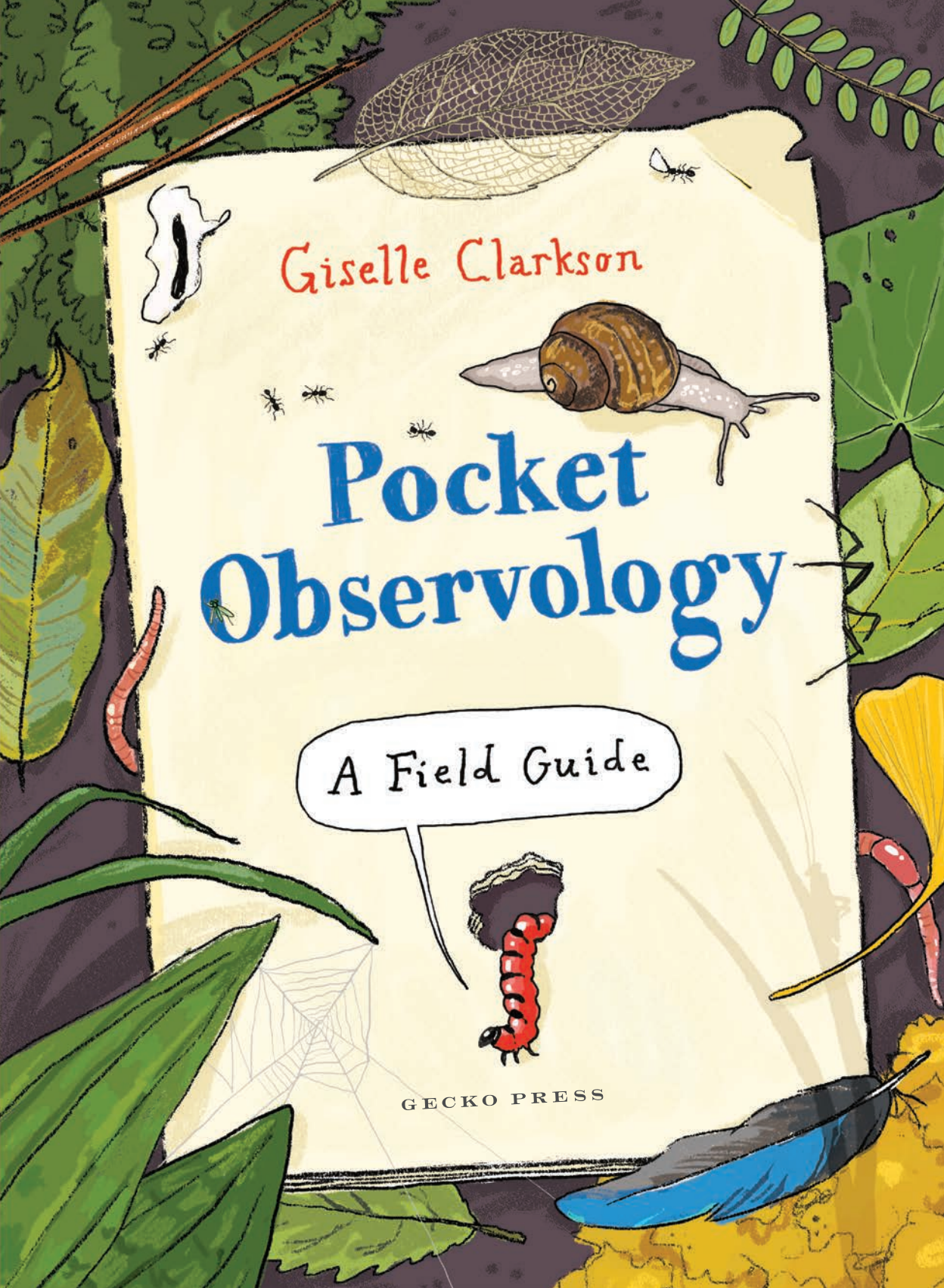
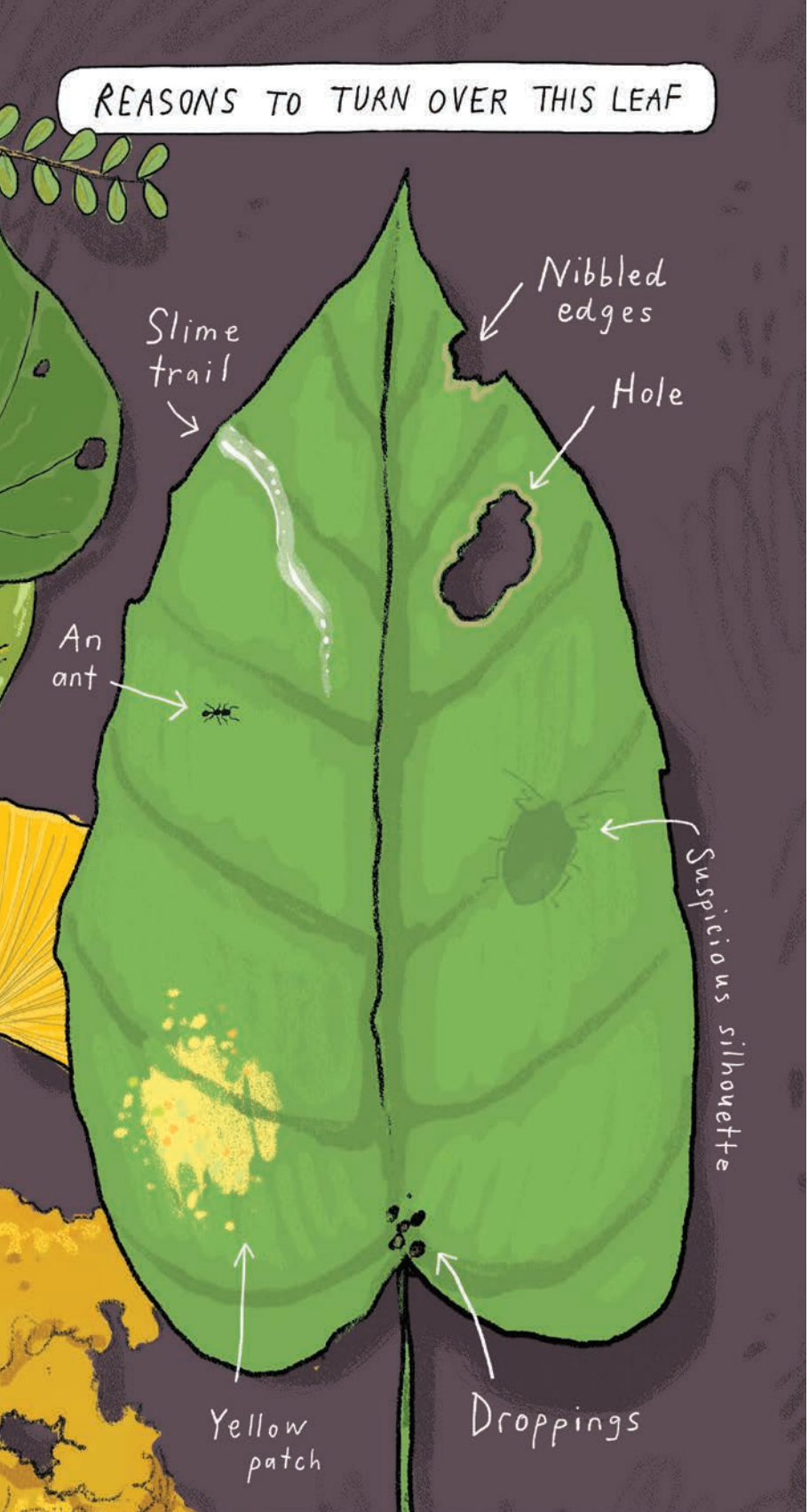

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REASONS TO TURN OVER THIS LEAF
Nibbled edges
Slime trail
Hole
An ant
Suspicious silhouette
Yellow patch
Droppings

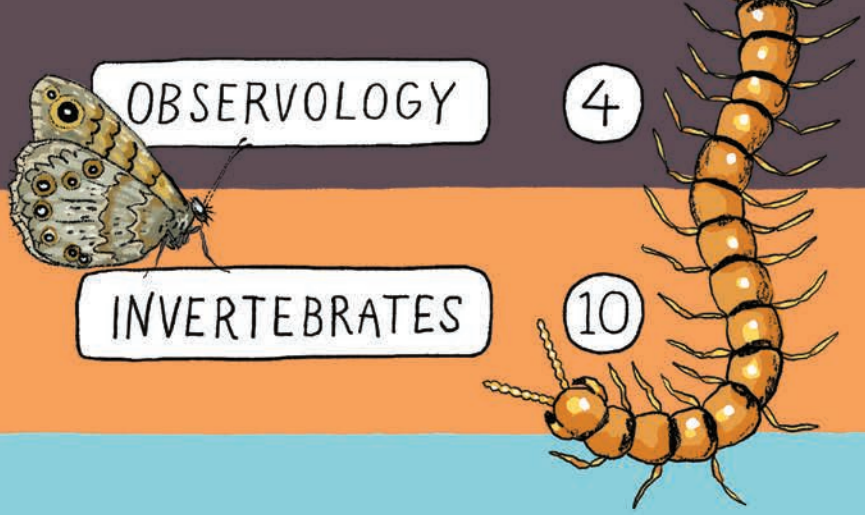
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"What is that?" is the obvious question to ask about a creature you've noticed for the first time. You could find out what it's called, even the scientific name of its species, but that doesn't tell you much.

The better question you can ask is, "How is that…"



Then you'll understand how it lives, which is much more interesting and useful. You can look its name up later. This is what an observologist does, and this is a book to help you do it.



You can take this field guide outside or keep it next to your bed to refer to when you spot something curious crawling across the ceiling. You'll have all the most vital facts on hand, giving you the tools you need to identify the interesting things you find, making it easier to find specific facts about them later when you have all the world's information at your disposal (or a very knowledgeable friend, with whom to discuss these serious matters).



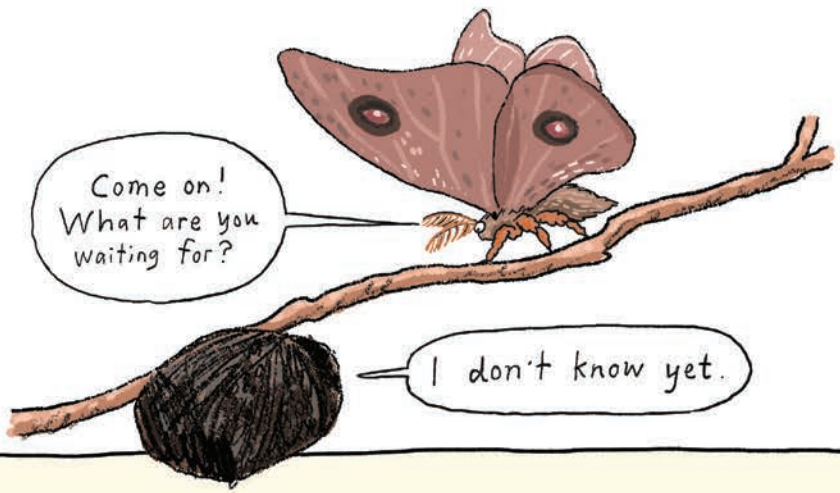
Observology: The Study of Looking

An observologist is someone who goes on scientific expeditions every day. They just happen to be very small ones, and sometimes they don't involve leaving the house.

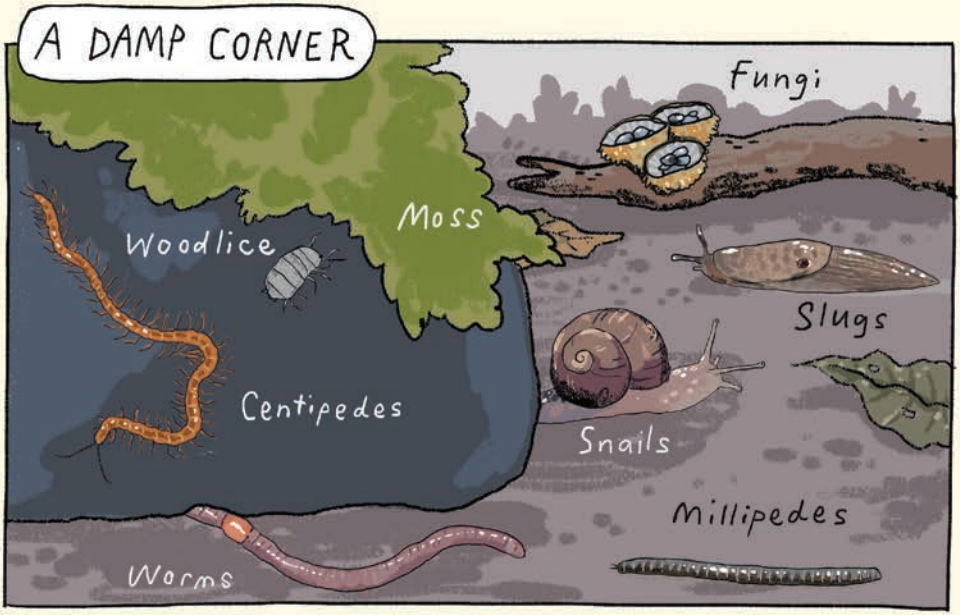
When you practice observology you needn't be bored ever again in your life because wherever you go there'll be things to notice and questions to ponder.

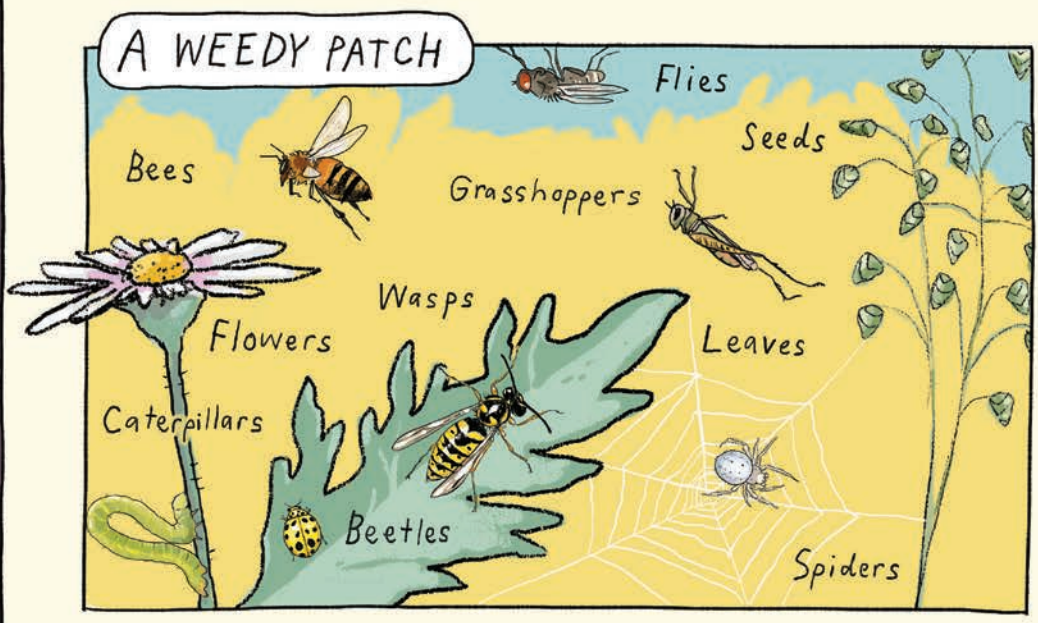
THE PRINCIPLES OF OBSERVOLOGY

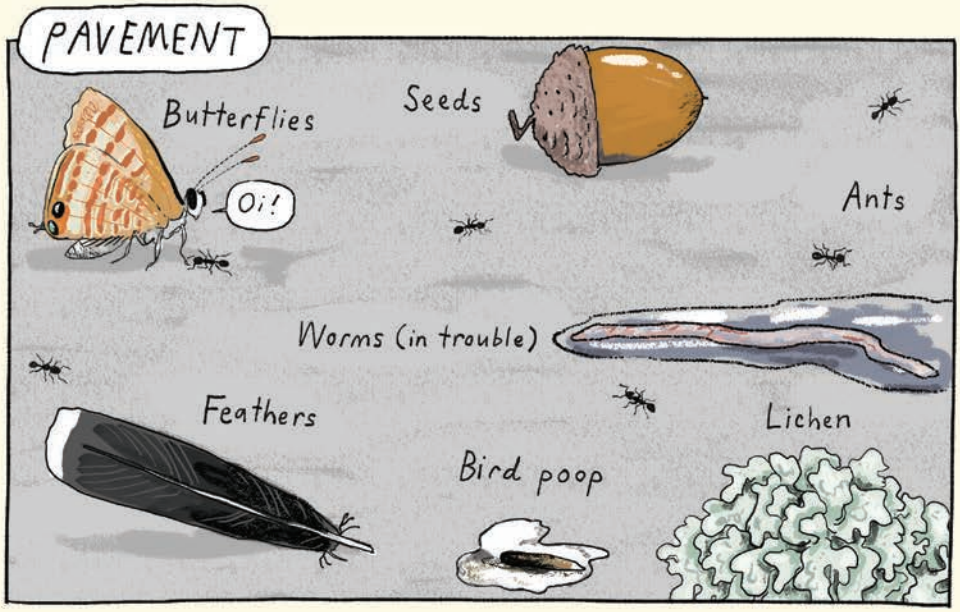
1. Spend a lot of time gazing at the ground, at the sky, or into hedges.
2. Be insatiably curious.
3. Be as patient as a moth (some species stay in their cocoon for years waiting for just the right time to emerge). People who stay quiet and still always see the most exciting things.
4. Keep yourself safe! Don't probe under rocks and logs with your fingers, don't handle critters that could bite or sting, don't lick things you shouldn't, and always wash your paws after any hands-on investigation.

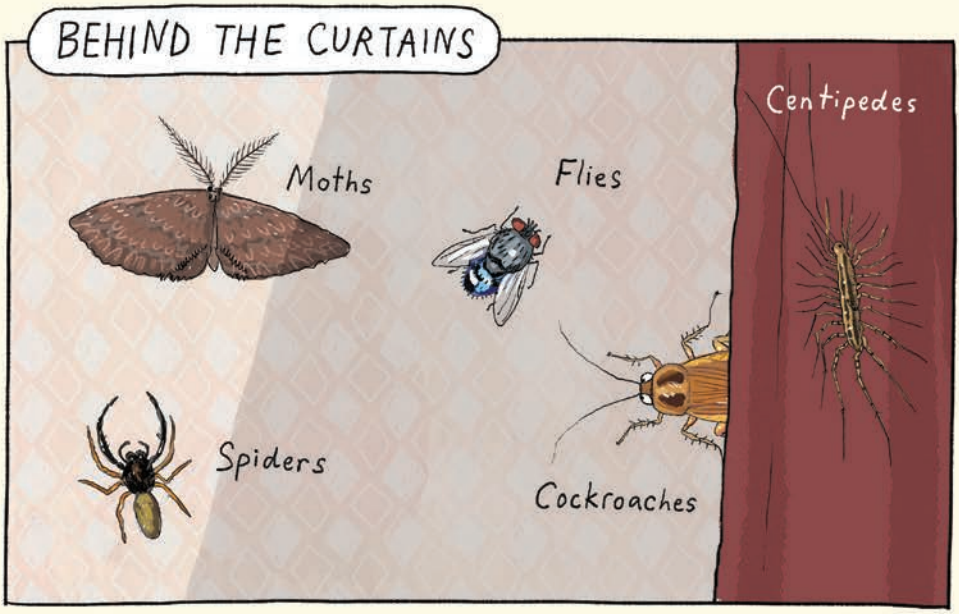


If an interesting thing hasn't come to you, you'll have to go looking for one. Here are four excellent locations to get you started, and some of the life forms you'll find there.






PAVEMENT
Butterflies
Oi!
Seeds
Ants
Worms (in trouble)
Feathers
Lichen
Bird poop


BEHIND THE CURTAINS
Centipedes
Moths
Flies
Spiders
Cockroaches

So good luck and bon voyage



In no time at all you'll know
hundreds of useful things like...

How to tell a wasp from a bumblebee by the sound each makes.

Who is a millipede, without having to count their legs.

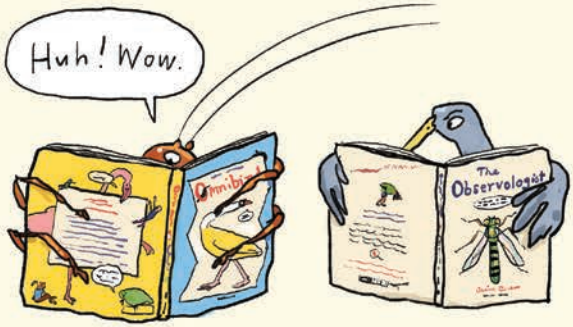
Where a goose has been.

How to describe a leaf without using the word "green."



There are two big books, *The Observologist* and *Omnibird*, that have extra facts about the things in this pocket guide.





YOUR EXPEDITION LOG

(NOT THE WOODY KIND!)

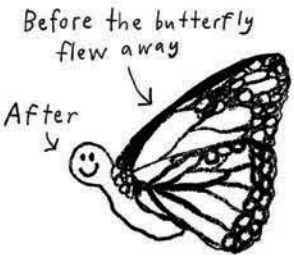
Sitting still long enough to draw a picture and take notes helps you spot many tiny details, so it's an excellent idea to take a small notebook and a pen with you on your expeditions. You can take a pencil instead of a pen, but only if you promise not to waste time rubbing things out trying to make them perfect. The perfect expedition log is full of scribbles and scrawls.



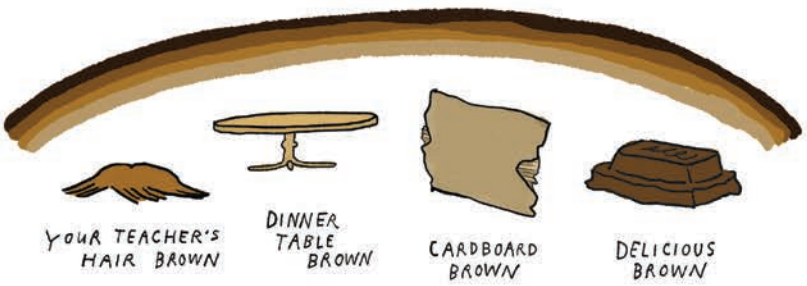
You might not have long before your subject flits away, so the trick is capturing the gist as quickly as possible.

Try drawing just a few particular body parts instead of the whole creature.

Write down all the descriptive words you think of. Nothing is too silly if it will spark your memory!



There are infinite ways of describing "brown," for example.



The more you note down, the easier it will be to find out the scientific name of a species later on.


There's no need to be afraid of animals that scuttle and buzz. Once you learn which critters are harmless and which ones bite or sting, you'll know how to behave around them.
Most of us are harmless and more afraid of you than you are of us.

Invertebrates are convenient creatures to observe because they're absolutely everywhere, whether people like that or not. If you're reading this indoors there's almost certainly one in the room with you right now. This is wonderful: you might be able to mount a scientific expedition without even getting up.



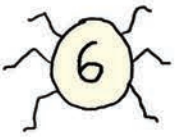
An invertebrate is any animal without a spine. Mammals, fish, birds, reptiles and amphibians are all held together by skeletons, but spiders, flies, snails and millipedes are all boneless. This absence of bones to prop them up means they mostly have to be very small, except for species that live under the sea. The world's biggest invertebrate is the colossal squid. There are some pretty big crabs too, but you won't find those behind your curtains.

Common invertebrates come in a spectacular array of forms. Being able to quickly narrow down what kind of creature you're looking at is a very good skill. But remember that not every species will fit neatly into one box or another. When you're in the field, the goal is to gather enough details to search later for more information about the exact species you've found. It's no good looking in the worm section when what you have on your hand is a slug.



Speedy ways to make educated guesses about the identity of a species

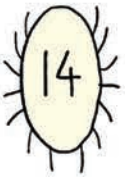
COUNTING LEGS



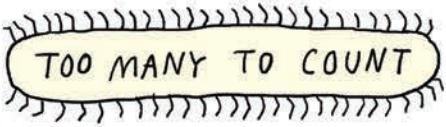
= An insect



= An arachnid (a spider or one of its relations)



= A woodllouse (they're crustaceans)



= A centipede or millipede



= A worm, slug or snail

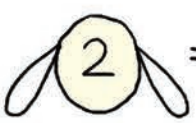
A Caveat

Invertebrates lose legs all the time. Some hatched that way, others had them chomped off.



A spider having an identity crisis

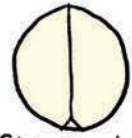
NOTICING WINGS



= A fly

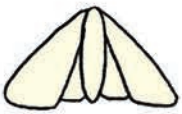


= It can fly but it's not a fly



Shielded

= A beetle



Tissue thin but opaque

= Likely a moth or butterfly

BEE OR FLY?

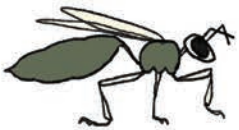
If they're otherwise very similar in shape and pattern, look into their eyes for a clue.



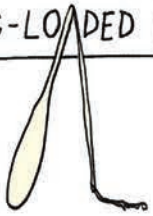
BEE FLY

WASP WAISTS

Wasps have a famously narrow connection between their abdomen and thorax, giving the impression of an extremely cinched waist.



SPRING-LOADED LEGS

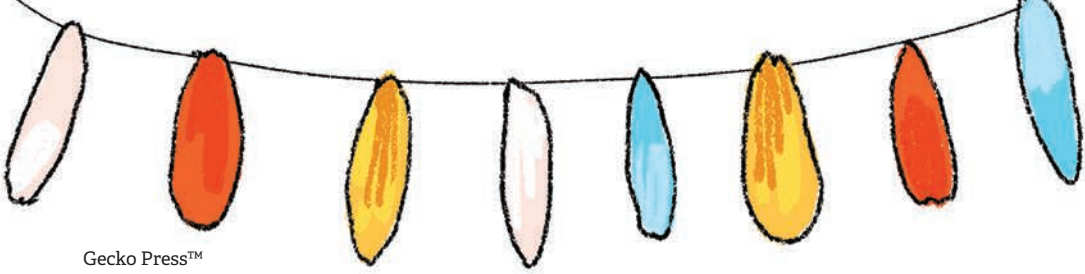


Back legs like this mean it's probably in the Orthoptera order, which includes crickets, grasshoppers and other leggy leapers.

ANTENNAE



The type of antenna a creature uses can reveal very helpful identity information. There's more about this on pages 16-17.



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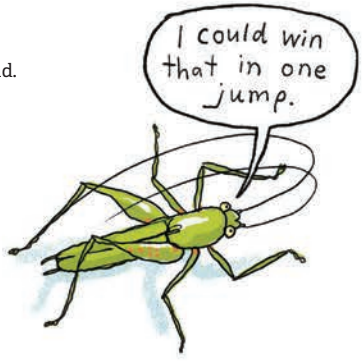
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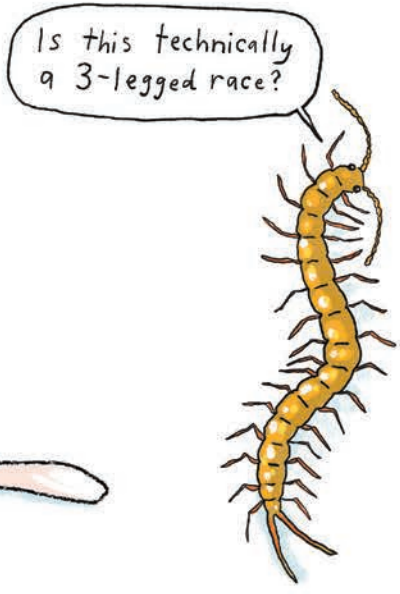
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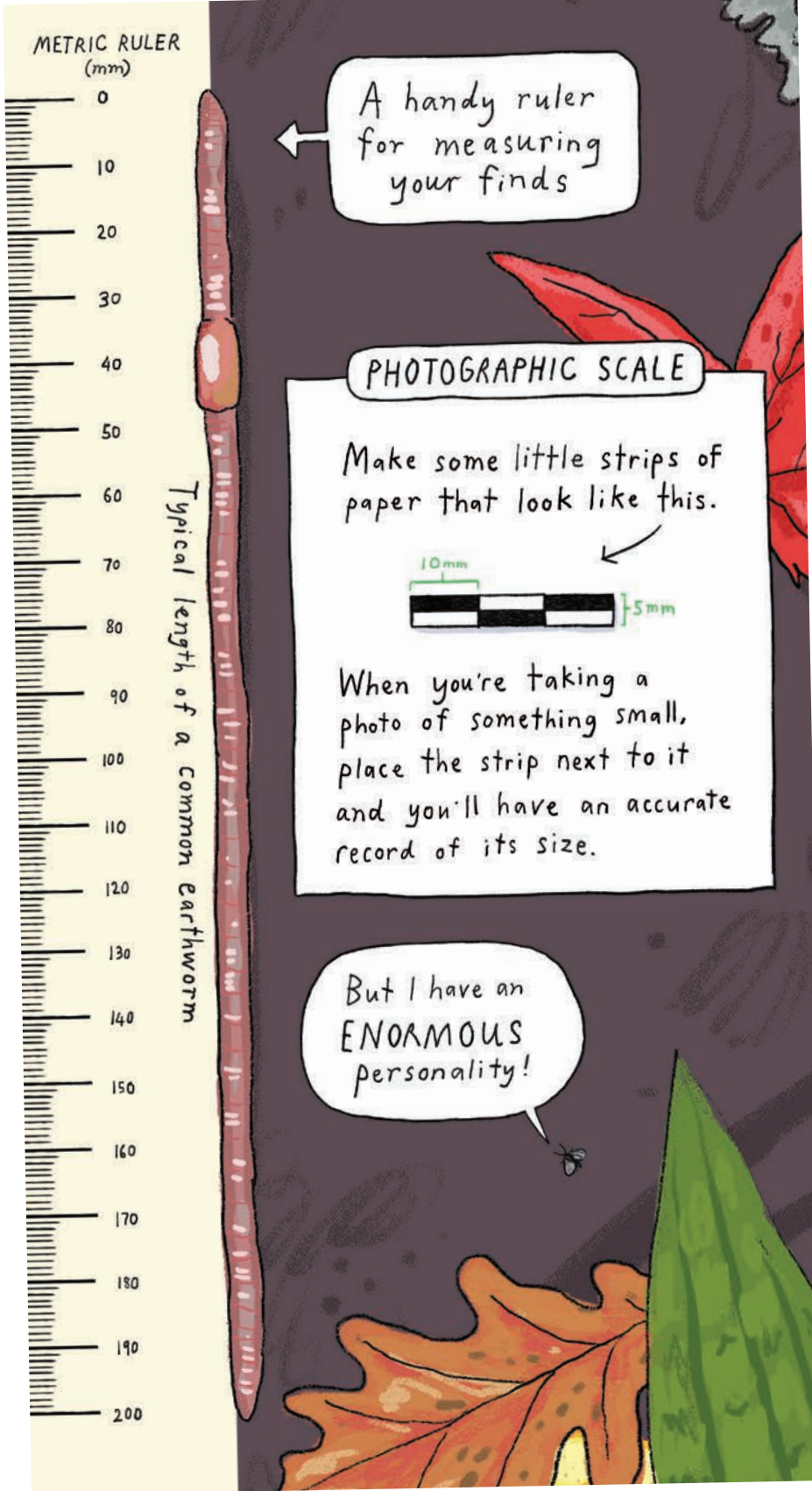
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METRIC RULER
(mm)
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
Typical length of a common earthworm
A handy ruler for measuring your finds
PHOTOGRAPHIC SCALE
Make some little strips of paper that look like this.
10mm
5mm
When you're taking a photo of something small, place the strip next to it and you'll have an accurate record of its size.
But I have an ENORMOUS personality!



Observology is the science of noticing extraordinary things in ordinary places. You can do it every day and often without leaving the house.

This field guide to observology has diagrams, flowcharts and drawings to help you identify what catches your eye when you next explore outside (or behind the curtains).

It's a quick reference to useful things like...

How to tell a wasp from a bee and a cricket from a grasshopper.

Who is a millipede, without having to count their legs.

Where a goose has been.

How to describe a leaf without using the word "green."

The curious details of everyday wildlife can be found on even the smallest of scientific expeditions. With this guide in your pocket, no clues will escape your notice.

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