

World of Ants



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Content



Introduction

4



As quick
as the wind

12



About
ants

5



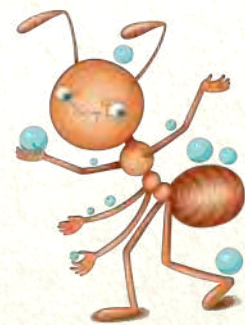
Tough super
soldiers

14



Ant
hill

8



Terrifying
fire ants

16



Slave
revolt

10



Dracula
ants

18



Diligent
weavers

20



Terrifying
decoration

30



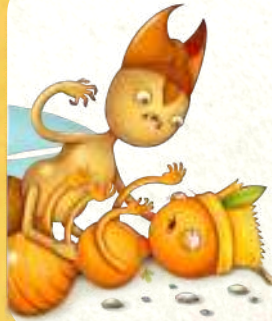
Atta
ants

22



Ant
rafters

32



Dangerous
queen

24



Conquering
the castle

34



Honeypot
ants

26



Clear off,
rivals

36



Raider
ants

28



Big heads
marching to
a big battle

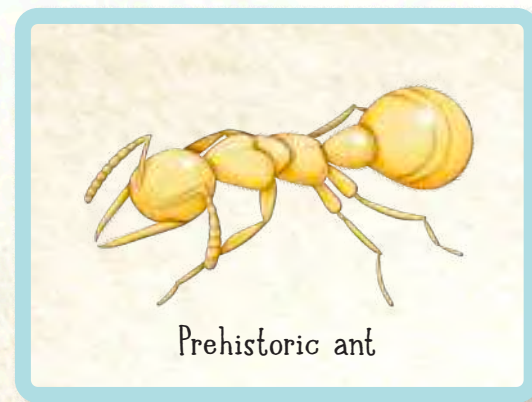
38

Introduction

You might think, "Ants, bah; why's there even a book about something so small and unimportant?" But you're wrong, children! Ants are the largest group of insects on the planet. Allegedly, anywhere from 25,000 to 35,000 ant species populate Earth, though scientists have only managed to document roughly half of them. Ant behaviour and actions greatly influence natural ecosystems.



Related to wasps, bees, and bumblebees, ants evolved 100 million years ago from the reclusive bees. Just like wasps, bees, and bumblebees, so do ants live in large colonies which is why we call them social insects. Looking behind the curtain of the ant way of life, we can see that in some sense these crawlies are a lot like us, humans.



Prehistoric ant

Why ants matter:



They're excellent insect hunters and exterminators.



They remove dead animals, helping to keep nature clean.



They collect and move plant seeds, contributing to their spread.



Ants that live under the ground loosen and aerate the soil.

Ant society

The queen is the most important member of any ant hill. These rulers are the mothers of the entire colony, diligently laying eggs and making sure the community doesn't go extinct and always has enough industrious worker ants at its disposal. A typical ant queen lives for up to 20 years.

Workers

The biggest group in the entire ant hill, some are in charge of maintaining and repairing the colony while other workers seek food and feed the queen. Another important group of workers takes care of eggs, pupae, and larvae.



Queen

You can easily tell them apart from the other ants because they're larger. In her youth she has wings but breaks them off once fertilized by male ants.



Male ants

Winged male ants have an extremely short lifespan. They die as soon as they fulfil their life's mission—to fertilize the queen.



Worker soldiers

Equipped with frightening-looking mandibles, they protect the ant hill from predators and other threats.



Queen



Worker

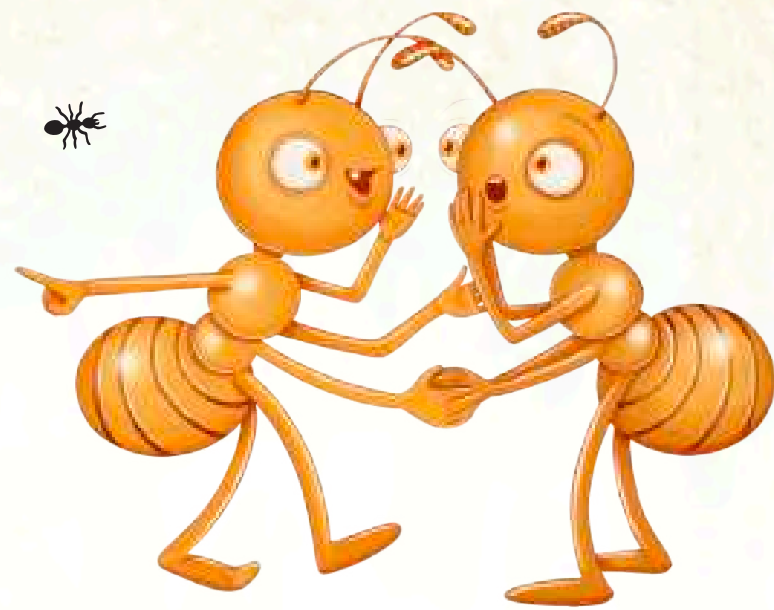


Male ant



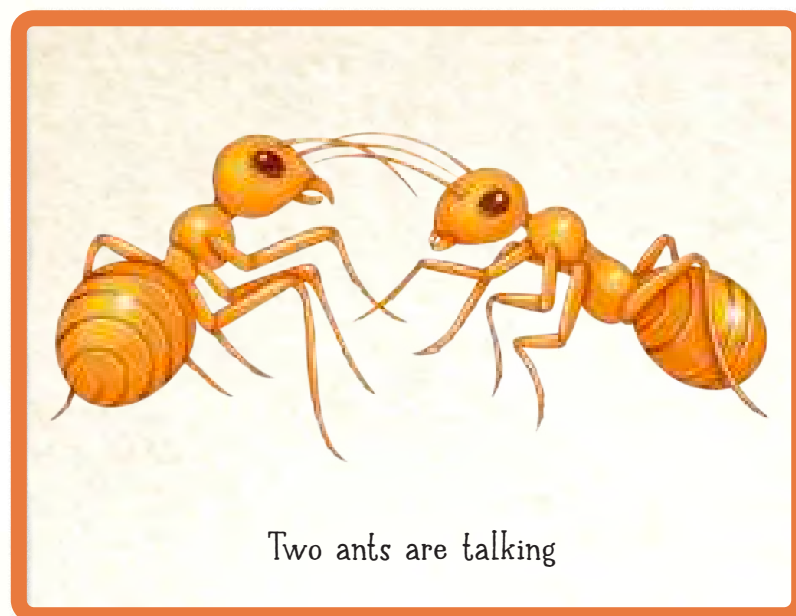
Worker soldier

Ant communication



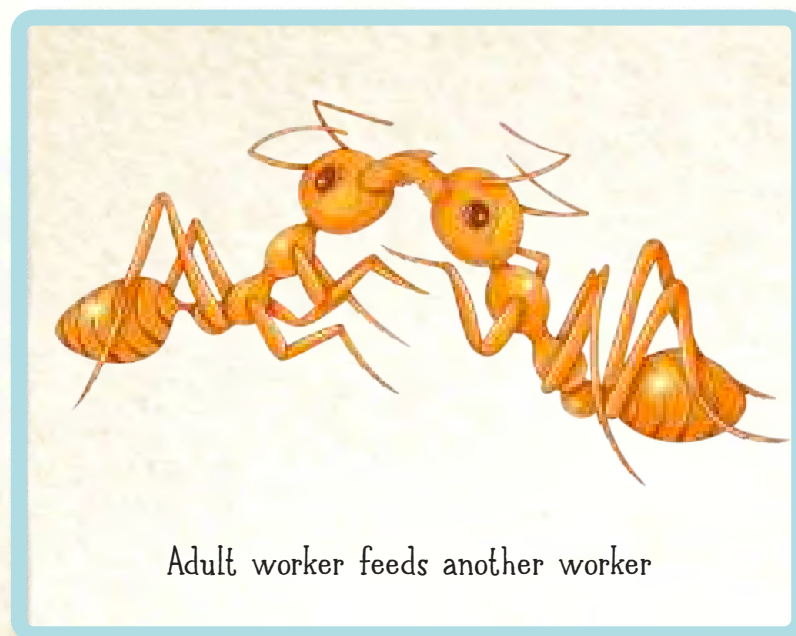
All senses at once

When two ants meet they start communicating, using their sense of smell, taste, sight, touch, and hearing. In this way two members of the same colony can safely recognize each other and convey significant information, such as where a source of tasty food is or if there's some danger lurking around.

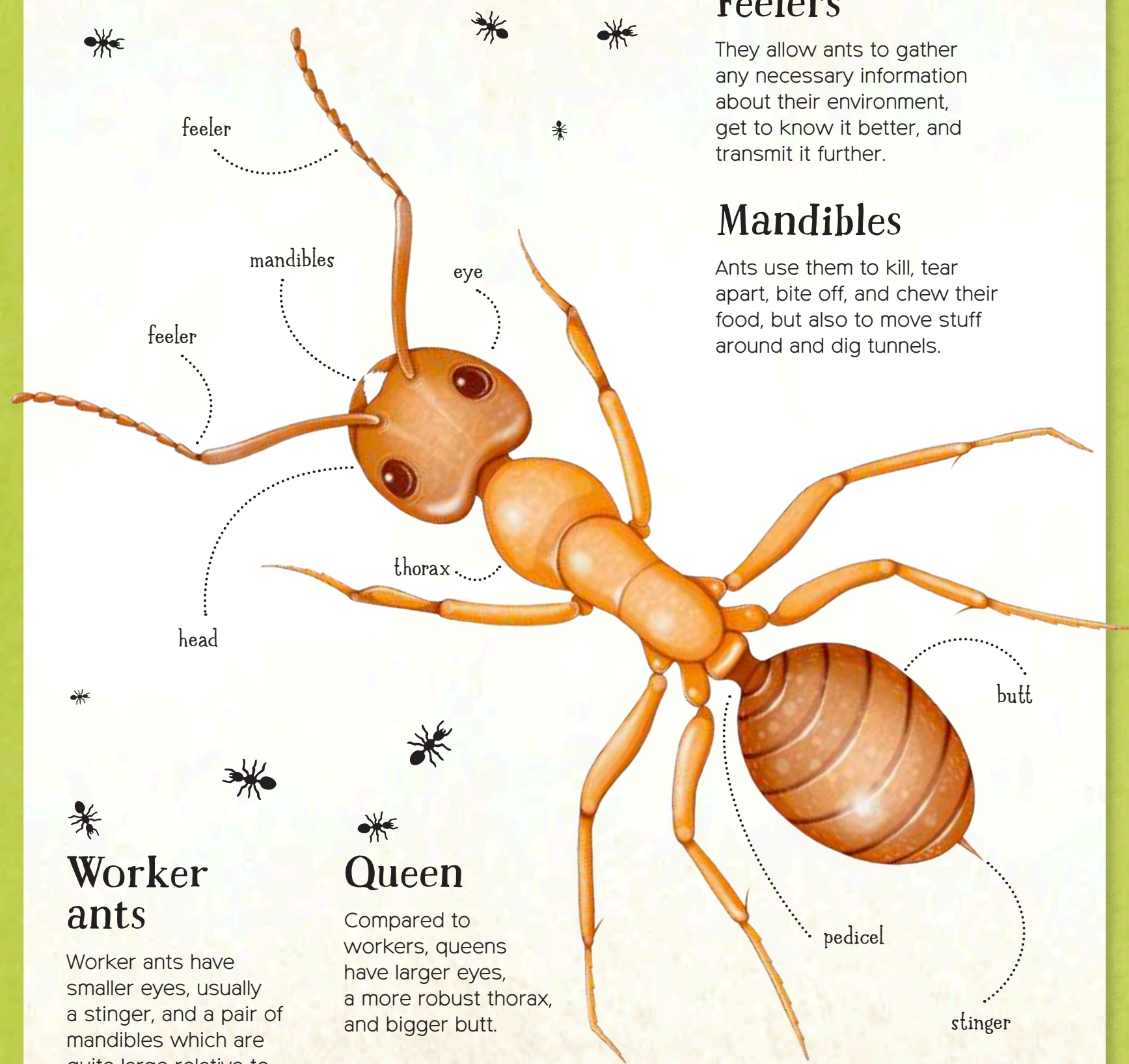


When an ant is hungry

When a fed worker ant meets another worker that's hungry, what will it do? It'll share, by feeding the latter with its mouth. Besides exchanging nutrients, the adult ants also swap important news and information.



Body of an ant



Feelers

They allow ants to gather any necessary information about their environment, get to know it better, and transmit it further.

Mandibles

Ants use them to kill, tear apart, bite off, and chew their food, but also to move stuff around and dig tunnels.

Worker ants

Worker ants have smaller eyes, usually a stinger, and a pair of mandibles which are quite large relative to the head.

Queen

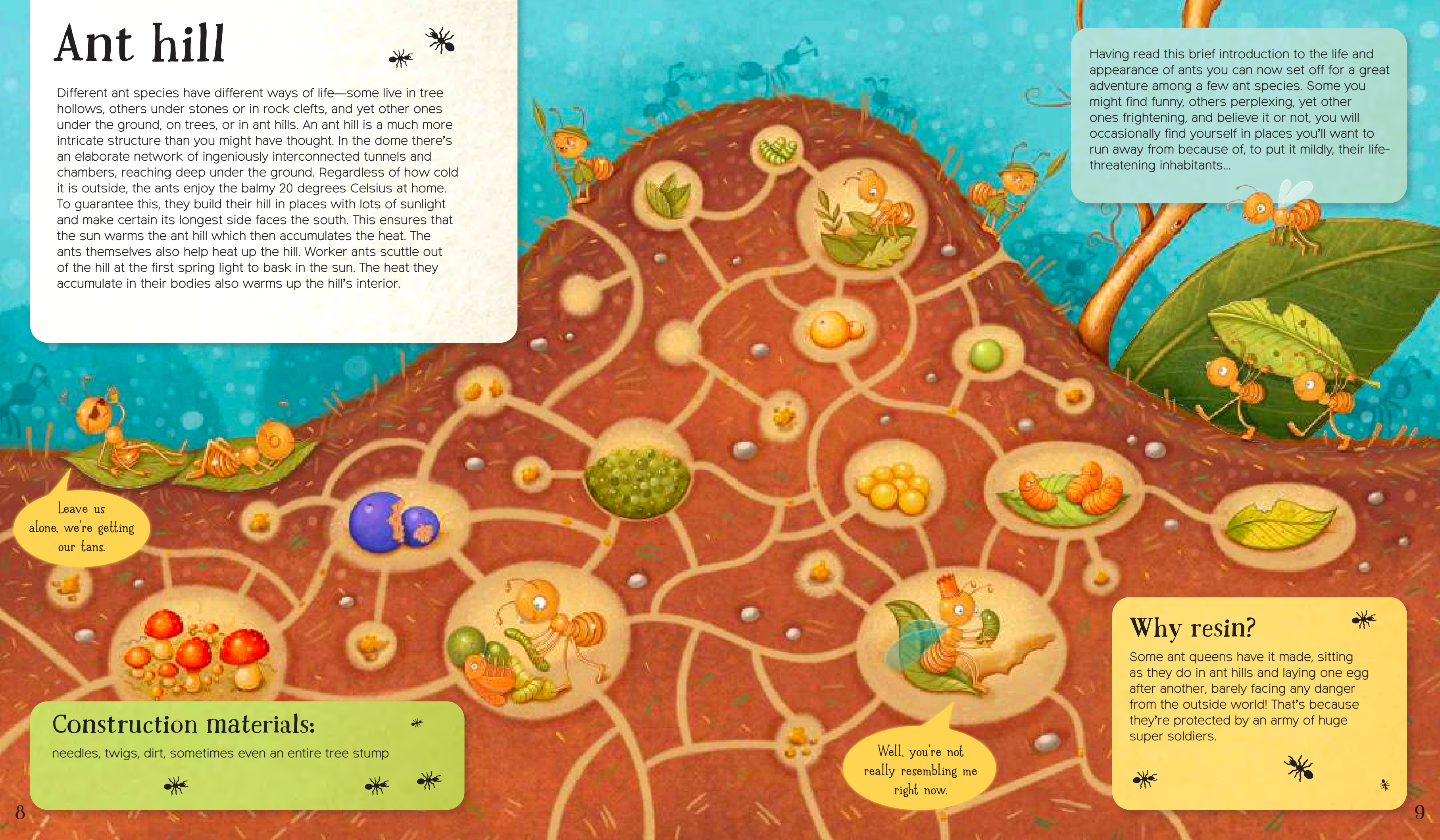
Compared to workers, queens have larger eyes, a more robust thorax, and bigger butt.

Ant hill



Different ant species have different ways of life—some live in tree hollows, others under stones or in rock clefts, and yet other ones under the ground, on trees, or in ant hills. An ant hill is a much more intricate structure than you might have thought. In the dome there's an elaborate network of ingeniously interconnected tunnels and chambers, reaching deep under the ground. Regardless of how cold it is outside, the ants enjoy the balmy 20 degrees Celsius at home. To guarantee this, they build their hill in places with lots of sunlight and make certain its longest side faces the south. This ensures that the sun warms the ant hill which then accumulates the heat. The ants themselves also help heat up the hill. Worker ants scuttle out of the hill at the first spring light to bask in the sun. The heat they accumulate in their bodies also warms up the hill's interior.

Having read this brief introduction to the life and appearance of ants you can now set off for a great adventure among a few ant species. Some you might find funny, others perplexing, yet other ones frightening, and believe it or not, you will occasionally find yourself in places you'll want to run away from because of, to put it mildly, their life-threatening inhabitants...



Leave us alone, we're getting our tans.

Construction materials:
needles, twigs, dirt, sometimes even an entire tree stump

Well, you're not really resembling me right now.

Why resin?
Some ant queens have it made, sitting as they do in ant hills and laying one egg after another, barely facing any danger from the outside world! That's because they're protected by an army of huge super soldiers.

Slave revolt



There are many ant species whose members enslave other ants. While wearing the scent of their victims, these ants sneak into the home of their marks, steal their pupae which will later produce young slaves, and then turn hostages into slaves as well.

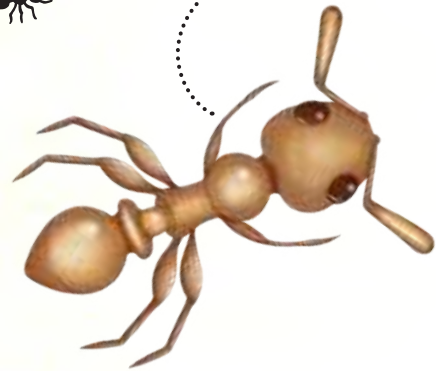


Home in a tiny acorn

These ant slavers are so small their whole colony fits inside a single acorn, comfortably housing everyone.



I'm a slaver



1. *Temnothorax americanus*

I'm a slave



2. *Temnothorax*

Get them!!!



But slave ants sometimes revolt. When they decide the time's right, the subjugated ants rise against their slavers, destroy the pupae containing future slaver queens, and raid the entire slaver colony. Hurray! We've won again, call the victorious slaves after a successful revolt.



Look at them go

1



Get them!

We're free now!

2



Running to survive *

Desert ants have evolved their running style and speed in order to survive. The faster they manage to reach food in the form of dead animals, the shorter amount of time they spend exposed to the dangerous sun.



Faster, or the sun will bake me alive

As quick as the wind *



Members of this African ant species live in scorching deserts and could easily rival the greatest sprinters since they manage to run at the incredible speed of 3.6 km an hour. Oh no, don't you dare scoff! Converted to human speed, it means these talented ants would be able to run at 770 km an hour if human. They might as well be flying.

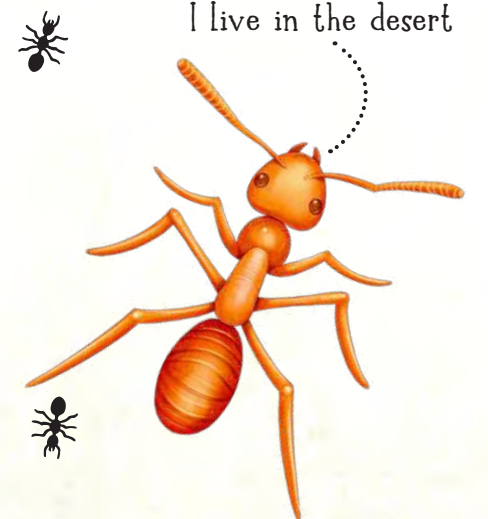
I'm floating here

If you look at the running ant closely, you might notice it's literally floating above desert sand—all its six legs are in the air. This is the only way to prevent the hot sand from hurting the ant.



The cool underground is great, though

I live in the desert



Cataglyphis bombycinus

Terrifying fire ants

Heelp, a disaster has befallen us, clear off to save yourselves! Anyone who has their wits about them is running away. From what? A huge array of the most feared predators in the world—the fire ants. They march forward, not taking pity on anything or anyone.



And now we'll turn into water ants

The fearsome fire ants can adapt to any environment, simply by changing their state—from solid to liquid. Yes, scientists have witnessed the ants literally pour through a narrow funnel, just like thick syrup.

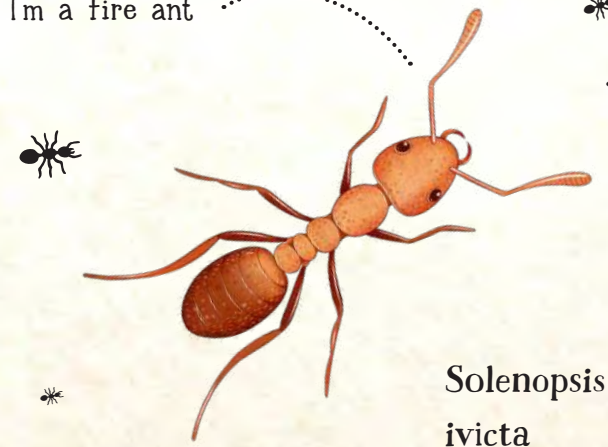
Heelp, fire ants!

People, too, are afraid of fire ants as they can destroy harvests, eliminate farm animals, and disrupt the foundations of houses by digging long underground passages.

Water ahead

No obstacle can stop them. There's an endless water course spanning ahead? No problem! They immediately form a raft with their bodies and get to the opposite bank. It doesn't matter that the voyage can take up to 14 days.

I'm a fire ant



*Solenopsis
ivicta*






World of Ants

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Ants build large ant hills and are quite a diligent insect species, you might be thinking. Can there be anything interesting about them at all? you wonder. There can and indeed there is! In fact, the ant world is one of the most interesting ones you can visit! Some ant species are feared bloodthirsty warriors, others head-hunters, and yet other ones skilled leaf cutters, weavers, or aphid keepers. And there are also others that love raiding the nests of enemy ants and stealing anything they find there. Ants seem to act like people sometimes, don't you think? Let's take a closer look.

What is it like to be an ant?