THE Amazing Ants OF THE WET TROPICS

FIELD GUIDE



THIS BOOK
BELONGS TO



The Wet Tropics Management Authority acknowledges the spirit of Country of the Wet Tropics and recognises Rainforest Aboriginal Peoples as carrying custodial responsibility. We pay our respects to their ancestors and traditions.

The Amazing Ants of the Wet Tropics Field Guide is produced by the Wet Tropics Management Authority.

Contents

All about Ants 5
- Ant Biology 5
- Social Life 6
- Girl Power 6
- Working Together 7
- The Ant Life Cycle 8
- Ant Ecology 10
- What Ants Eat 11
- Ant Enemies 12
- Ant Diversity 13
- Wet Tropics of Queensland World Heritage Area 14

Ready to Go Looking for Ants? 16
- Staying Safe 18

Native Ants 20
- In the Trees 20
- On the Ground 30
- Underground 46

Invasive Species 54

Learn More 62

Field Notes 64

Image credits:
Cover: Caitlin Henderson 1 Sunnyjosef

WET TROPICS MANAGEMENT AUTHORITY



Welcome to

THE AMAZING WORLD OF Ants

Ants are some of the most important animals in our natural world.

They do critical jobs in our environment, and a healthy ecosystem (plants, animals, and other things in a natural environment) needs ants.

Ants are beautiful, diverse, fascinating, and **FUN!**

Ants are also culturally important around the world. They have been part of human history for thousands of years.

In this book, you'll learn all about ants and how to recognise the different kinds of ants that call the Wet Tropics their home.

You'll gain the knowledge and skills you need to start observing ants in the wild, as a junior myrmecologist (ant scientist) [mir-meh-call-o-jist].

Are you ready? Let's dive into the amazing world of ants!



All about ants

Ants live almost everywhere in our environment, from deep in the soil to the highest treetops.

Scientists think there are around **20 QUADRILLION** ants on Earth.

That's a whopping 20,000,000,000,000,000!

This means that for every human living right now, there are more than **TWO MILLION** ants!

Ant biology

Ants are insects. Insects have a three-segmented body, with a head, thorax (mesosoma), and abdomen (gaster).

Ants also have six legs and two antennae.

Ants don't have bones. Instead, they have a hard surface called an exoskeleton on the outside of their body.

Some ants also have large mandibles (jaws), a stinger, or even an acid-spraying organ!

Ants can be smooth, or ornamented with dots, lines, or other markings. Some are hairless, while others are so hairy they look fluffy and soft!

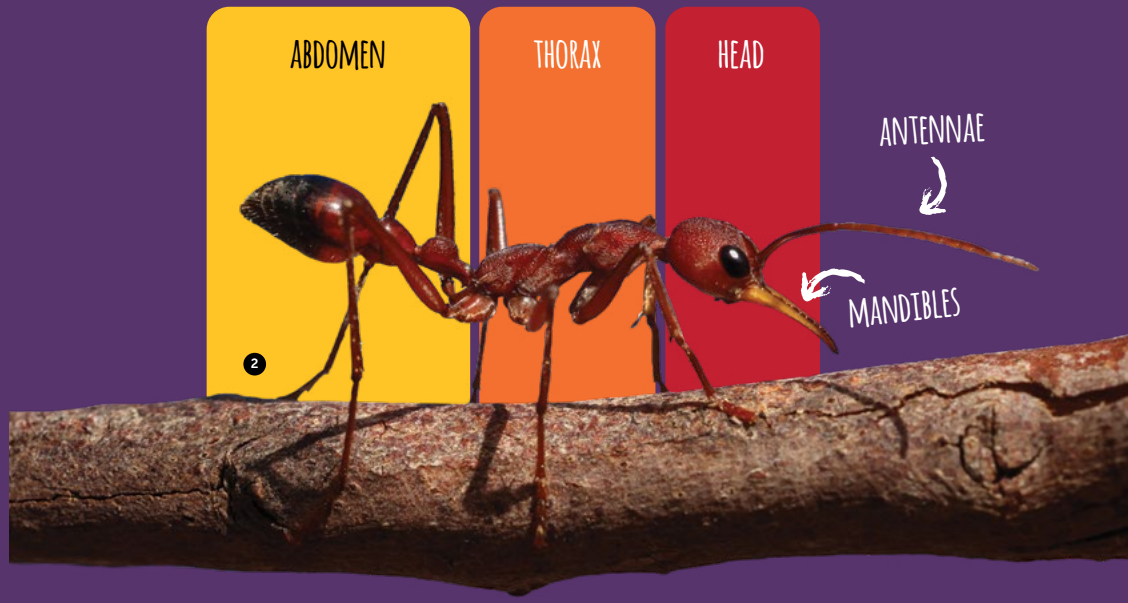
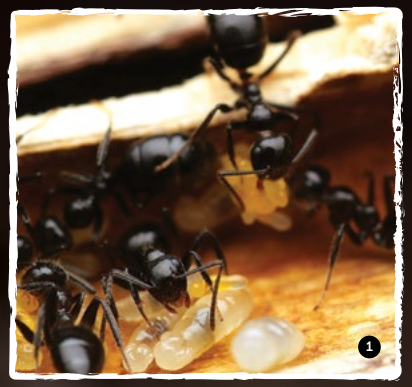


Image credits: 1 Peter Yeeles 2 Shutterstock

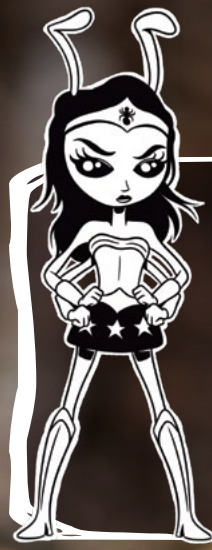
Social life



Ants are social insects. Social means that they live in groups and they:

1. Work together to care for their young (eggs and larvae, or baby ants).
2. Divide labour. Worker, queen, and male ants have different jobs.
3. Have overlapping generations within the colony.

In a typical ant colony, you'll find a queen, who lays eggs, and many workers. There are also many eggs and larvae (baby ants) that the workers care for. Together, eggs and larvae are called brood. There can be hundreds or even thousands of workers. That's a BIG family!



Girl Power!

Most of the ants you see are female!

Workers are the most numerous ants in the colony and amazingly, are ALL female! They're not fertile (can't reproduce).

Queen ants are female, too. Queens are fertile, and their job is to lay eggs. There is usually only one queen, but in some species, a colony can have many queens.

Male ants, called drones, only have one function: to mate with new queens when the colony is ready to expand.



Working together

Worker ants have a lot to do!

Workers build the nest, keep it clean, find food, care for the queen and the brood, and defend the nest.

To stay organised, ants communicate with chemical, visual, and even sound signals.

Ant antennae are very sensitive. When two ants touch antennae, they are having a conversation through touch and pheromones (communication chemicals).

Within a colony, individuals share a common family odour. Ants use this to recognise who is part of the colony, and who is a stranger. Ants maintain their odour by grooming (cleaning) themselves and each other.

Even though they are small, by working together, ants can achieve big things!



Ants share food by passing it from mouth to mouth. This is called trophallaxis.

Image credits: 1 Philipp Hoenle 2 Peter Yeeles 3 4 Jonghyun Park



Ants go through four life stages: egg, larva, pupa, and adult.

Ant eggs hatch into small, grub-like larvae.

The larvae are fed and cared for by worker ants until they are big enough to turn into a pupa. Some larvae spin a silky cocoon to protect themselves.

Each pupa will then metamorphose (transform) into an adult ant, and eclose (hatch) from its cocoon.



1

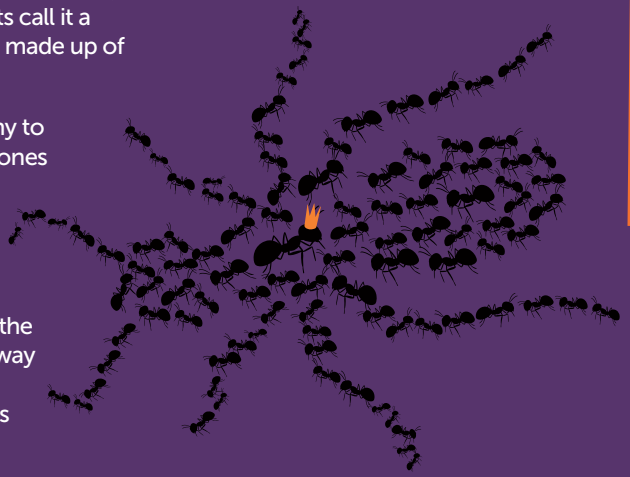
Ant colony reproduction

Because an ant colony is made up of many ants working together, scientists call it a superorganism (one big animal made up of many small ones).

When it's time for the ant colony to reproduce, new queens and drones (males) are produced. New queens and males often have wings and strong wing muscles to allow flight.

When the weather is just right, the new queens and males all fly away together in an event called a nuptial flight. Often, many nests do this at the same time.

The males mate with the new queens, who then go find places to start their new nests.





2

Queen green tree ant with her first brood

To start a nest, a new queen must find a safe, hidden place to lay her first eggs. She removes her wings - she doesn't need to fly anymore.

She looks after her eggs until they grow into her first generation of workers, called nanitics.

Next, her workers take over finding food and caring for the queen and brood.

As more and more workers hatch, the colony grows to its full size.

Image credits: 1 Philipp Hoenle 2 Lawrence Hylton

Ant Ecology

Ants are everywhere!

Ants do many important jobs in our environment.

Ants move soil from underground to the surface when they build nests. They break down and eat dead things, helping to recycle nutrients (chemicals that plants and animals need to live and grow). Ants can also protect plants from caterpillars, and even disperse plant seeds.

It's a good thing that ants are found in almost every environment in Australia. A healthy ecosystem (plants, animals, and other things in a natural environment) needs its ants!

1

What Ants EAT

2

Sugar



Many ants have a sweet tooth!

Most ants need lots of carbohydrates (sugar) to give the workers energy.

Some ants find sugar by gathering nectar from plants and flowers. Others forage for fruit.

But many ants rely on mutualism (two species both helping each other) to get sugar. Several types of insects, such as scale insects, live on plants. These scale insects suck plant juices and produce a sugary liquid called honeydew. Ants look after these scale insects like farmers, protecting the scale insects from danger in exchange for the sweet honeydew.

Predators

Ant colonies need protein for their larvae to grow into adult ants.

Some ants are predators of other arthropods (animals with jointed legs, like insects and spiders).

Scavengers

Many ants are scavengers - instead of only hunting, they also eat things they found already dead.

Seeds

Other ants prefer seeds and grains. Ants can move plant seeds around the environment, helping the plants grow in new places.

Image credits: 1 David King 2 David White | CC BY NC

Ant Enemies

An ant's life can be dangerous!

Echidnas and lizards go hunting for ants. Antlions build traps and eat ants that fall in.

Some hunters, like the green tree ant-mimic spider, look - and even smell - just like their prey. This disguise tricks the ants into letting the spider get close enough to strike.



Green tree ant-mimic spider

1

Zombie ants

Even fungi can be dangerous for ants!

The fungi called *Cordyceps* and *Ophiocordyceps* can take over an infected ant's brain, forcing the ant to go to a place with good conditions for fungal growth.

The fungus then kills the ant and produces a fruiting body (like a mushroom) to begin the cycle again.



2

Ant Diversity

There are more than 14,000 ant species globally. Species are different kinds of animals and plants.

But **DID YOU KNOW**... Australia has the world's greatest ant biodiversity! Biodiversity refers to all the different species found in one area.

In Australia, we have more than 1,700 known species of ants - more than any other country in the world.

Even more amazing, at least 1,400 of those ants are found nowhere else on Earth!

This means that our native Australian ants are very special.



3



4

Right here in the **Wet Tropics**, we have some of the world's most **extraordinary ants:**

Biggest & smallest ants

THE WORLD'S ONLY AQUATIC swimming ant

And so many more!

Image credits: 1 Nick Volpe | www.nlwild.com 2 Raven333 | CC BY NC 3 Mark Ayers 4 Peter Yeeles

Wet Tropics of Queensland

WORLD HERITAGE AREA

The Wet Tropics World Heritage Area is known worldwide for its stunning beauty and its rich and unique biodiversity.

Extending 450km from Townsville to Cooktown, the Wet Tropics World Heritage Area protects some of the world's oldest continuously surviving tropical rainforests.



The southern cassowary is one of the most recognisable icons of the Wet Tropics.



Thornton Beach, Daintree, Eastern Kuku Yalanji Country

Rainforest Aboriginal Peoples

Rainforest Aboriginal Peoples have lived continuously in the rainforests of the Wet Tropics for many thousands of years.

Today, there are more than 20 tribal groups and eight language groups with ongoing traditional connections to land in the Wet Tropics World Heritage Area.

Biodiversity

While it covers only 0.12% of Australia, the Wet Tropics World Heritage Area contains an incredible:

60% of Australia's butterfly species

45% of Australia's bird species

And a lot of Australia's biodiversity across many other plant and animal groups, too!

The Wet Tropics World Heritage Area is also a 'living museum' of ancient types of plants and animals.

We can learn about the history of life from these ancient species.

Lamb Range, Dinden National Park, Buluwai Country

Image credits: 1 Steven Nowakowski 2 Shutterstock 3 Tourism Tropical North Queensland

Ready to go looking for Ants?



Explorer's Checklist

YELLOW CRAZY ANT ERADICATION

You'll need some **supplies** to **collect** and **identify** the ants you find:

- ☐ Plastic jam or peanut butter jars, clean, with small air holes
- ☐ Amazing Ants of the Wet Tropics Field Guide
- ☐ Sun hat
- ☐ Sturdy closed-in shoes
- ☐ Charged mobile phone, whistle, or other contact device for emergencies
- ☐ First aid kit
- ☐ Tweezers, or spoon for scooping up ants
- ☐ Magnification gear, such as a magnifying glass
- ☐ Pocket torch for looking under rocks



Where to find ants

Ants live in almost every part of our environment. Think about the habitats (different kinds of places to live) that are near you.

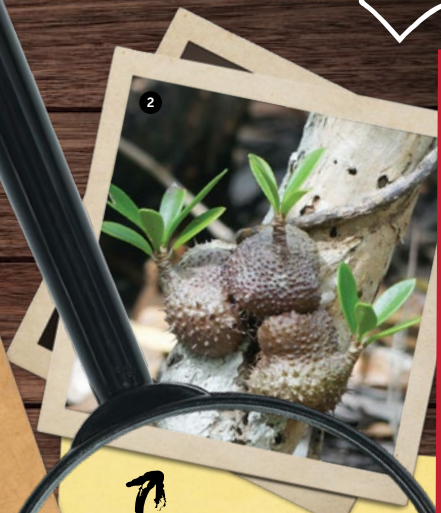
Ants often make nests under rocks, logs, or branches.

Many ants forage (look for food) in the leaf litter (layer of leaves on the forest floor).

Ants also live in trees, and while some can be found on tree trunks, others live mostly in the canopy (top of the tree).

Finally, some ants are nocturnal (awake at night). They will be hiding during the day.





Some ants live in ant plants, also called myrmecophytes [MIR-meh-co-fytes]. These plants don't live in soil, so they need ants to bring them nutrients. In return, ants get a free house!



In this book, ants are organised by habitat - whether they're found in trees, on the ground, or underground.







Image credits: 1 Alan Henderson 2 John Newman | CC BY NC 3 Peter Yeeles 4 Roxanne Lazarus | www.inaturalist.org/people/427956

Staying Safe

Looking for ants is exciting, but it's important to pay attention to safety.

In our environment there are dangerous things like wasps, leeches and mosquitoes. Ants could sting or bite you. You could also get hurt if you fall, slip, or trip on rocks or tree roots.

Bring a family member or friend with you when you go ant hunting and follow our helpful tips:

tip one

To find ants, you may need to look under things, such as rocks and logs. Other animals live there too - like spiders or centipedes. Always lift gently and lift towards you, so animals can easily escape.

tip two

When you put the rock or log back down, place it gently in the same place, so all the animals who live underneath can stay safe in their home.

tip three

You can pick up ants with your hands, gently with tweezers, or carefully scoop the ants up with a spoon. Put them gently into a plastic jar with air holes.

tip four

Take care not to crush the ants. If you frighten or hurt your ants, they may try to defend themselves or scare you away. Ouch!

tip five

Using your magnification gear, look at your ants and make observations. You can record these in a field notebook or your Pocket Guide.

tip six

When you're done, make sure to return your ants to the same place you got them from, so they can go back to their nest and family. Ants need their nest and nestmates in order to be healthy.



Look out for these warnings throughout the book

CAUTION: THESE ANTS MAY BITE YOU IF STARTLED!

Being responsible

Exploring our beautiful environment, we have a responsibility to be respectful and to look after our natural world. This means not littering (leaving rubbish behind), being careful not to crush plants or harm animals, and not disturbing animals.

And last, but not least...

have fun!



Image credits: 1 Mason Salem 2 Peter Yeeles

Native Ants IN THE TREES

Green tree ants

OECOPHYLLA SMARAGDINA

SIZE Medium

HABITAT Trees, tree trunks, plants; fences, clotheslines, or even on the ground to get between trees.

BEHAVIOUR Green ants are also known as 'weaver ants' due to how they build nests. Worker ants pull together leaves, then use silk-producing larvae to bind the leaves together.

APPEARANCE Slim body, yellow-brown with a green gaster (abdomen).



1

CAUTION: THESE ANTS MAY BITE YOU IF STARTLED!

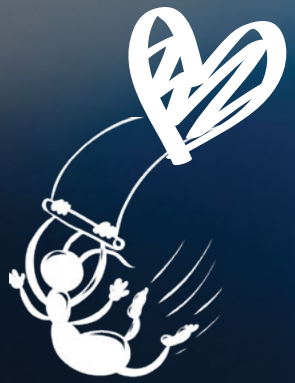


2

Image credits: 1 Lek Khauv 2 Kym Nicholson | CC BY NC

Valentine ants

CREMATOGASTER



SIZE Small

HABITAT Forest, woodland, or anywhere with shrubs and trees. Nests are inside twigs or plant stems.

BEHAVIOUR These ants are also called 'acrobat ants' because they can bend their gaster (abdomen) up over their bodies 180 degrees.

APPEARANCE These adorable ants are called Valentine ants because of their heart-shaped gasters. They can be dark, light, or multicoloured.



2

fun fact

These ants have a stinger, but it's blunt and can't hurt you!

1

Image credits: 1 Mason Salem 2 Daniel Kurek | www.inaturalist.org/people/d_kurek

Spiny ants

POLYRHACHIS

SIZE Medium to large

HABITAT On or near plants, like trees, bushes, and grasses. They usually make nests in tree leaves or hollow branches.

BEHAVIOUR Polyrhachis ants forage alone. You will often see them running around on leaves. They're very fast, and sometimes jump off the leaves if you try to capture them!

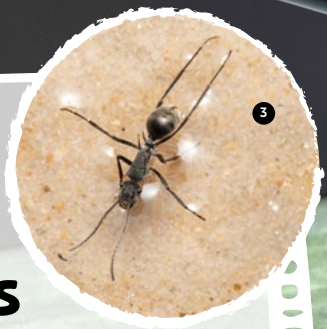
STAR POWER
Polyrhachis means 'many spines'. Many of these ants have small spines on their midsection. These spines won't hurt you, but they prevent predators from easily eating the ants.





APPEARANCE Shiny black, or black with a gold or silver shimmer

Did you know?



Swimming ants

POLYRHACHIS SOKOLOVA

Did you know Cairns is home to the world's only aquatic, intertidal ant?

Only recently documented in 2006, *Polyrhachis sokolova* lives in mangroves and builds nests in the mangrove mud. When the water rises, the ants retreat to bell-shaped, watertight chambers that hold air for them. When the tide goes out, the ants emerge to look for food.

They can even swim across water!

Image credits: 1 2 Peter Yeeles 3 Nigel Main

Muscleman tree ants



PODOMYRMA

SIZE Small to medium

HABITAT Forests, particularly open dry forests like gum tree forests, including parklands. They nest in plants, often in beetle burrows or cracks in tree trunks.

BEHAVIOUR Although common, these ants can be hard to find because they live in trees. They usually forage alone.

APPEARANCE These ants got their body-builder nickname from the swollen leg segments that make them look like they're flexing big muscles!



1

Black cocktail ants



ANONYCHOMYRMA

SIZE Small

HABITAT Forests - usually found on tree trunks. Nests can be in the soil, under wood, or in trees - just about anywhere!

BEHAVIOUR They are often encountered in big groups, foraging on the ground and on tree trunks.

APPEARANCE Small, dark ants, sometimes with a pale shine from their silvery hairs.

fun fact

When disturbed, these ants wave their gasters (abdomens) in the air and produce an acrid odour that smells a little like eucalyptus and coconut.

This defensive chemical is harmless to humans, but can help drive away other potential predators.

To experience this, rub your hand across the path of a foraging trail and watch (and smell) the ants' response!



2

Image credits: 1 Daniel Kurek | www.inaturalist.org/people/d_kurek 2 Peter Yeeles

Twig ants

TETRAPONERA

SIZE Small to medium

HABITAT Arboreal (tree) habitats in rainforest, mangroves, dry gum forest, and parklands - anywhere with trees. Nests are inside twigs or other plant cavities.

BEHAVIOUR Twig ants are small, but they're not afraid to defend their nests against threats, such as larger ants or other predators. Twig ants also look after scale insects (small insects that suck plant sap), farming them for honeydew (sweet liquid that scale insects produce).

fun fact

Twig ants don't have to chew into wood to make their nests - they're happy to use leftover tunnels from other insects, such as beetles.



APPEARANCE Long and slim, with large eyes. Light, dark or multicoloured.



Image credits: 1 2 Mark Ayers 3 Nigel Main

Native ants ON THE GROUND



Strobe ants

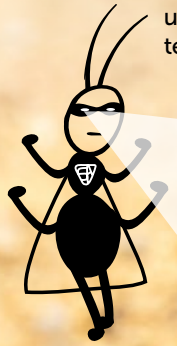
OPISTHOPSIS

SIZE Medium

HABITAT Many habitats - forests, fields or parks. Nests are in trees, wood, underground, or in termite mounds.

BEHAVIOUR Strobe ants get their nickname from how they move. They run in short, jerky bursts, so they look like they're moving under a strobe light.

APPEARANCE Orange, black or brown, or multicoloured. They have huge eyes!



SUPER VISION
Because of the placement of their big eyes, strobe ants can see in all directions - even backwards!



Image credit: Peter Yeeles

Sugar ants

CAMPONOTUS

Also called 'carpenter ants'.

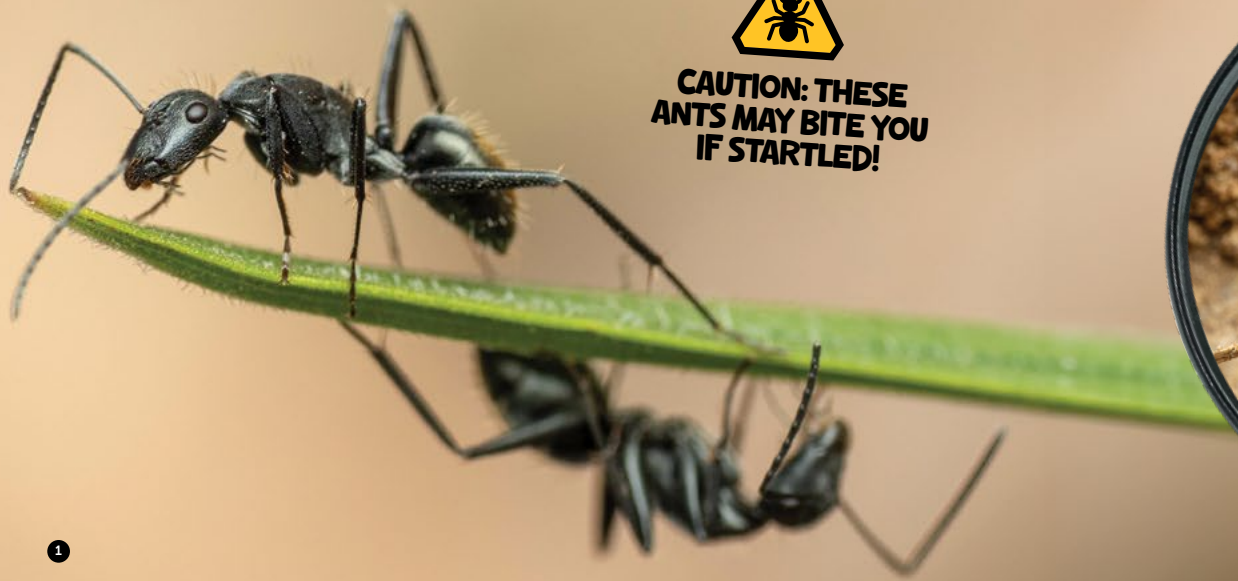
SIZE Medium to large

HABITAT Forests, parklands, and even residential areas. They nest in rotting wood.

BEHAVIOUR Their favourite food is sugar - from flowers, fruit, or honeydew from other insects. Most sugar ants are nocturnal (active at night) and hide in the nest during the day.

FUN FACT
Despite the 'carpenter' name, these ants can't actually eat wood! They only chew the wood so they can move it out of the way as they build their nests.

CAUTION: THESE ANTS MAY BITE YOU IF STARTLED!



1

Did you know?

Punk ants

CAMPONOTUS THADEUS



2

Its punk-rock look has made this species famous around the world, but it's very rare and hard to find.

Lucky for us, the punk ant lives right here in Queensland, in mountaintop rainforests of the Wet Tropics World Heritage Area!



3

APPEARANCE
Sugar ants are very diverse. Most will be brown to golden, dark, or multicoloured. They're easily recognised by their curved mesosoma (thorax or back).

Image credits: 1 Peter Yeeles 2 Caitlin Henderson 3 Peter Yeeles

Spider ants

LEPTOMYRMEX

SIZE Large

HABITAT Forests, especially rainforest.

BEHAVIOUR Big, but gentle and harmless, spider ants are often found foraging in small groups on the forest floor. If they feel threatened, they sprint to escape danger.

APPEARANCE Spider ants have long, skinny legs and antennae, and often hold their gaster folded up over their back. Spider ants can be dark, red or multicoloured. Some have pale or red feet, so they look like they're wearing little socks!





fun fact

Unlike many other ants, most spider ant queens don't have wings!

1



Living Storage Jars



Some ants store food for times when there isn't much to eat. To do this, they use repletes [re-PLEATS].

Repletes are special workers who can fill up their gasters with liquid food, becoming big and round. When food is scarce and their nestmates get hungry, the repletes can dispense the food, helping the colony survive difficult times.

When full, repletes can hardly move!

2

Image credits: 1 Roxanne Lazarus | www.inaturalist.org/people/427956 2 Jordan Dean | jordandean.com.au

Rainbow ants

IRIDOMYRMEX

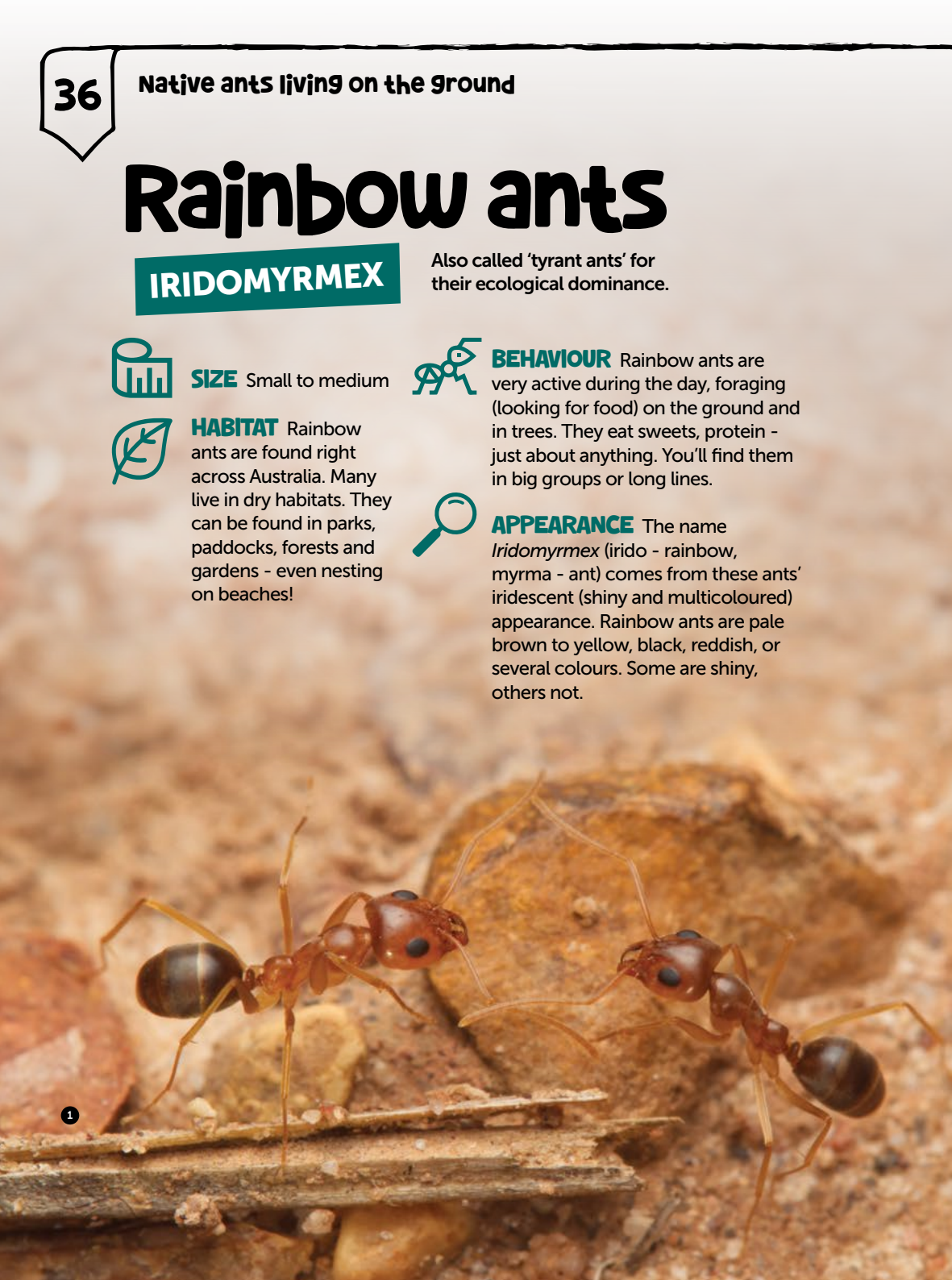
Also called 'tyrant ants' for their ecological dominance.

SIZE Small to medium

HABITAT Rainbow ants are found right across Australia. Many live in dry habitats. They can be found in parks, paddocks, forests and gardens - even nesting on beaches!

BEHAVIOUR Rainbow ants are very active during the day, foraging (looking for food) on the ground and in trees. They eat sweets, protein - just about anything. You'll find them in big groups or long lines.

APPEARANCE The name *Iridomyrmex* (irido - rainbow, myrma - ant) comes from these ants' iridescent (shiny and multicoloured) appearance. Rainbow ants are pale brown to yellow, black, reddish, or several colours. Some are shiny, others not.





Did you know?



Mini Gardeners

Some plants rely on ants, including the rainbow ants, to plant their seeds. These plants make seeds with a bite of delicious food, called an elaiosome, stuck to the seed.

Ants collect these seeds and take them to the nest, then eat the food, leaving the seed untouched. This lets the seed grow in a new, safe place.

This process is called myrmecochory [mir-meh-ko-KO-ree], which comes from the ancient Greek words myrmecos for 'ant' and choreai for 'circular dance'.

Image credits: 1 Nigel Main 2 Dan Blamey | www.inaturalist.org/people/headsoup 3 Peter Yeeles

Trap-jaw ants

ODONTOMACHUS

SIZE Large

HABITAT Forests or parklands, with fallen wood or leaf litter to nest in.

BEHAVIOUR Trap-jaw ants prowl the forest floor, hunting and scavenging other invertebrates. They also like sweets, such as nectar and ripe fruit.

APPEARANCE Big, active ants, dark in colour. Their long mandibles (jaws) are often held at 180 degrees (flat), ready to snap shut.

230 fun fact

When potential prey gets too close, these ants' jaws snap shut at **230km/h**! The incredible force - 300 times the ant's weight - stuns or kills prey. These ants can even use their jaws to fling themselves away from danger. SNAP!

CAUTION: THESE ANTS MAY BITE OR STING YOU IF STARTLED. HANDLE WITH CARE.



1

Rainforest black ants

BRACHYPONERA

SIZE Small

HABITAT Rainforest

BEHAVIOUR Usually found alone or in small groups.

APPEARANCE Black and shiny.



2

CAUTION: BOTH OF THESE ANTS CAN STING. HANDLE WITH CARE.

Razorjaw ants

LEPTOGENYS



3

SIZE Medium

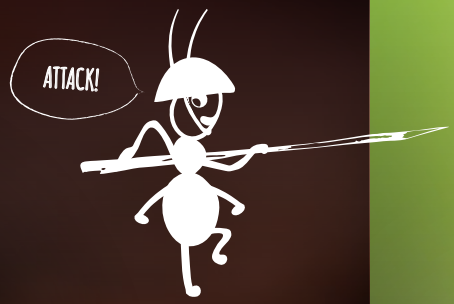
HABITAT Wet forest, including rainforest.

BEHAVIOUR Usually seen in large groups as they 'move house'. Some razorjaw ants have a nomadic lifestyle, with no permanent home.

APPEARANCE Shiny, black and slim.

Image credits: 1 Peter Yeeles 2 Jonghyun Park 3 Peter Yeeles

Army ants



AENICTUS

SIZE Small

HABITAT Forest, especially rainforest.

APPEARANCE These extraordinary-looking ants have no eyes! They can be reddish or golden to dark.

BEHAVIOUR Army ants conduct 'raids' using large numbers of workers to attack other social insects - including other ants!

Army ants have a nomadic lifestyle, living in temporary nests with no permanent home. They can move house up to several times a day!

Shield ants



MERANOPLUS

Also called 'harvester ants' because they eat mostly seeds!

SIZE Small

HABITAT Dry forests, fields, or parks, often with native grasses.

BEHAVIOUR Shield ants get their name from the wide, protective shield on their mesosoma (thorax or back).

APPEARANCE Short, squat and round, often multicoloured, and covered in fluffy hairs.

Image credits: 1 Philipp Hoenle 2 Nigel Main

Pony ants

RHYTIDOPONERA

SIZE Variable, small to large

APPEARANCE Usually dark, often with shiny metallic colours and lots of texture. Their gaster is bent downwards.

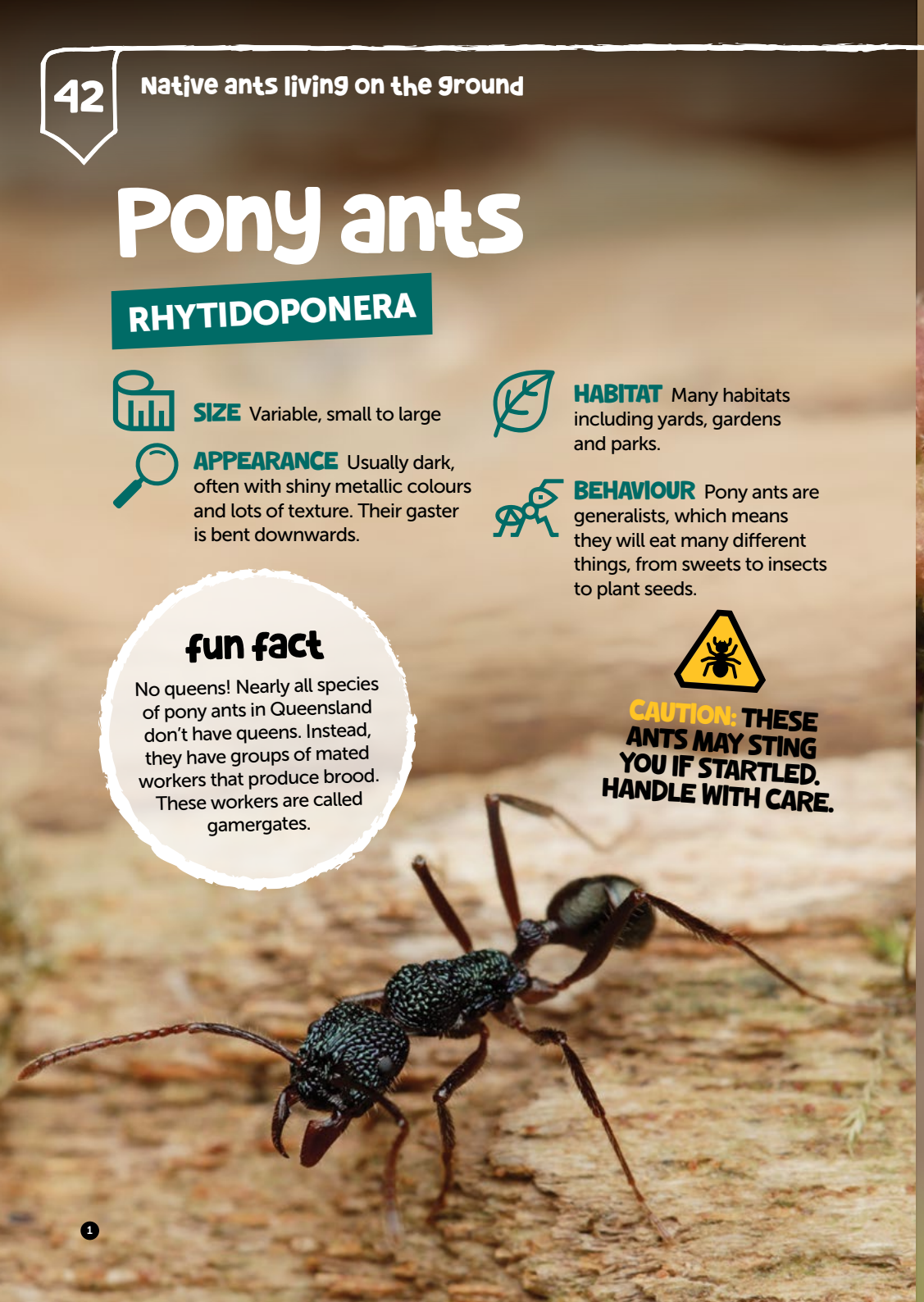
HABITAT Many habitats including yards, gardens and parks.

BEHAVIOUR Pony ants are generalists, which means they will eat many different things, from sweets to insects to plant seeds.

fun fact

No queens! Nearly all species of pony ants in Queensland don't have queens. Instead, they have groups of mated workers that produce brood. These workers are called gamergates.

CAUTION: THESE ANTS MAY STING YOU IF STARTLED. HANDLE WITH CARE.



1

Beauty ants

CALOMYREX

SIZE Medium

HABITAT Dry country to rainforest.

BEHAVIOUR When they feel threatened, these ants run around with their gaster (abdomen) sticking up in the air.

APPEARANCE Metallic and shining with beautiful black, silver, or bright colours. Often multicoloured.

fun fact

If captured, these ants may spit a horrible-smelling red fluid - it's harmless, but can scare predators into dropping the ant!

2

Image credits: 1 Daniel Kurek | www.inaturalist.org/people/d_kurek 2 Nigel Main

Bull ants

MYRMECIA

SIZE Large (Australia's biggest ants)

HABITAT Forests, grasslands, paddocks, and parks and gardens. Some bull ants build dome-shaped nest mounds, while others burrow underground.

BEHAVIOUR Bull ants often forage alone. They are active and curious, with excellent eyesight. As you watch bull ants, you'll often see them observing you too!

Instead of communicating through pheromones (smell chemicals) like many other ants, bull ants communicate visually, and use visual landmarks to find their way around.





APPEARANCE Bull ants have long, straight mandibles and large eyes. They may be black, red, brown, or multicoloured with gold or stripes.



fun fact

Bull ants are one of the most primitive (ancient) ants - like a living dinosaur!

Did you know?

Giant ants

One of world's biggest ants (the giant bulldog ant, *Mymecia brevinoda*) lives in the Wet Tropics. These massive ants can reach over 35mm in length!



CAUTION: THESE ANTS MAY STING YOU IF STARTLED. THE STING CAN BE DANGEROUS TO PEOPLE WHO ARE ALLERGIC TO BEE AND WASP VENOM.

Image credits: 1 2 3 Nigel Main

Native ants

LIVING UNDER GROUND

Root-aphid ants

ACROPYGA

SIZE Small

HABITAT From dry country to rainforest, usually nesting under rocks and logs near plants.

BEHAVIOUR
Acropyga ants live entirely underground, and the soil protects them from heat, cold, and rain. Their eyes are tiny because they live in the dark - they wouldn't be able to see much anyway!

APPEARANCE Small, slow-moving ants with tiny eyes, short legs and a pointy gaster (abdomen). Usually yellow-brown.



EXTREME PARTNERSHIP

Acropyga ants' main food is the honeydew made by small insects, called mealybugs, that live on plant roots. Without mealybugs, the ants will starve.

This food is so important that when a new *Acropyga* queen leaves home to start her new nest, she carries a mealybug with her, so it can start a mealybug colony too!



Image credits: 1 Alex Insect | CC BY NC 2 Jo Myeongdong | www.inaturalist.org/people/5952514

CAREBARA

SIZE Tiny to small

HABITAT Many habitats.

BEHAVIOUR *Carebara* ants are small and cryptic (shy and hard to find). They only come above ground for food.



APPEARANCE They have tiny eyes (or none). They're yellow, red, brown or dark in colour.

Fun Facts



Big Sisters

For many ant species workers can vary in size, from minor (small) to major (big). Species of *Carebara* also have huge 'super major' workers. Super majors can be 500 times the weight of their minor sisters!

TINY ANTS

One of the world's smallest ants, *Carebara atoma*, is found in the Wet Tropics. Minor workers of this species are less than a millimetre long!

Actual Size

LESS THAN 1MM!

Image credits: 1 Mason Salem 2 Peter Yeeles 3 Philipp Hoenle

Dracula ants

AMBLYOPONE

QUEEN

SIZE Medium

HABITAT Many habitats. They nest under rotten wood or rocks.

BEHAVIOUR The secretive Dracula ants forage underground and in leaf litter, rarely coming to the surface.

Blood sucking

Queen Dracula ants perform non-fatal cannibalism!

They bite their own larvae and drink their hemolymph (insect blood) [he-mo-limf].

Amazingly, this doesn't kill the larvae!

APPEARANCE Golden-brown to dark, with a broad head and long, serrated mandibles.

Image credits: 1 Nigel Main 2 Daniel Kurek | www.inaturalist.org/people/d_kurek

Big-headed ants

PHEIDOLE

SIZE Tiny to small

HABITAT Nearly every habitat in the Wet Tropics. They nest in logs, leaves, or any shelter.

BEHAVIOUR Big-headed ants have two sizes: minor (small) workers, and major (big) workers, which have big heads and strong jaws used for cutting up food.

While major workers may look fierce, they are shy, the first to run away from danger!

APPEARANCE Brown, ginger, yellow, or dark; rarely multicoloured.



2



1

Did you know?



3

Neapolitan ants

The tri-coloured *Pheidole epem121* is coloured red, white, and dark brown. This beautiful ant hasn't even received a formal scientific name yet!

Image credits: 1 2 Daniel Kurek | www.inaturalist.org/people/d_kurek 3 Peter Yeeles

INVASIVE SPECIES

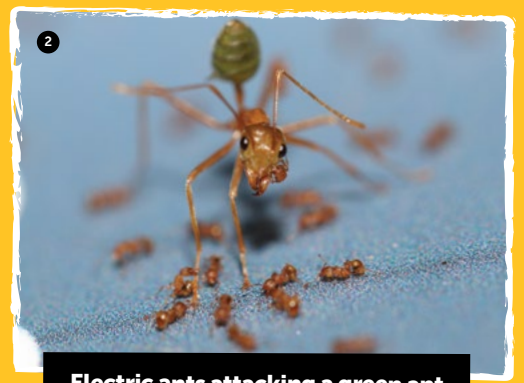


Yellow crazy ants attacking a praying mantis

Sometimes introduced species are very damaging to the environment. They spread quickly, and either eat or kick out all the native animals that live there.

The species that do this are called invasive species.

Because invasive species are so harmful for our environment, it's important that you look out for them when you're exploring and hunting for ants.



Electric ants attacking a green ant

If you see any of these invasive ants, tell an adult right away so they can report the ants.

In far north Queensland, we have teams of ant scientists and specialists who eradicate (get rid of) invasive species, so that our ecosystem can stay healthy. But **we need your help** to succeed.

Thank you for helping us look for invasive ants and protecting the environment!

Image credits: 1 Alan Henderson 2 Sam Wylie

Yellow crazy ants

ANOPLOLEPIS GRACILIPES

SIZE 4mm long

APPEARANCE
Yellow to golden brown with dark abdomen; long, slender legs and antennae; fast erratic motion.

WHERE FOUND
Any habitat. Locations mainly south of Cairns, and a few locations in Kuranda.



IMPACTS Rapidly builds to high numbers; sprays acid to subdue prey, including native wildlife; lowers crop yields; damages ecosystem.

ERADICATION PROGRAM

The Wet Tropics Management Authority is working to eradicate yellow crazy ants from the Cairns region.

The team is very successful so far and has eliminated the ants from several infestations totalling more than 400 hectares.

REPORTING

We need your help!
If you think you've seen yellow crazy ants:
Call **1800 CRAZY ANT** or **4241 0525** or email **yca@wtma.qld.gov.au**

Image credits: 1 Alex Wild | www.alexanderwild.com 2 Alan Henderson

Electric ants

WASMANNIA AUROPUNCTATA



SIZE 1-1.5mm

APPEARANCE Tiny, slow-moving ginger ants, all the same size.

WHERE FOUND Locations in greater Cairns region, from Mission Beach to Daintree and west to the Tablelands.

IMPACTS

- Painful sting, can blind pets
- Kills native wildlife
- Damages ecosystem

ERADICATION PROGRAM
National Electric Ant Eradication Program, managed by Biosecurity Queensland.

REPORTING Call **13 25 23** or visit the Biosecurity Queensland website to report ants or organise a **FREE** yard check.

Many ants are very tiny. It is not possible to determine if they're electric ants with the naked eye. If you see small red-brown ants that could be electric ants, or you are bitten or stung by anything, contact Biosecurity Queensland for a FREE inspection.



Fire ants

SOLENOPSIS INVICTA



SIZE 2-6mm

APPEARANCE Copper brown, with multiple sizes of worker in one nest. Nests are mounds of soil with no visible entry/exit holes.

WHERE FOUND Not yet found in Cairns - let's keep a sharp lookout! Most locations are in south-east Queensland.

IMPACTS

- Painful sting causes blisters
- Kills native wildlife
- Harms crops, makes land unusable
- Damages ecosystem

ERADICATION PROGRAM
National Fire Ant Eradication Program, managed by Biosecurity Queensland.

REPORTING
Call **13 25 23**
or visit the National Fire Ant Eradication Program website:
www.fireants.org.au

Image credits: 1 Chaym Turak 2 Alex Wild | alexanderwild.com 3 National Fire Ant Eradication Program

Other Introduced Ants

Introduced means a species has been brought from somewhere else rather than evolving here. Invasive species are generally introduced.



2-4MM

Coastal brown ant

PHEIDOLE MEGACEPHALA



3MM

Pennant ant

TETRAMORIUM BICARINATUM



1.5MM

Ghost ant

TAPINOMA MELANOCEPHALUM



2MM

Trailing flower ant

MONOMORIUM SP.

Fishery Falls, Wooroonooran National Park, Madjandji Country

We don't have control programs for these species - but they still matter. They can harm the environment and our native species.

Introduced ants are often spread around through movement of materials that have ants living in them, such as plants or mulch. Always check for ants before you move or give away these things.

Image credits: 1 Steven Nowakowski 2 Peter Yeeles 3 Ben Tsai 4 Dan Blamey | www.inaturalist.org/people/headsoup 5 Julian Fuchs

Where to Learn More

In this book you've had a chance to look at just a handful of the remarkable ants that live in the Wet Tropics. But there are so many more to discover!

To keep learning, visit your local library, and check out the online resources below.

AntWiki
A resource with information about ants in Australia and beyond. This site also includes identification keys.
www.antwiki.org

iNaturalist
A place to connect and share your explorations of nature.
www.inaturalist.org

Wet Tropics Management Authority
Information about the Wet Tropics World Heritage Area and everything in it.
www.wettropics.gov.au

Queensland Government Department of Agriculture and Fisheries
www.daf.qld.gov.au

Australian Government Department of Agriculture, Fisheries and Forestry
www.agriculture.gov.au



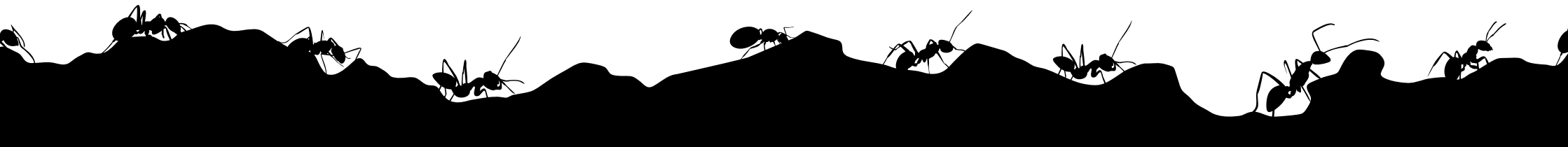
Image credit: Connor Margetts | www.inaturalist.org/people/3854943

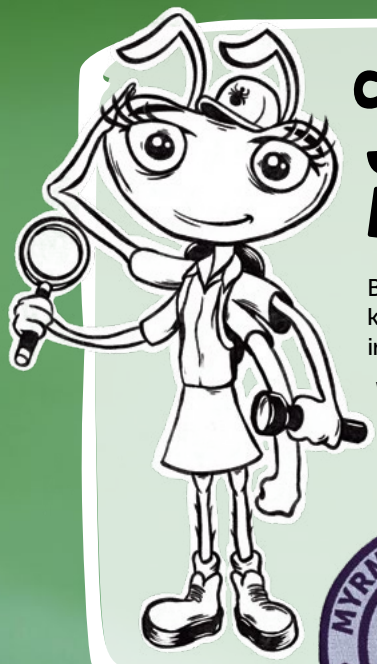
TIP Photocopy these pages first to give you more space



Measure your ant

Tiny 0.5-2mm
Small 2-4mm
Medium 4-10mm
Large 10+mm

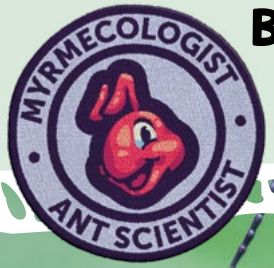




Congratulations, Junior Myrmecologist

By reading this guide, you've gained the knowledge and skills you need to get out into the wild and start observing ants.

Wear your badge with pride! Take this book with you when you explore, and don't forget to record what you see in your Field Notes.



Be safe, & have fun!



Image credit: Peter Yeeles

Welcome to THE AMAZING WORLD OF Ants

In this book, you'll learn all about ants and how to recognise the different ants that call the **Wet Tropics** their home.

You'll gain the **knowledge and skills** you need to **become a junior myrmecologist** (ant scientist)!



Hi, I'm Jules!



I've been passionate about insects, biodiversity, and all things nature for my whole life. Eventually, this interest led me to study ants at university. I now work for the Wet Tropics Management Authority in the Yellow Crazy Ant Eradication Program.

I hope that in this book, every reader can find something new and fascinating that encourages them to look closer and connect more deeply with the extraordinary natural world we all share.

ISBN 978-1-7636183-0-5

WET TROPICS MANAGEMENT AUTHORITY

© 2024 Copyright Wet Tropics Management Authority

Image credit: Kym Nicholson | CC BY NC