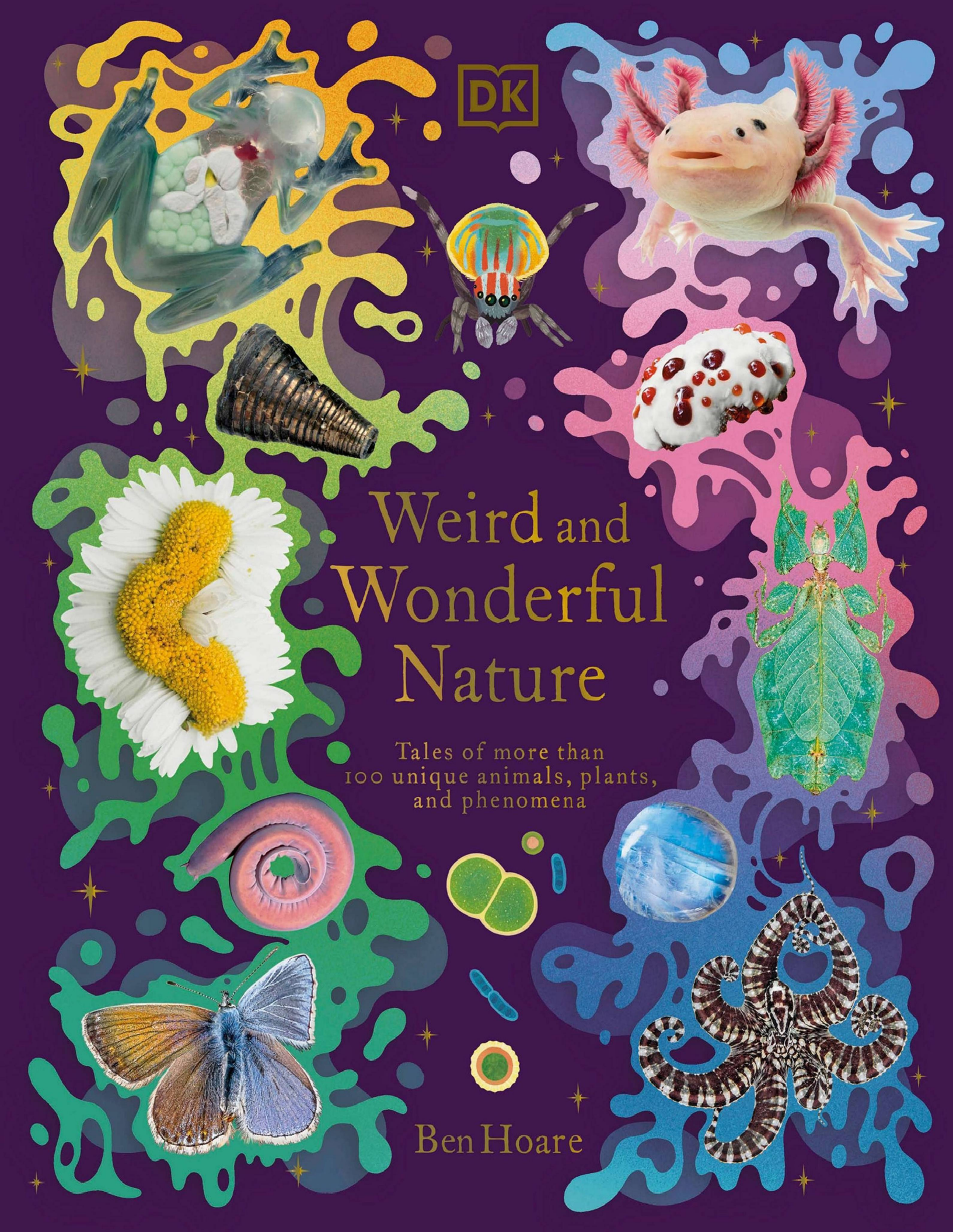

DK
Weird and Wonderful Nature
Tales of more than 100 unique animals, plants, and phenomena
Ben Hoare

Contents

Introduction

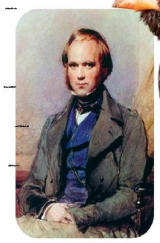
Discovering nature

Myths and legends

In the past, mythical creatures were often thought to be real. Artwork and books showed unicorns, mermaids, phoenixes, dragons, and many other fantastical beasts. Sometimes, these animals mixec imaginary features with those of actual species that people had only glimpsed, or whose remains they had found.

Expeditions

Since ancient times, people have launched expeditions to other places to learn more about the world. Before modern transportation, these journeys were frequently dangerous and difficult, but the explorers came back with evidence of all kinds of amazing plants, animals, and other natural wonders.



Species

Zombie ant fungus

Zombie ant fungus

(Cordyceps)

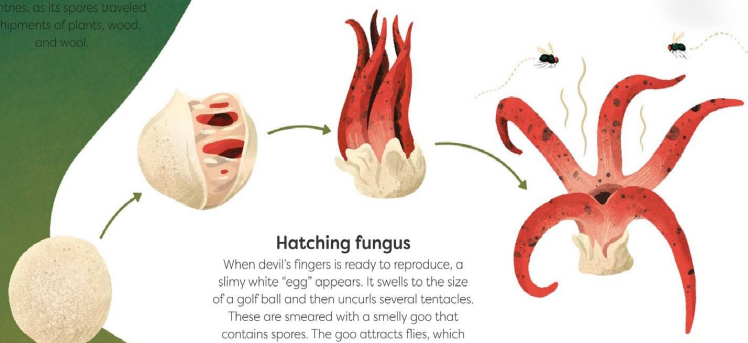
There are many types of zombie fungus. Most target ants, but others attack caterpillars, wasps, flies, grasshoppers, and spiders. Some even infect other fungi.

Fungus life cycle

First, spores from the fungus land on a passing ant. They burrow inside and feed on the ant's body. Next, they make it crawl up a plant. By making the ant climb high, it means the fungi's spores will spread farther when they are released, starting the process again.

Devil's fingers

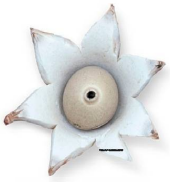
Devil's fingers
(Clathrus archeri)
Devil's fingers is originally from Australia and New Zealand, but has spread to many other countries, as its spores traveled in shipments of plants, wood, and wool.

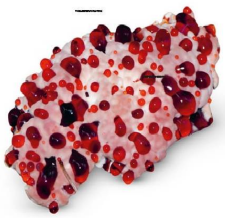


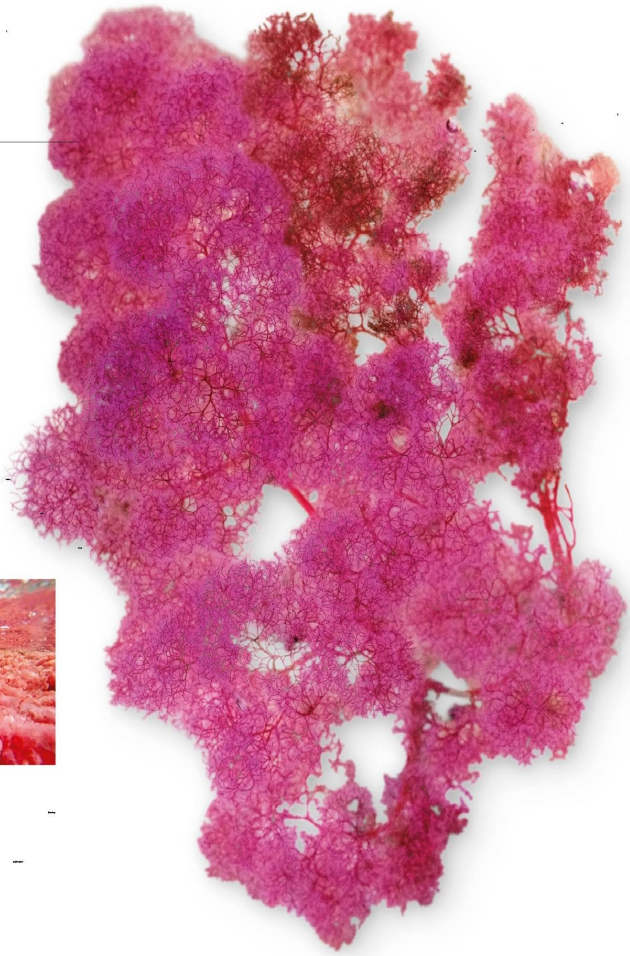
Hatching fungus
When devil's fingers is ready to reproduce, a slimy white "egg" appears. It swells to the size of a golf ball and then uncurls several tentacles. These are smeared with a smelly goo that contains spores. The goo attracts flies, which soon have it all over their legs and carry it away.

DEVIL'S FINGERS

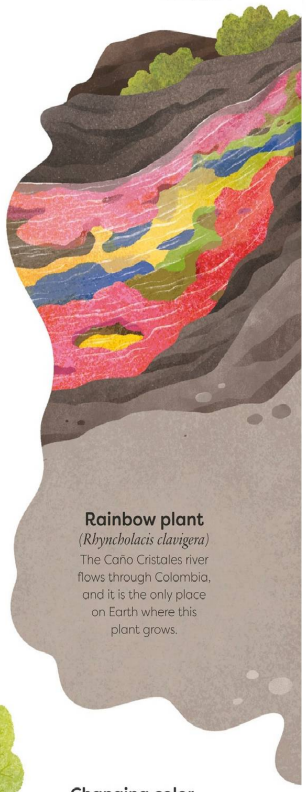
Fungi



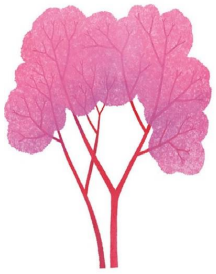


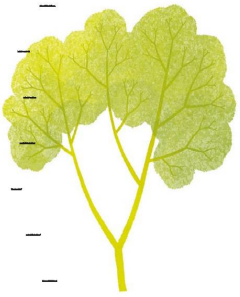


Rainbow plant



Rainbow plant
(Rhyncholacis clavigera)
The Caño Cristales river flows through Colombia, and it is the only place on Earth where this plant grows.





Changing color
The rainbow plant needs plenty of sunlight to develop its full range of brilliant colors. In darker stretches of the river, such as in the shade of rocks or trees, its stems and leaves are bright green.

Dragon's blood tree

Dragon's blood tree

(Dracaena cinnabari)

Dragon's blood trees grow wild on the island of Socotra in the Indian Ocean. Some years, they burst into flower, but the gaps between blooming can be up to 10 years.

Blood-red resin

When a dragon's blood tree is cut, a bright red liquid called resin oozes from the bark. The resin seals the wound, doing a similar job to clotting blood. As the red resin drips from the bark, it looks as if the tree is bleeding.

Tilting trees

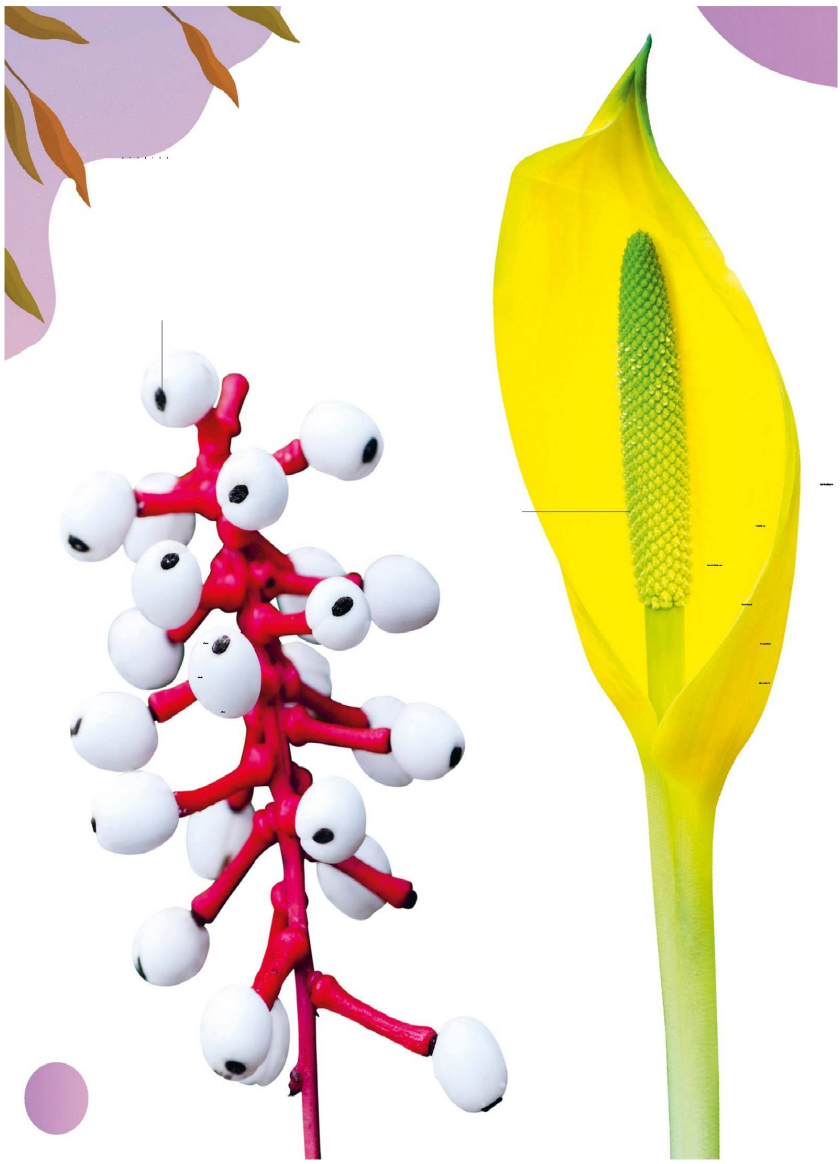
Cook pines come from the New Caledonia islands in the southwest Pacific Ocean, but have been taken to many other parts of the world. Amazingly, wherever these trees grow, they tend to lean toward the equator! The farther away they are, the more they tilt. No other tree on Earth does this—and no one is yet sure why.

Ghost plant

Ghost plant
(Monotropa uniflora)
Ghost plants live in forests in Asia and North and South America. For most of the year, they are hidden underground until they flower in the summer.

Stealing food
Forest soil is full of fungi. They form huge webs made from masses of tiny threads, called hyphae. The hyphae latch onto the roots of trees, suck out sugar, and take it away through their network. Ghost plants steal some of this sugar by sending out roots to connect with the fungi.

GHOST PLANT

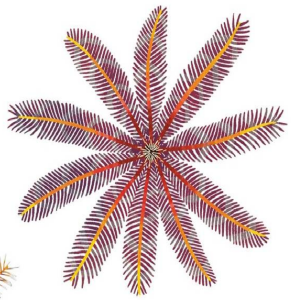


Plants

Fabulous flower

One of the world's oddest blooms, the black bat flower lurks in the rain forests of Southeast Asia. Its huge pair of batlike "wings" are not petals, but a special kind of leaf. Between the wings are more than 20 flowers on stalks and a spray of spectacularly long threads that give this plant another name, "tiger's whiskers."

Feather star

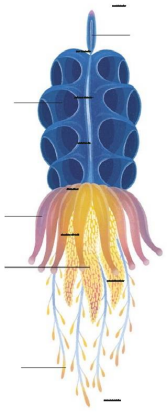


Filter feeding

A feather star holds up its arms to catch pieces of food drifting past. Tube feet on the arms easily trap the food because they are coated in sticky slime. The tasty morsels are then passed down toward the animal's mouth, which is found at the center of its many arms.

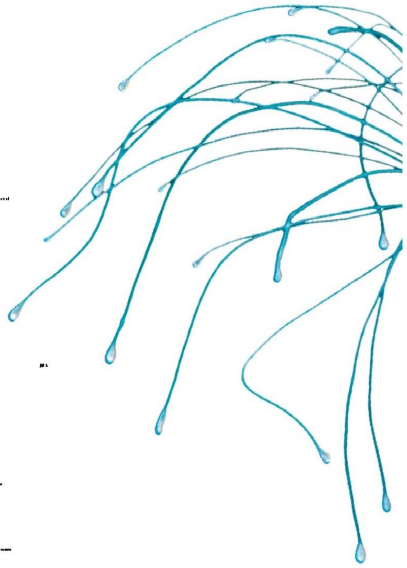
Siphonophore

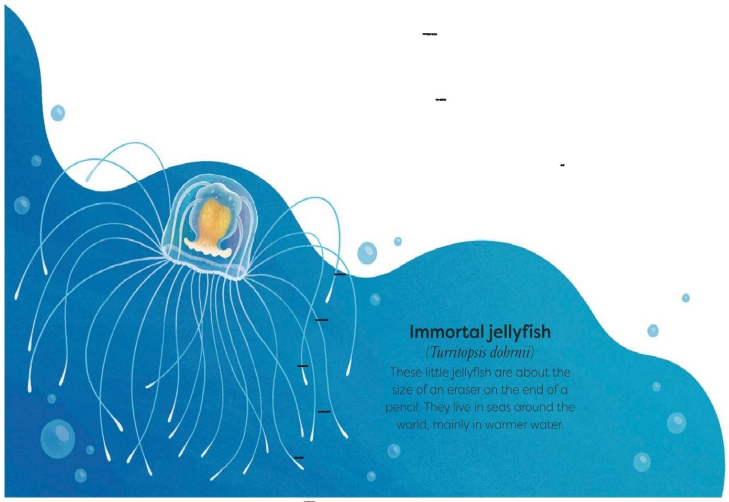
Siphonophores
(Siphonophorae)
Related to jellyfish, these colonies of animals drift through the world's oceans in vast numbers. They can be large or small and come in a huge variety of shapes.



Different zooids
The zooids in a siphonophore, such as this hula skirt siphonophore, do different jobs. Some of the zooids catch prey with their stinging tentacles, while others help the colony to digest food, jet through the water, produce light, defend itself, and reproduce.

Immortal jellyfish

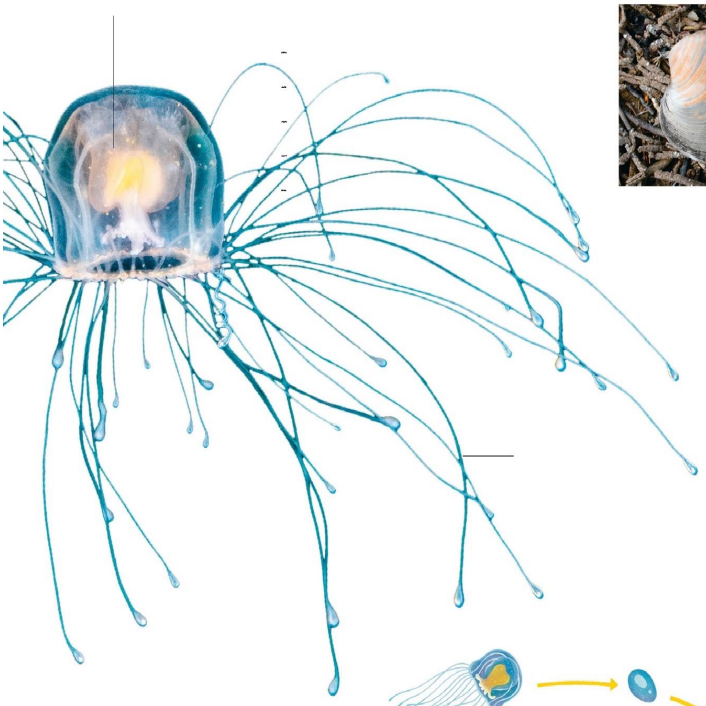


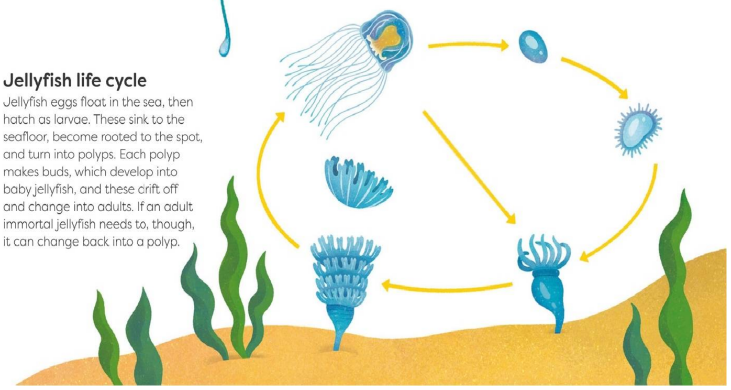


Immortal jellyfish

(Turritopsis dohrnii)

These little jellyfish are about the size of an eraser on the end of a pencil. They live in seas around the world, mainly in warmer water.

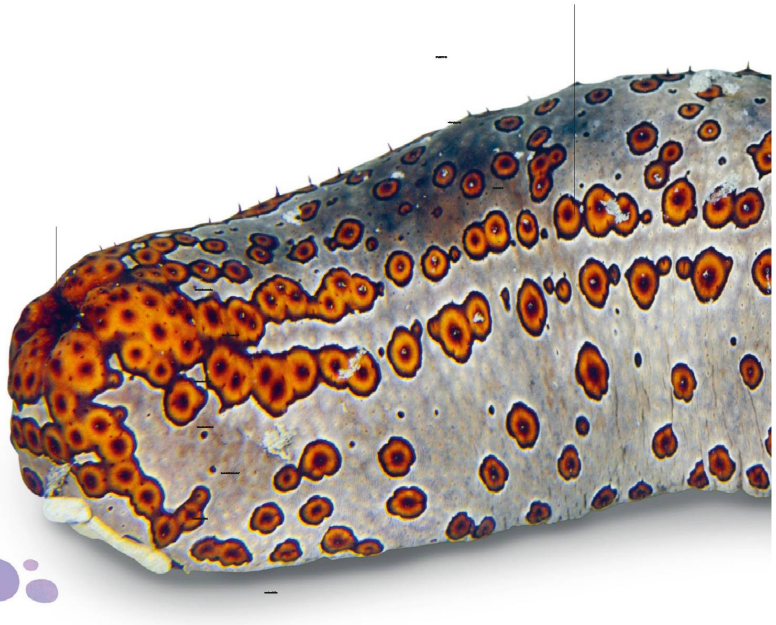




Jellyfish life cycle

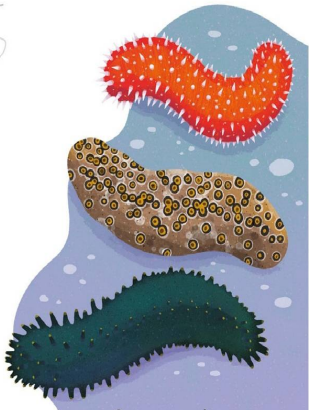
Jellyfish eggs float in the sea, then hatch as larvae. These sink to the seafloor, become rooted to the spot, and turn into polyps. Each polyp makes buds, which develop into baby jellyfish, and these drift off and change into adults. If an adult immortal jellyfish needs to, though, it can change back into a polyp.

Sea cucumber



Insides out

When it feels threatened, the leopard sea cucumber squeezes hard with its muscles to fire out a mass of what look like noodles from its bottom. These threads are sticky, and a predator can quickly become tangled up in them, allowing the sea cucumber to escape.



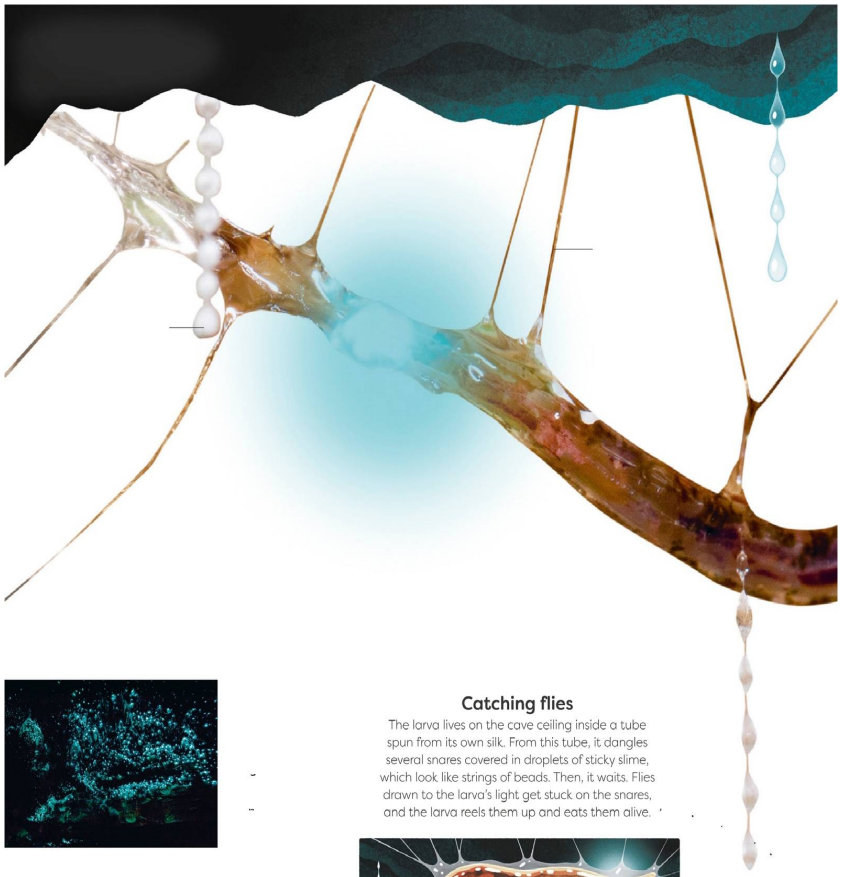
Sea cucumbers

(Holothuroidea)

Sea cucumbers live throughout the world's seas, from sunlit coral reefs to the dark, chilly depths of the ocean. They can be found on the ocean floor in great herds.

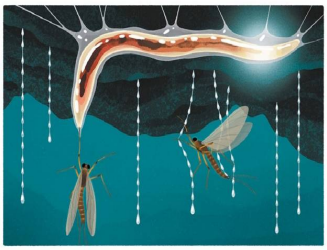
Swimming snail

Mysterious sea butterflies flutter through the ocean. They are not insects, which can't survive in salt water, but a kind of sea snail. Their muscular foot has split to become a pair of wings that flap to push them forward. Below these is their spiral shell, which is see-through, as if carved from crystal.



Catching flies

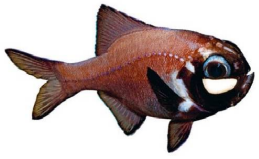
The larva lives on the cave ceiling inside a tube spun from its own silk. From this tube, it dangles several snares covered in droplets of sticky slime, which look like strings of beads. Then, it waits. Flies drawn to the larva's light get stuck on the snares, and the larva reels them up and eats them alive.

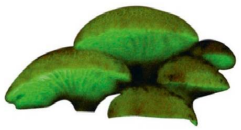


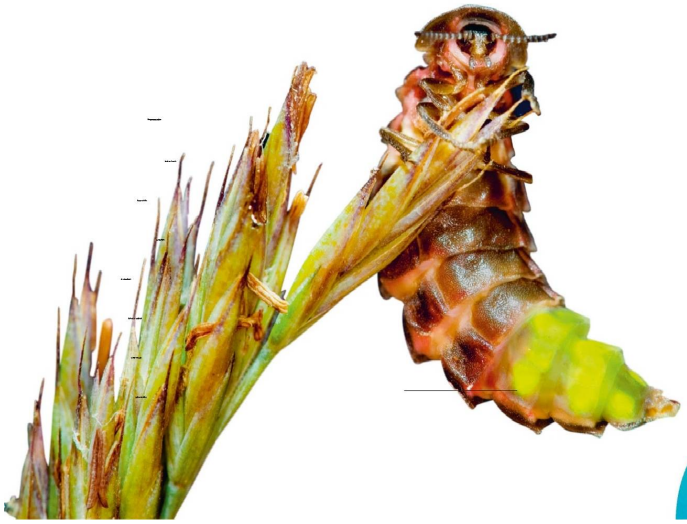
Fungus gnat

Fungus gnat
(Arachnocampa luminosa)
This insect is found only in New Zealand, mainly in wet caves, but also in forests where it rains a lot. Similar fungus gnats live in Australia.

Glowing life



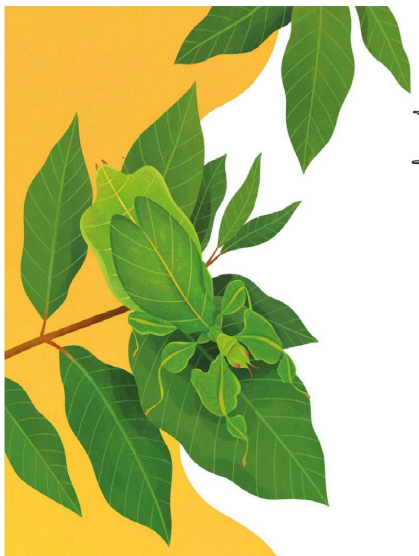




Glowing sea

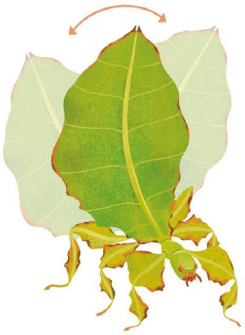
On warm nights, the ocean itself sometimes glitters and glows. The blue light is produced by masses of single-celled organisms called dinoflagellates, also known as sea sparkle. Movement in the water, stirred up by a dolphin, swimmer, or breaking waves, sets off a chemical reaction in these tiny life-forms, making them glow.

Leaf insect

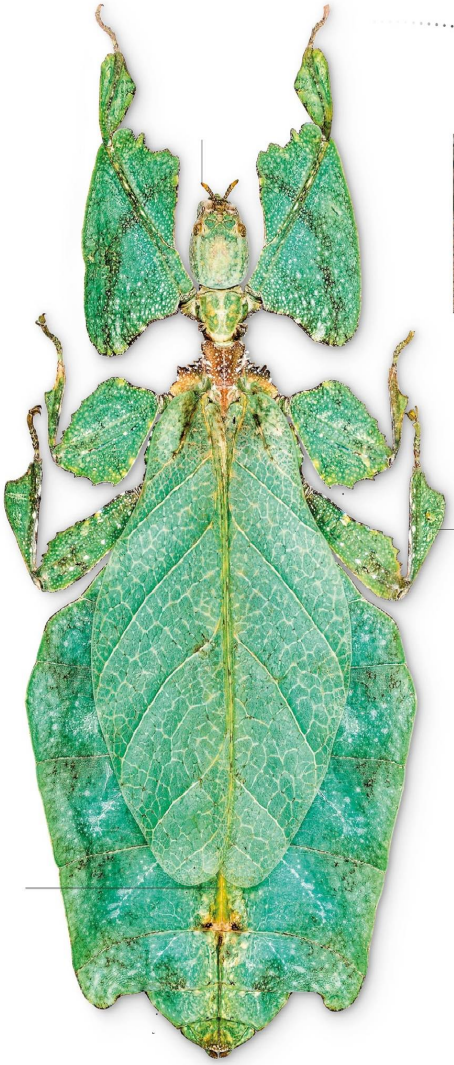


Giant Malaysian leaf insect
(Phyllium giganteum)
You will need sharp eyes to spot this insect in the treetops of its rain forest home. It is found in Malaysia.

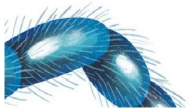
Like a leaf
The leaf insect's camouflage works best if it stays perfectly still, because if it moves, it might give itself away. When there is a breeze in the forest, though, young leaf insects, called nymphs, sway from side to side to copy the movement of the nearby leaves.



LEAF INSECT



Camouflage



Brazilian jewel tarantula

Brazilian jewel tarantula
(Typhochlaena seladonia)
This tarantula can only be seen in the Atlantic Forest, an area of tropical rain forest on the east coast of Brazil. It shares its home with many rare species.

Itchy hairs

Tarantulas don't use their venomous bite to deal with enemies. Instead, their bodies are covered in loosely attached hairs that are incredibly itchy. If a predator attacks, the spiders use their back legs to flick these nasty hairs in the face of their enemy.

Horseshoe crab

Atlantic horseshoe crab
(Limulus polyphemus)
These horseshoe crabs are only seen when they come ashore in the spring to breed on the east coast of North America. The rest of the time they live on the ocean floor.

Colorful crustacean

The peacock mantis shrimp has eyes on stalks that can swivel in every direction. This gives it an incredibly wide view of the seabed, and its eyes detect patterns of light no other animal can see. When it locks onto a target, such as a crab or snail, its two clublike arms punch faster than a speeding bullet!

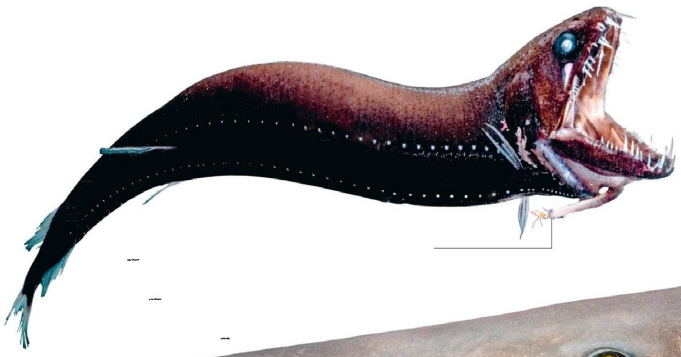
Male and female

In football fish, the male is minuscule compared to the female. Once he has managed to find a partner in the darkness, he latches onto her with special hooks on his nose so that he doesn't lose her. Now, he can fertilize her eggs when she releases them.

Deep-sea anglerfish

Football fish
(Himantolophus)
Female football fish are large and almost spherical, which is how they got their name. Like other deep-sea anglerfish, they soon die if brought to the surface and are rarely captured alive.

Deep-sea species



Mistaken identity

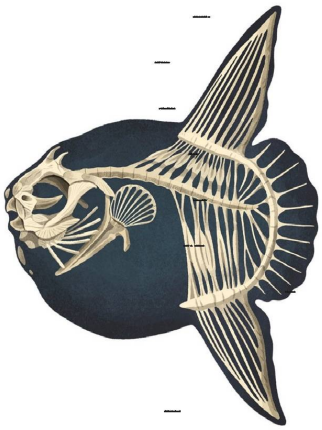
When sunfish swim near the surface, the tall dorsal fin on their backs pokes above the water, so it's easy to mistake them for sharks.

Spiked sunfish

Newly hatched sunfish are around the size of a peppercorn. While young, they look like mini pufferfish and rely on spines for protection.

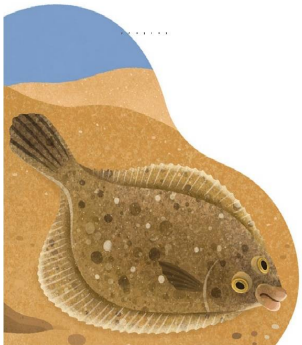
Sunfish

Ocean sunfish
(Mola mola)
Ocean sunfish swim through warm oceans worldwide. They are spreading north and south into new areas because of ocean warming caused by climate change.



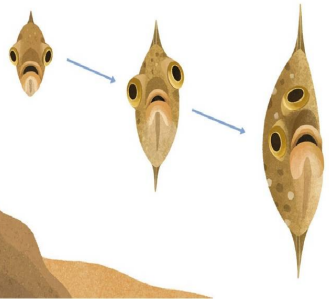
Sunfish skeleton
The reason sunfish can grow so large is because they have an unusual lightweight skeleton. Much of it is not bone, but cartilage, the same material we have in our ears and the front of our nose. Cartilage is strong, yet much lighter than bone.

Flatfish



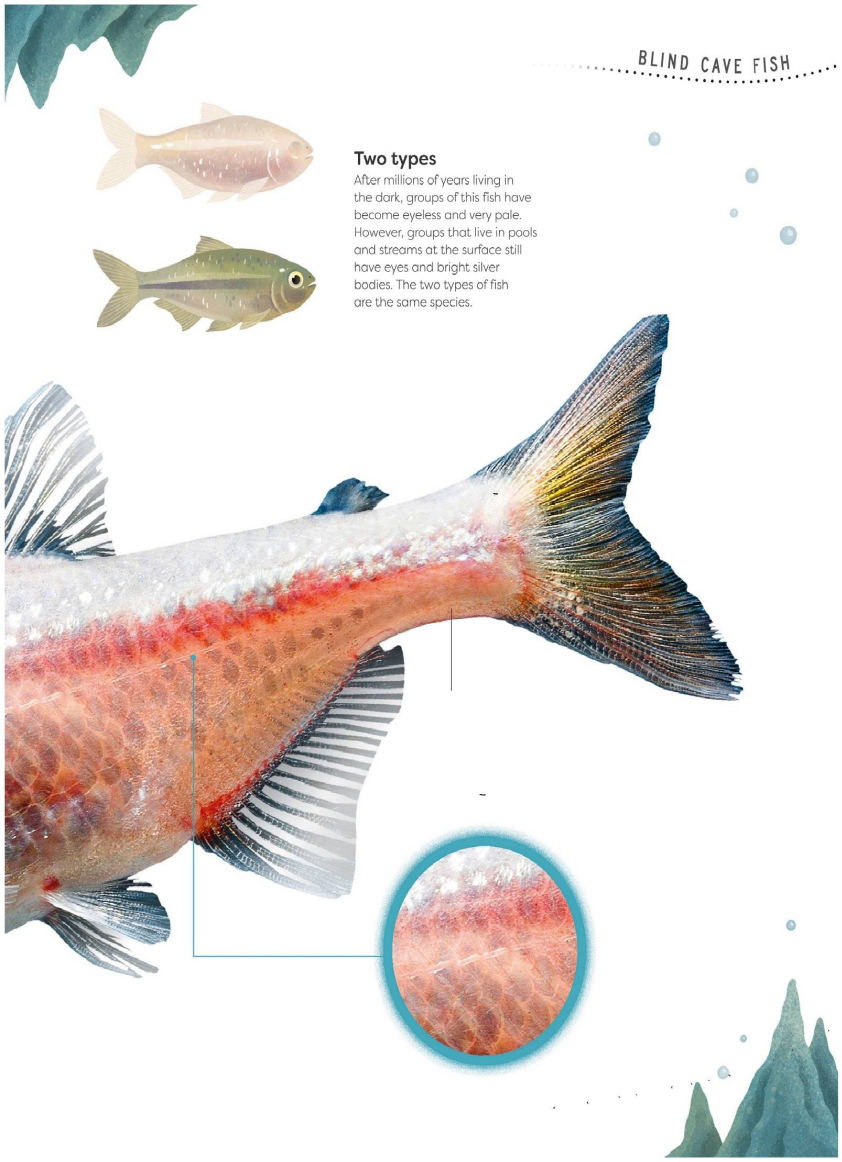
European flounder
(Platichthys flesus)
This flatfish lives along the coasts of the eastern Atlantic Ocean and the Mediterranean Sea. It rests on the seabed with its eyeless side facing down.

Total transformation
Soon after hatching, the flounder begins its transformation. Its skull bones bend, its jaws are pushed out of alignment, and its fins change shape. Usually, it is the left eye that begins slowly moving across the top of its head to meet the right, but sometimes it is the other way around.



Blind cave fish

Blind cave fish
(Astyanax mexicanus)
Eyeless forms of this fish live in flooded caves in Mexico. They eat small cave animals and scraps of food washed into the caves by heavy rain.



BLIND CAVE FISH

Two types

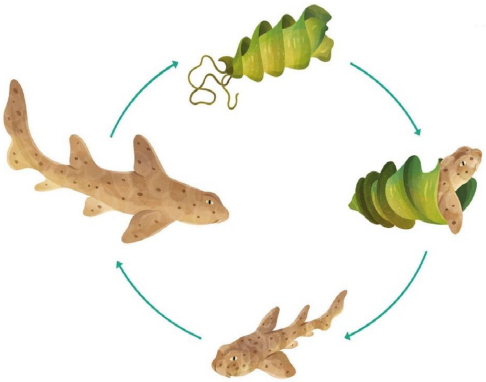
After millions of years living in the dark, groups of this fish have become eyeless and very pale. However, groups that live in pools and streams at the surface still have eyes and bright silver bodies. The two types of fish are the same species.

Horn shark

Horn shark

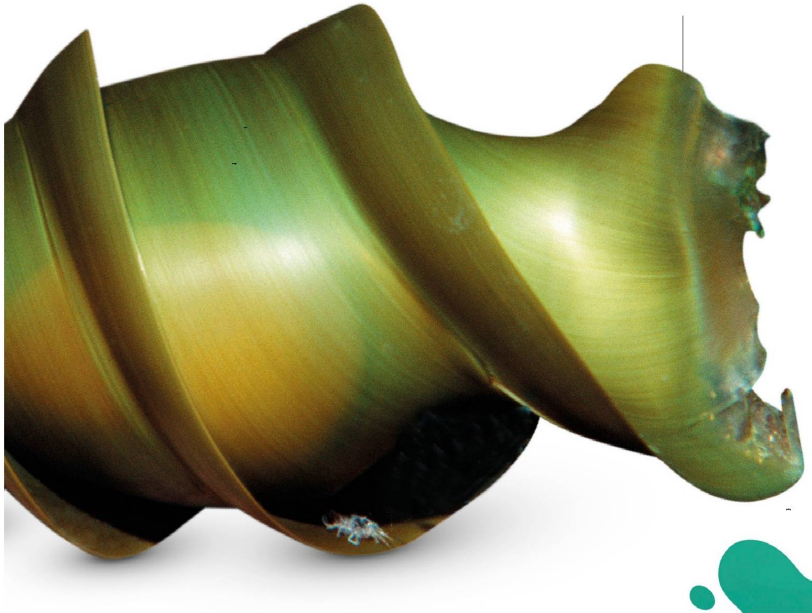
(Heterodontus francisci)

This small shark is found along North America's west coast, from California south to Mexico. It preys on sea snails and other shelled animals, crunching them up with its grinding teeth.



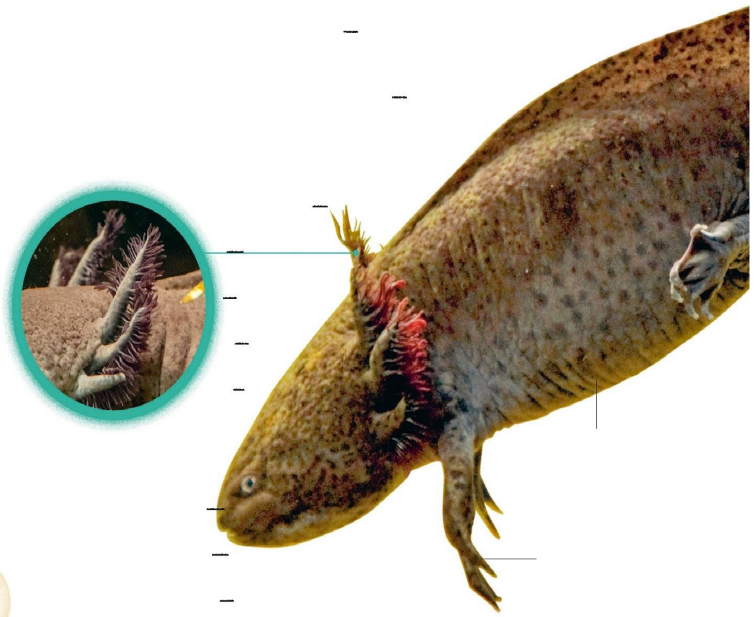
Shark life cycle

After mating, the female horn shark lays her eggs in batches of two throughout the spring and summer. Each egg contains a single embryo. The baby shark, called a pup, hatches around 10 months later by chewing its way out of the egg case before swimming off.



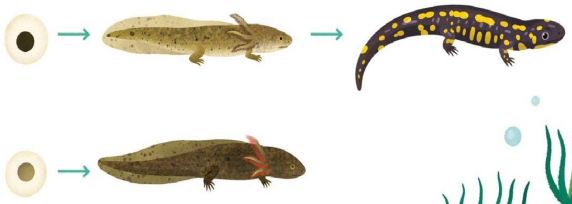
Eggs

Axolotl



Growing up

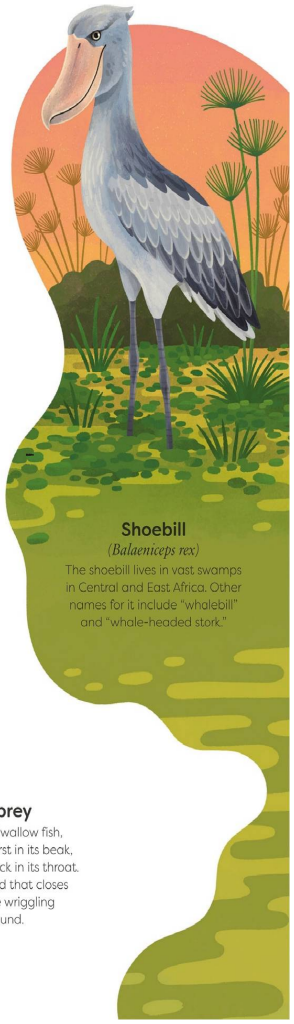
Most salamanders hatch from an egg into a larva, then change into an adult in a process called metamorphosis. Axolotls become adults without going through metamorphosis and hold onto their larval features into adulthood. This is known as neoteny and is very rare.



See-through frog

Glass frogs have unusual camouflage that works like a kind of invisibility cloak. Their skin and muscles are see-through, and their organs reflect light, so they seem to vanish into thin air. Their blood is still red, but when resting, the frogs can hide it by diverting red blood cells to the liver.

Shoebill



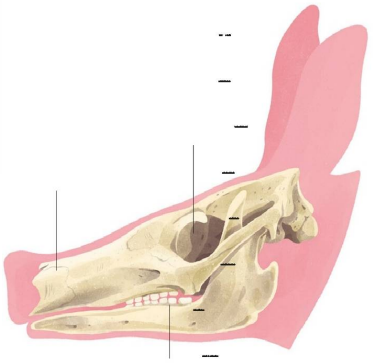
Shoebill
(Balaeniceps rex)
The shoebill lives in vast swamps in Central and East Africa. Other names for it include "whalebill" and "whale-headed stork."

Swallowing prey
Before the shoebill can swallow fish, it has to turn them headfirst in its beak, so their scales don't get stuck in its throat. Its eyes have a third eyelid that closes to prevent injury as the wriggling prey thrashes around.

Beaks

Aardvark

Aardvark
(Orycteropus afer)
The aardvark can be found in much of Africa south of the Sahara Desert. It is nocturnal and its eyesight is poor, so it relies on its superb sense of smell and hearing to get around.



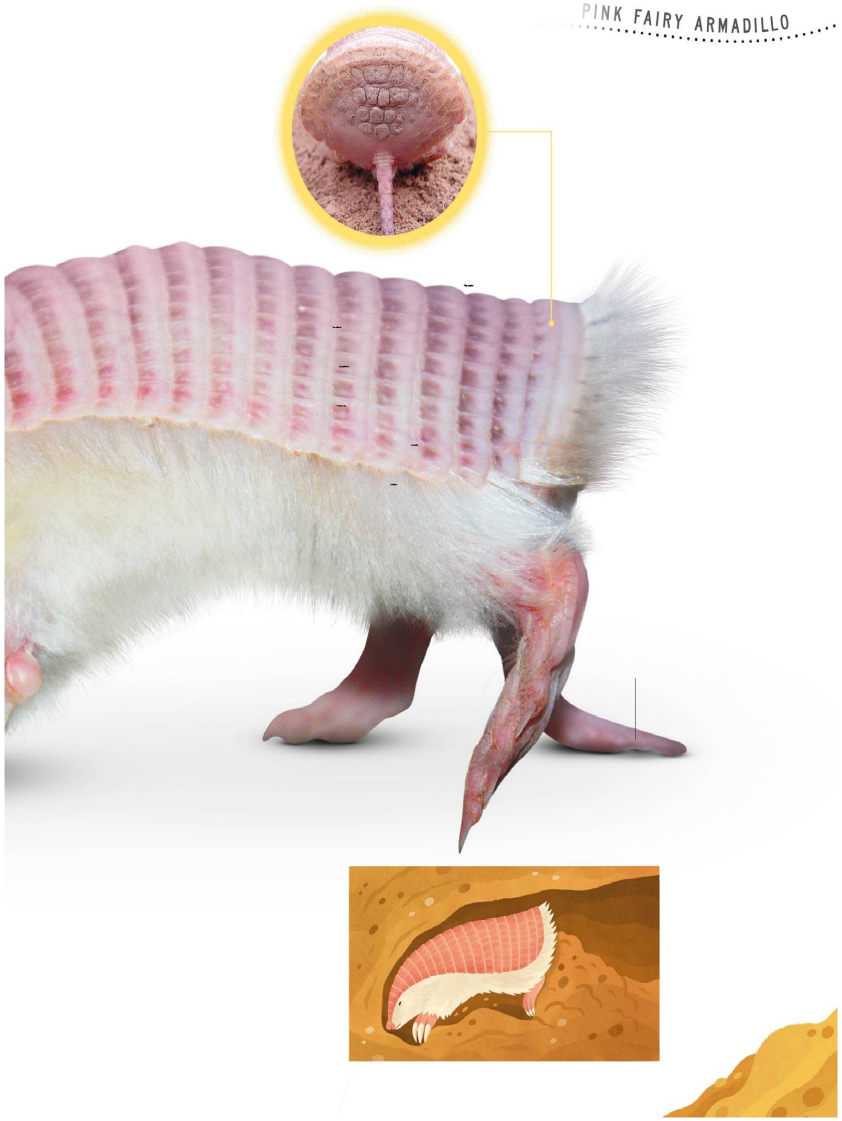
Unusual teeth

Aardvarks have very strange teeth. There are just 20 of them, all at the back of the jaw. They lack roots and enamel—the hard outer layer of our teeth—and never stop growing. Most of the time, aardvarks don't chew their food at all.

Pink fairy armadillo

Pink fairy armadillo
(Chlamyphorus truncatus)
The pink fairy armadillo lives in Argentina and survives on a diet of ants and a few plants. It is now rare and may be endangered.

PINK FAIRY ARMADILLO

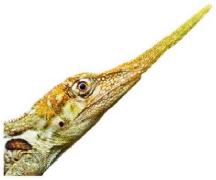


Star-nosed mole

Star-nosed mole
(Condylura cristata)
The star-nosed mole lives in Canada and the eastern US. It digs in the wet soil of swamps and beside streams and ponds, and is the only mole able to swim.

Worm detector
As the mole digs, it presses its star organ against the sides of its tunnel many times a second. The tentacles feel tiny vibrations and changes in pressure in the soil. When the mole detects a worm moving, it seizes the prey in its teeth.

Noses

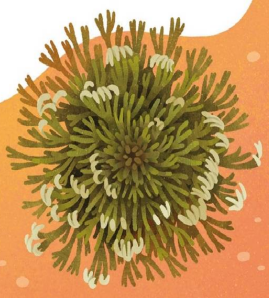


Behavior

Back to life

Months without rain dry out the spikemoss and turn it into a tight brown ball. Within hours of a sudden downpour, its roots and stems have taken up water and the plant uncurls. Its leaves then turn from brown to green again.

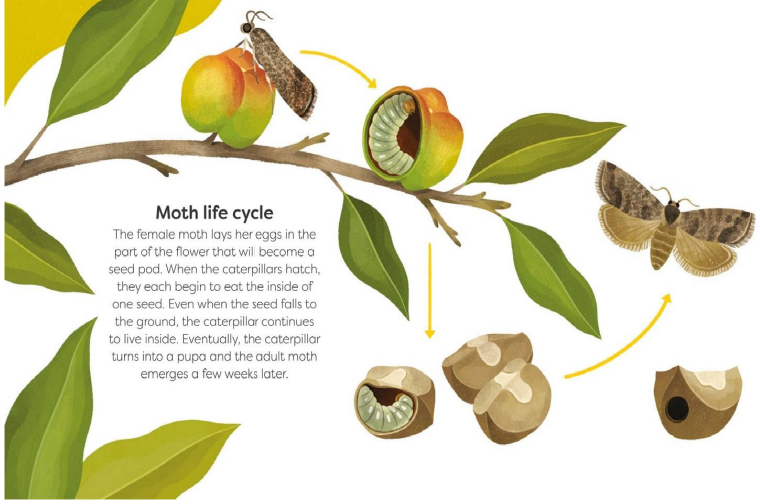
Resurrecting plant



Resurrection plant
(Selaginella lepidophylla)
This spikemoss grows in the Chihuahuan Desert in Mexico, but spikemosses can also be found in other dry habitats, damp forests, and rocky mountains.

Jumping beans

Jumping bean tree
(Sebastiania pavoniana)
Most jumping beans come from this type of small tree in Mexico, but jumping bean moth caterpillars also use the seeds of a few other plants in Central America.

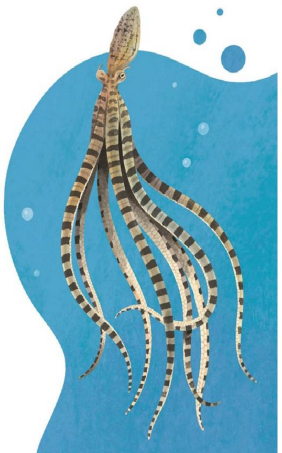


Moth life cycle
The female moth lays her eggs in the part of the flower that will become a seed pod. When the caterpillars hatch, they each begin to eat the inside of one seed. Even when the seed falls to the ground, the caterpillar continues to live inside. Eventually, the caterpillar turns into a pupa and the adult moth emerges a few weeks later.

Caterpillar or snake?

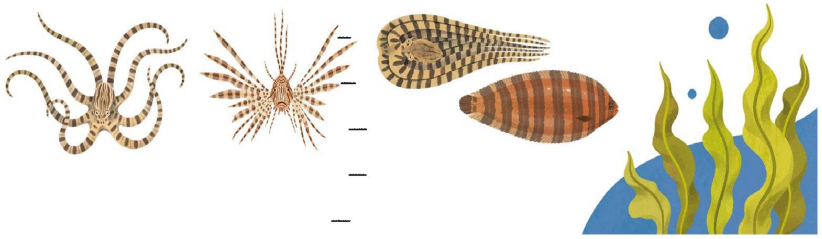
The caterpillar of the spicebush swallowtail butterfly copies a snake to scare birds away. It can even pop out an orange structure that looks like a snake's forked tongue.

Octopus in disguise



Copycat

To appear like a banded sea snake, the octopus folds in six of its arms and stretches out the other two in a long line. It imitates a lionfish by spreading all eight arms around its body like fins. To copy the zebra sole, it flattens itself on the seafloor in the shape of a fish.

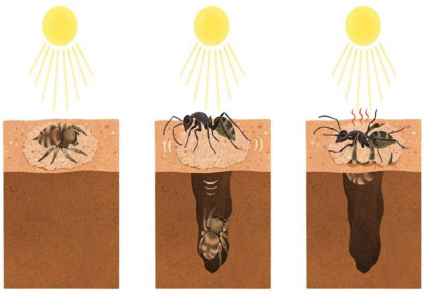


Poop armor

The larvae of some beetles hide behind a shield made out of their own waste products. Instead of just dumping the poop on leaves, these lily beetle larvae carefully keep it to smear all over their bodies. It may seem disgusting, but it keeps the larvae safe—no predator wants to eat them!

Cooking spider

Spoor spiders
(Seothyra)
There are around a dozen different types of spoor spider, all found in the sandy deserts of southern Africa.



Cooking an ant
A female spoor spider prepares her burrow and adds a silk tripwire at its entrance. She takes one end of it down into the burrow to alert her to a passing ant. When she feels movement, she rushes up to seize the ant and holds it against the burning sand.

Spider barricade

Chinese hourglass spider
(Cyclocosmia ricketti)
As far as we know, this spider lives only in a few provinces of southern China. It has become very rare and in recent years has been seen just a handful of times.

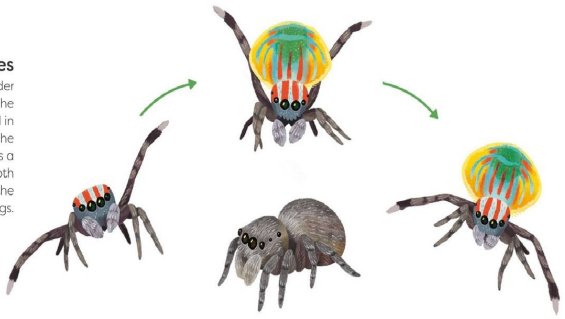
Quick getaway

Meeting a shrew could be a deadly situation for the Chinese hourglass spider, but it escapes by racing down its burrow headfirst. The hard plate on the end of its body seals the opening like a cork in a bottle—and the defeated shrew goes hungry.

Dancing spider

Peacock spider
(Maratus volans)
Peacock spiders live in Australia, mostly on the ground. They hide among the undergrowth, so can be hard to spot much of the time.

Dance moves
When the male peacock spider dances around the female, he waves his legs above his head in a particular order. Sometimes he raises a left leg, at other times a right leg, and occasionally both together. The white tufts on the ends of his legs show up like flags.



DANCING SPIDER

Dancing

DANCING

Fighting back

If a hungry fish takes on the boxer crab, the crab raises its anemones, ready to fight. The sight of the stinging tentacles is usually enough to make the fish back off, but just to make sure, the crab jabs them at its opponent.

Boxing crab

Boxer crab
(Lybia tessellata)
The boxer crab lives on coral reefs in the Pacific Ocean. If its anemones are damaged in a fight, they can regrow.

Waving crab

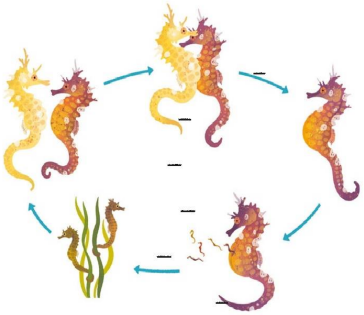
Male fiddler crabs have a gigantic claw that's useless for feeding. Instead, they wave it in the air to impress female crabs or swing it as a weapon to threaten or fight other males who invade their patch of beach. The downside is they have to work twice as hard with their smaller claw to get enough food.

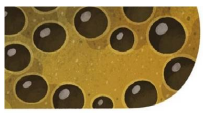
Fish slime factory

Pacific hagfish
(Eptatretus stoutii)
This hagfish lives in the Pacific Ocean. It is usually found in very deep water, more than 2 miles (3 km) below the surface, where it is always cold and dark.

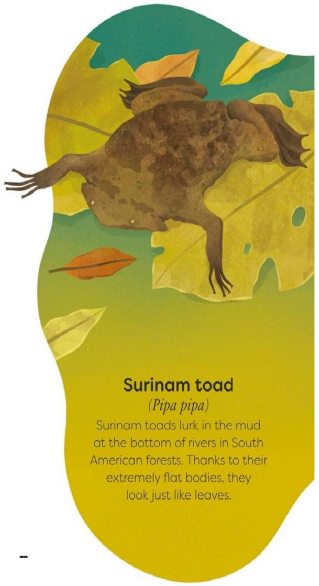
Pregnant male seahorse

Korean seahorse
(Hippocampus haema)
Most seahorses are small and stick to shallow water on the coast, including the Korean seahorse, which is barely the size of a crayon.



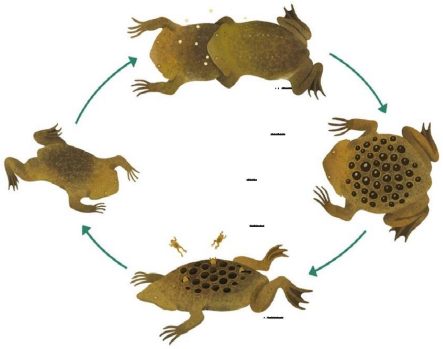


Hatching from skin



Surinam toad
(Pipa pipa)

Surinam toads lurk in the mud at the bottom of rivers in South American forests. Thanks to their extremely flat bodies, they look just like leaves.



Toad life cycle

The male and female Surinam toad do somersaults in the water while the female releases her eggs in order to transfer them to her back. The eggs embed in her skin and are safely covered over. The toadlets, which are mini versions of their parents, hatch several months later.

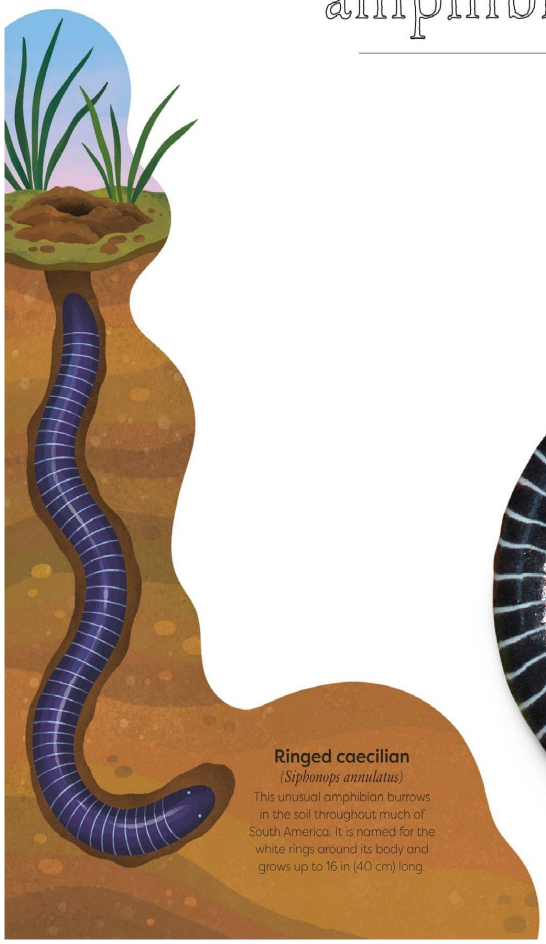
Frozen frog

Wood frog
(Lithobates sylvaticus)
Wood frogs live in the forests of North America. Those found farthest north, in Alaska and Canada, can cope with the most severe cold and stay frozen the longest.

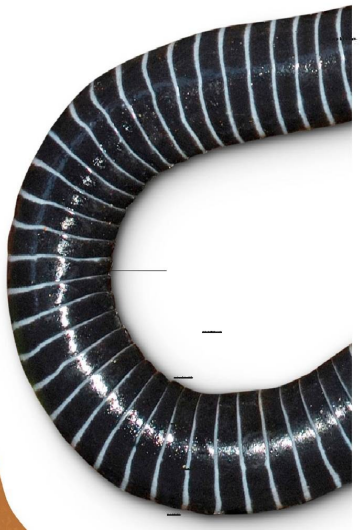
Winter survival

In October, the wood frog finds a snug spot among dead leaves and nestles down. There, it will remain frozen all winter. On a sunny day in May, the sun's warmth thaws out the frog in as little as 12 hours.

Skin-eating amphibian

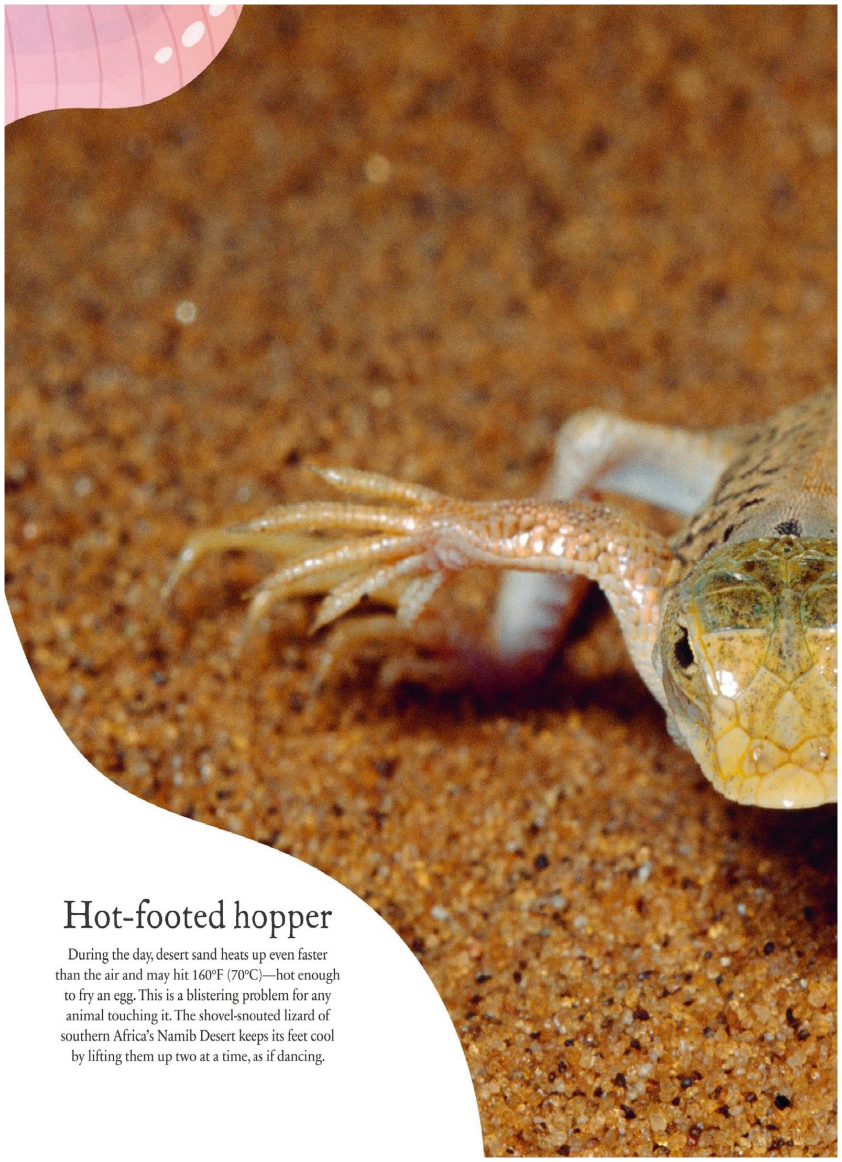


Ringed caecilian
(Siphonops annulatus)
This unusual amphibian burrows in the soil throughout much of South America. It is named for the white rings around its body and grows up to 16 in (40 cm) long.



Special skin

The skin of the mother ringed caecilian swells up and fills with fat to nourish her babies. She lies still to let them tuck in, using their three rows of sharp teeth. It takes just seven minutes or so for the young to remove all of the extra skin.



Hot-footed hopper

During the day, desert sand heats up even faster than the air and may hit 160°F (70°C)—hot enough to fry an egg. This is a blistering problem for any animal touching it. The shovel-snouted lizard of southern Africa's Namib Desert keeps its feet cool by lifting them up two at a time, as if dancing.

Snake playing dead

Barred grass snake
(Natrix helvetica)
A better name for this European snake would be "water snake," because it usually lives near ponds and marshy places and likes to swim.

Defense mechanism
When a predator, such as a domestic cat, paws at a grass snake, the snake flips onto its back and opens its mouth so its tongue hangs out. The cat stops what it's doing, which gives the "dead" snake its chance. It springs back to life and escapes.

SNAKE PLAYING DEAD

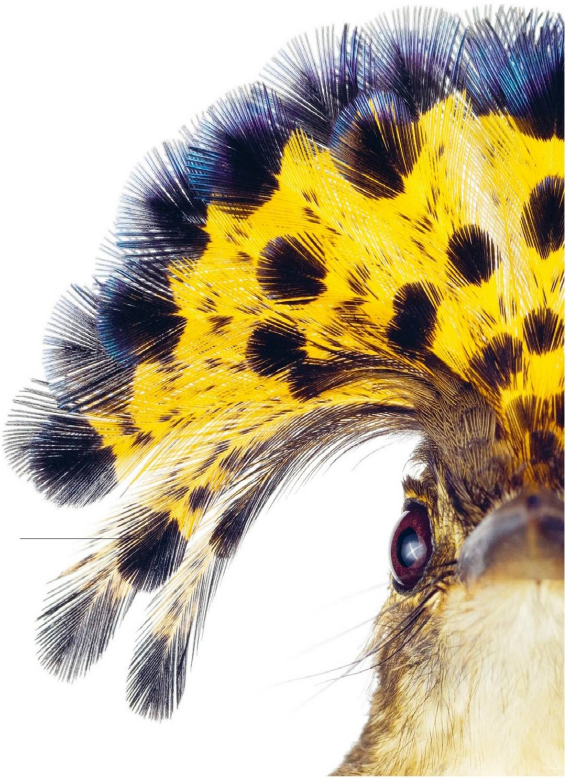
Blood-squirting lizard

Regal horned lizard
(Phrynosoma solare)
Horned lizards live in deserts in Mexico and the Southern US. They prey mainly on ants, which they lick up with their powerful tongues.

Three defenses
The horned lizard's horns and spines are its first defense when attacked. Its next tactic is to puff up, so it appears larger and the spines stick out. If that does not put the predator off, the lizard's final move is to squirt jets of blood.

Male and female

With their crest hidden, female and male royal flycatchers look much the same and it's hard to tell them apart. But what a difference when they flick their crests open! The female's crest is yellow, but the male's crest is red.



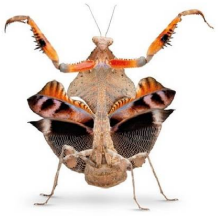
Displaying bird

Amazonian royal flycatcher

(Onychorhynchus coronatus)

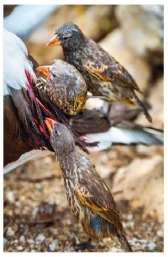
These birds live in South America's vast Amazon rain forest. They make sock-shaped nests, which hang from branches over rivers as protection against predators.

Threat displays

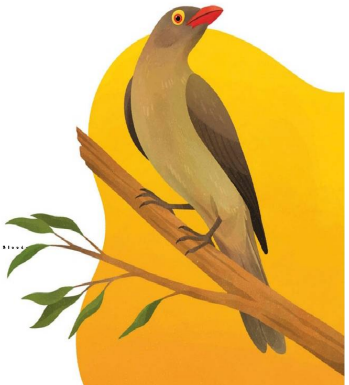


Pom-pom caterpillar

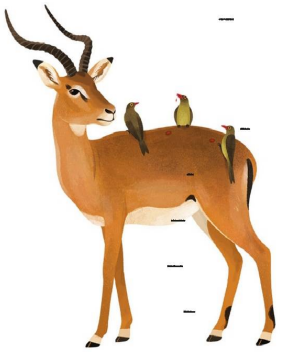
Should anything touch the caterpillar of the angled sunbeam butterfly, it does something very surprising. It shoots out a pair of pom-poms from tubes on its rear end and twirls them rapidly. The effect is so scary, shocked predators don't hang around. Only the caterpillar has this ability—it loses its pom-poms when it becomes a butterfly.



Blood-sipping bird



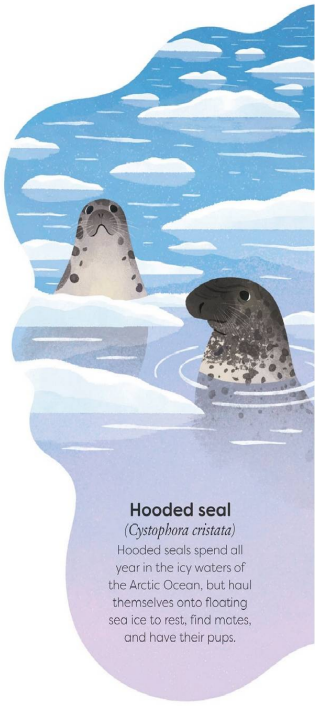
Red-billed oxpecker
(Buphagus erythrorynchus)
Oxpeckers, including the red-billed oxpecker, are found across Africa's grassy plains wherever there are wild mammals or herds of cattle to feed from. They are about the size of starlings.



Bird parasites

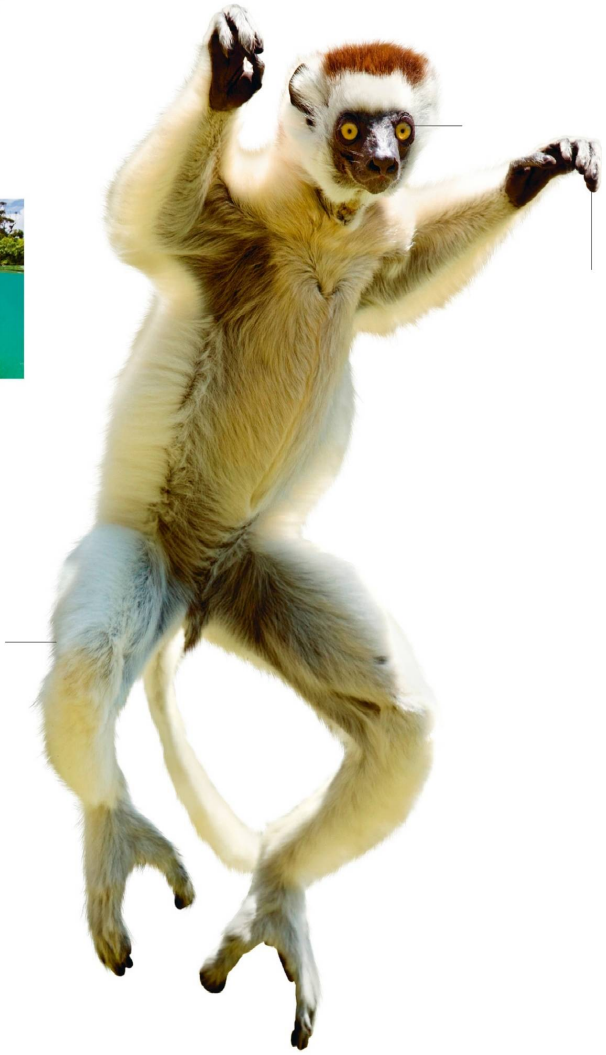
Oxpeckers search a host's fur for small prey, but also keep an eye out for the chance of a meal of blood. Their bills are not strong enough to cut into the host's skin, but if they discover a fresh wound, they enlarge it to sip the blood.

Inflating seal



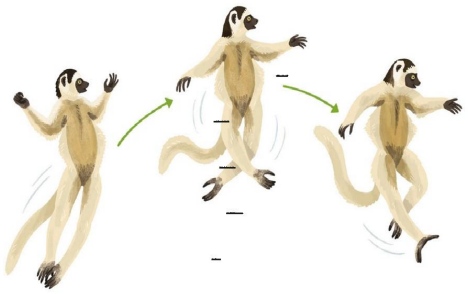
Hooded seal
(Cystophora cristata)
Hooded seals spend all year in the icy waters of the Arctic Ocean, but haul themselves onto floating sea ice to rest, find mates, and have their pups.

Inflating animals



Leaping lemur

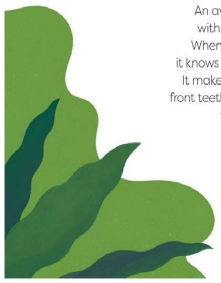
Verreaux's sifaka
(Propithecus verreauxi)
Verreaux's sifaka is one of the rarest lemurs in Madagascar. It lives in dry forests, where there are strange, spiny trees that look like cacti.



Sideways leap
When on the ground, the lemur seems to skip along with sideways leaps. It crosses its feet in mida r and moves its arms up and down for balance, then lands on one leg, ready to push off again.

Larva-fishing lemur

Aye-aye
(Daubentonia madagascariensis)
Like other lemurs, the aye-aye is unique to the island of Madagascar. It is endangered because of hunting and because the forests where it lives are being cut down.



Larva fishing
An aye-aye raps on a tree trunk with its ear pressed to the bark. When it hears a change in pitch, it knows it has found a larva tunnel. It makes a hole in the bark with its front teeth, then pushes in its middle finger to fish out the insect.

LARVA-FISHING LEMUR

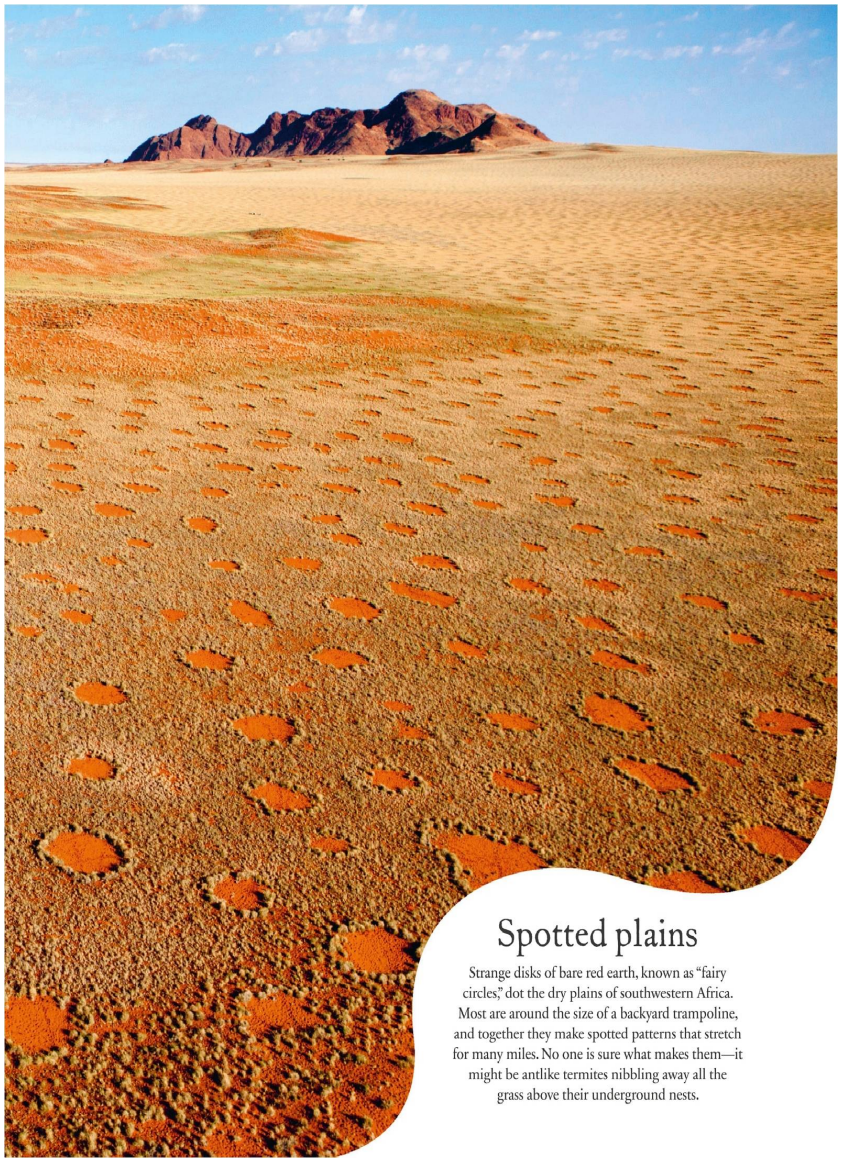
Phenomena

Fused flower

Common daisy
(Bellis perennis)
Many lawns and grassy fields are covered in daisies, but only a few will develop fasciated flowers, which means they are a very rare find!

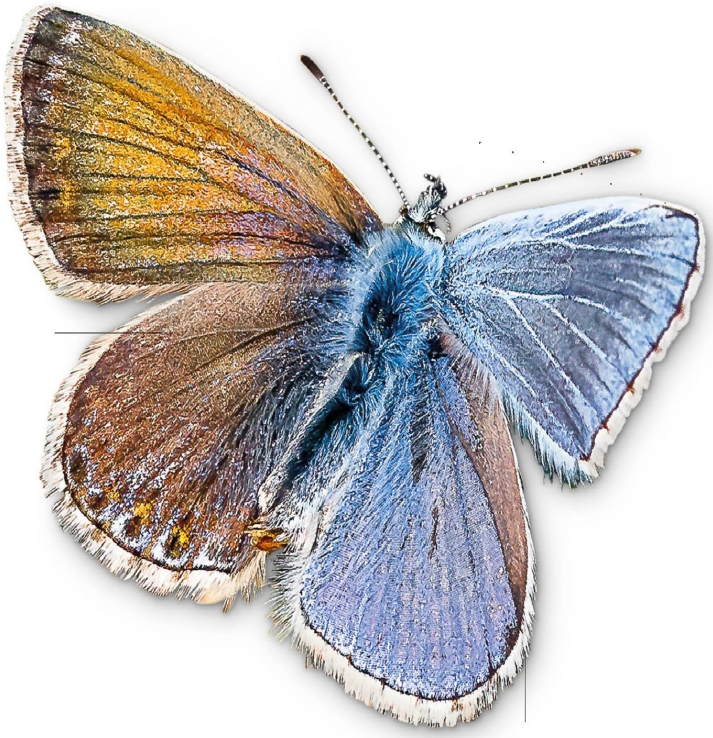
Unusual growth

Fasciation happens when there is a change to a plant's growing tip, called the meristem, found at the very end of a plant's stems. This causes them to grow unusually long and flat. It also alters the overall shape of flowers or fruits that grow from them.

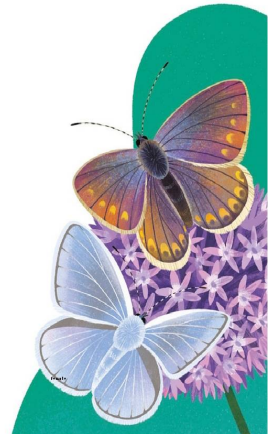


Spotted plains

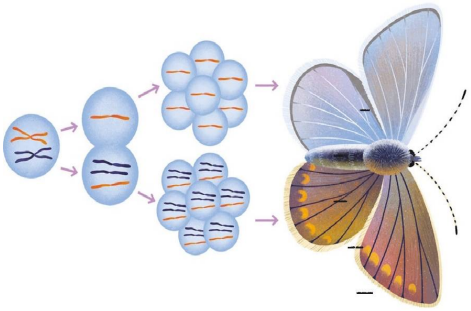
Strange disks of bare red earth, known as "fairy circles," dot the dry plains of southwestern Africa. Most are around the size of a backyard trampoline, and together they make spotted patterns that stretch for many miles. No one is sure what makes them—it might be antlike termites nibbling away all the grass above their underground nests.



Male and female

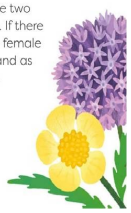


Common blue butterfly
(Polyommatus icarus)
These pretty butterflies flit through many flowery places in Asia and Europe. Males are pale blue, while females are the color of milk chocolate with a border of orange spots.

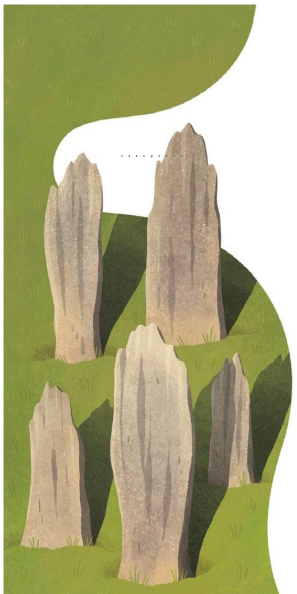


Cell division error

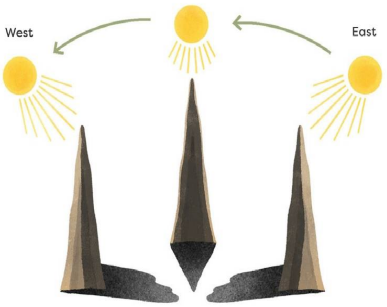
Cells contain structures called chromosomes and some of these determine an animal's sex. Usually, when an embryo starts to develop, the first cell divides to produce two male cells or two female cells. If there is an error, one male and one female cell can be created instead, and as the cells continue to divide, it creates a dual-sex butterfly.



Magnetic termite mound



Magnetic termite
(Amitermes meridionalis)
The world has several thousand kinds of termite, but just two are known to build magnetic mounds, including the magnetic termite. Both types live in the grassy plains of northern Australia.



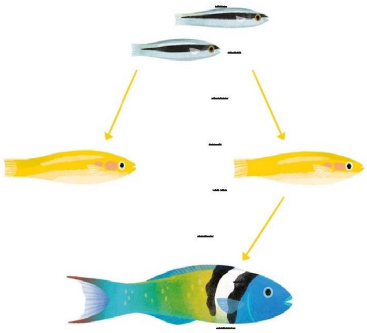
Temperature control
A mound's position and shape keep it at a steady temperature. The east side faces the sun in the morning and the west side faces it in the afternoon. They are wide and flat because the sun is not as warm at these times of day. The north side, which faces the hot noon sun, is thinner, to avoid its scorching rays.

Shared webs

In spring, enormous ghostly webs appear, which may be large enough to cover entire trees and hedges in white silk. They don't belong to spiders but to swarms of moth caterpillars. Safe from predators, the thousands of hungry caterpillars living inside can strip every leaf to the stem. The huge webs break up by the time the caterpillars change into moths.

Changing sex

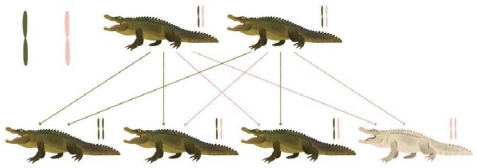
Blue-headed wrasse
(Thalassoma bifasciatum)
Schools of these little fish dart through coral reefs and seagrass meadows in the Atlantic Ocean. They are named after the bright colors of the adult supermales.

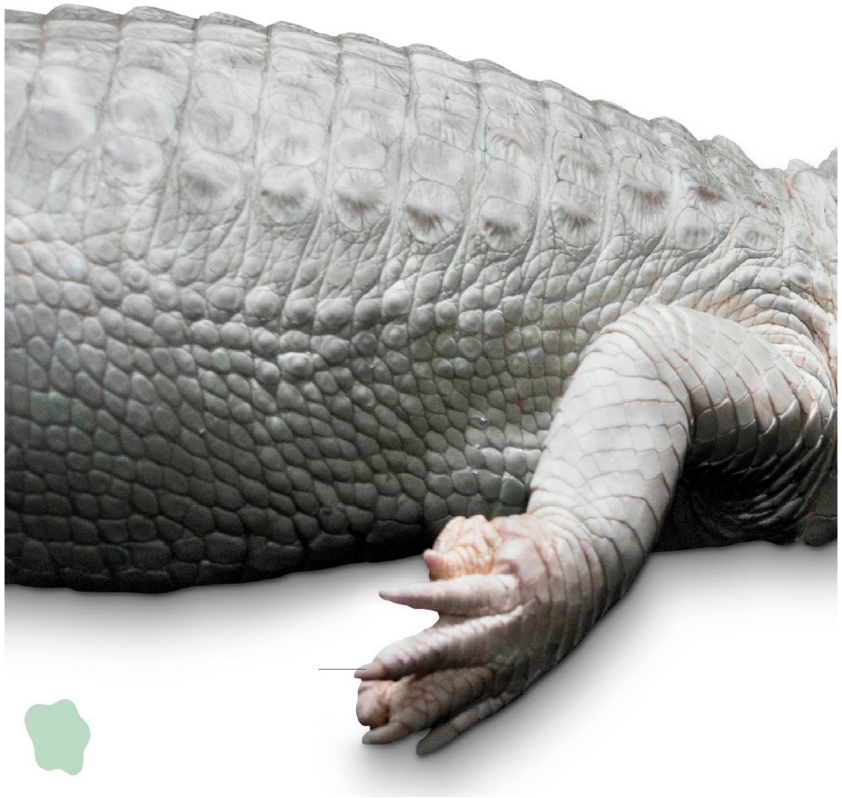


Spectacular change
Young blue-headed wrasse have black and white stripes. Over time, the juvenile fish lose their stripes and develop yellowish bodies, although at this stage it's still not possible to tell which sex they are. However, a handful of them—always females—will eventually turn into colorful adult supermales.

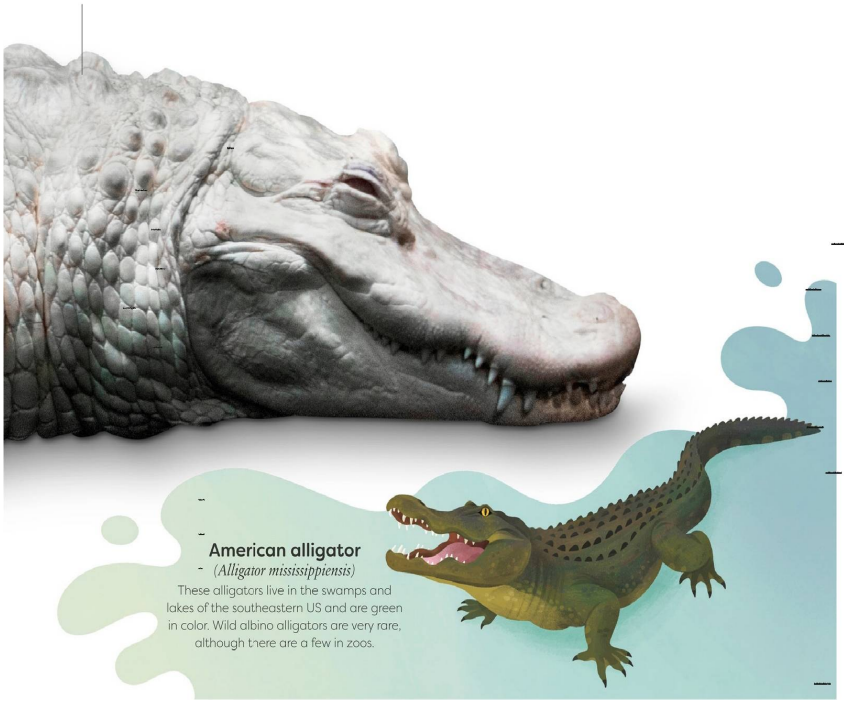
Inheriting albinism

Albinism is caused by a recessive gene. This means it is dominated by the gene for green. Most genes are inherited in pairs, and if a baby alligator inherits one green gene and one albino gene, the effects of the albino gene are hidden. If it inherits two copies of the albino gene—one from each parent—it will have albinism.





Albinism



American alligator
(Alligator mississippiensis)
These alligators live in the swamps and lakes of the southeastern US and are green in color. Wild albino alligators are very rare, although there are a few in zoos.

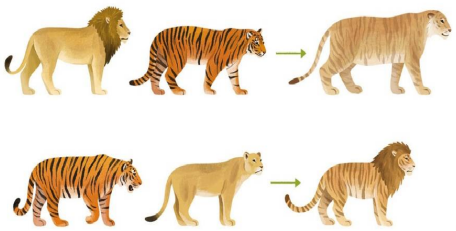
Different colors

Hybrid animal

Liger
(Panthera leo x Panthera tigris)
A liger is a hybrid cat with a male lion and female tiger as parents. Ligers only exist in captivity because wild lions and tigers rarely meet in the wild.

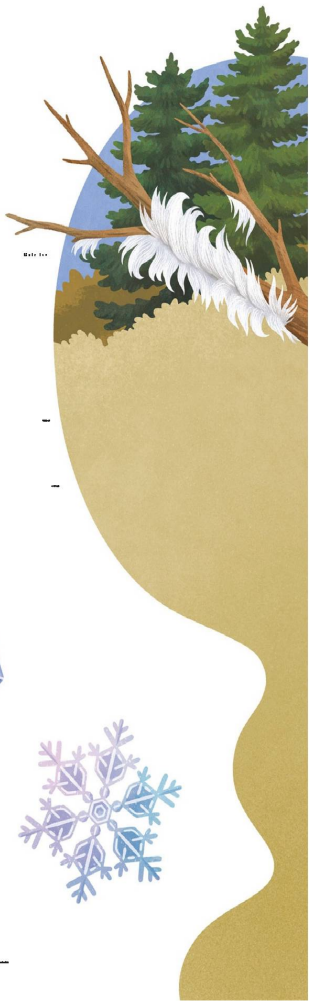
Hybrid crosses

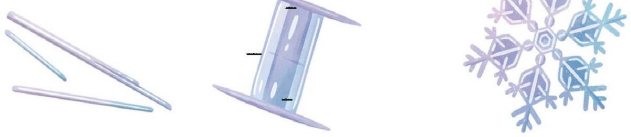
When a male lion is crossed with a female tiger, the result is a hybrid cat called a liger. However, if a male tiger is crossed with a female lion, the hybrid they produce looks very different and is known as a tigon. Like many hybrids, ligers and tigons often suffer from poor health.



HYBRID ANIMAL

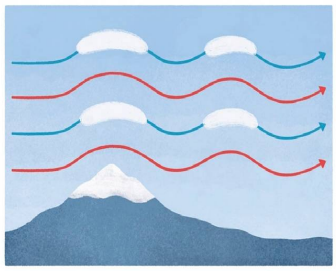
Hair ice





Icy plates

When a river or polar sea chills to freezing point, slushy ice starts to form on the surface. Currents in the water may then shape the ice into beautiful floating disks. These ice pancakes can be as large as truck tires and up to 4 in (10 cm) thick, with crumpled edges like the crust on a pie.



Lenticular cloud formation

As wind blows up and over mountains, the fast-moving air can be pushed into a series of invisible waves. If the waves contain enough moisture, lenticular clouds can form as the water vapor rises and cools into water droplets. Drier waves of air do not produce clouds.

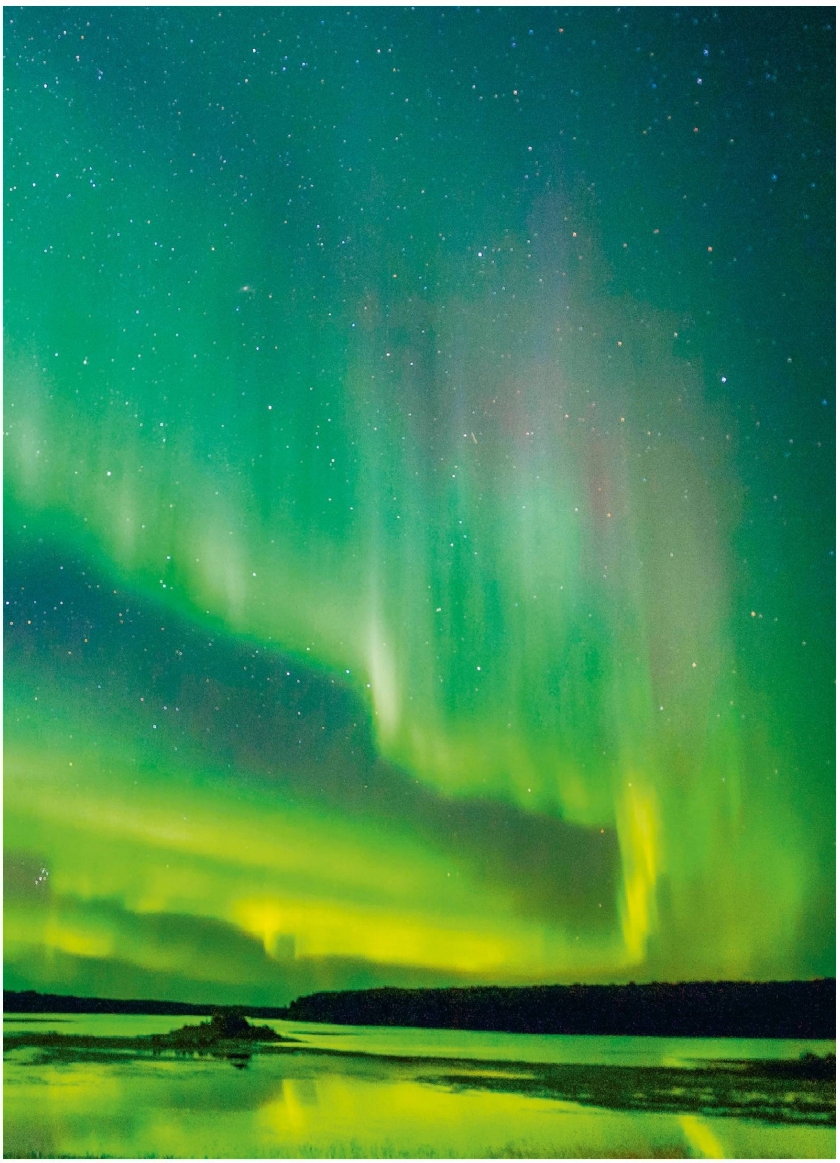
Lenticular cloud

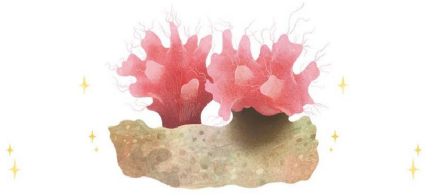
Lenticular cloud
Most lenticular clouds are spotted in winter, when winds are strongest. Sometimes groups of them pile up over mountain summits like stacks of pancakes.

Clouds of water
The puffy white or gray formations we call clouds form when water vapor, which is a gas, condenses into water droplets or freezes into ice crystals. Each cloud contains billions of tiny droplets or crystals.

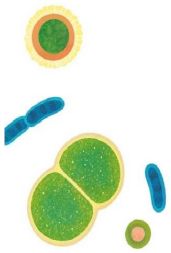
Green glow

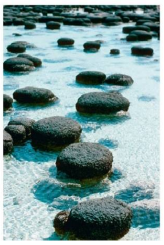
Strange lights flicker through the night sky during the winter at the poles of the Earth. Known as the northern or southern lights, they are usually green—but can also be yellow or red—and swirl around like smoke. They occur when tiny particles from the sun hit gases in the Earth's atmosphere and release their energy.



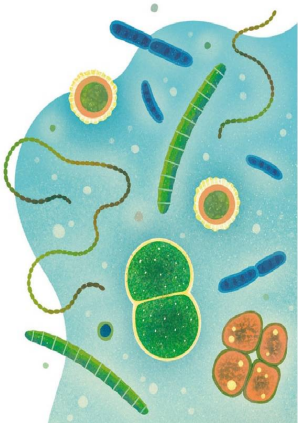


Earth



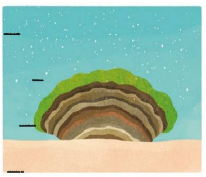


Stromatolite

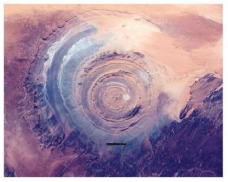


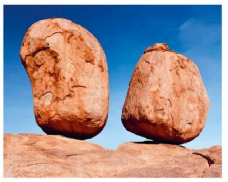
Cyanobacteria

The tiny organisms that make stromatolites are called cyanobacteria. There are many different types, but they all live near the water's surface and perform photosynthesis.



Rock formations

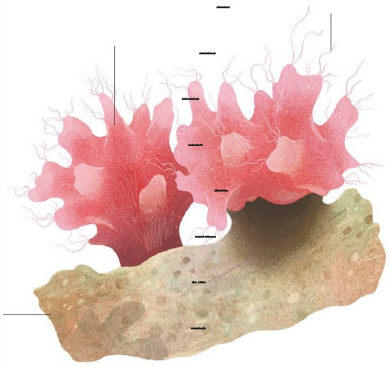




Pink sand

Pink Sands Beach

One of the most famous pink beaches is in The Bahamas, a country in the Caribbean. Pink Sands Beach attracts tourists from all over the world.



Pink forams

These types of foram have rosy colored shells. They attach themselves to coral in tropical seas and push tentacles through holes in their shells to catch minuscule mouthfuls of food, such as algae and bacteria. When they die, their leftover shells retain their pink color.

Golden fossil

Pyrite

Pyrite is a mineral made from iron and sulfur. It can grow in a variety of amazing shapes, including cubic crystals that you might think were created on a computer.

How a fossil forms

Precious gem

Australia is home to shiny green and blue fossils made of opal, a rare gem. They form in sandstone, such as this bullet-shaped belemnite shell.

Fossil shell

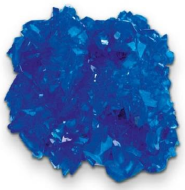
This beautiful fossil is part of the shell of an extinct sea animal called a belemnite. Their internal shells were bullet-shaped, with a ridged cone at the base, called a phragmocone.

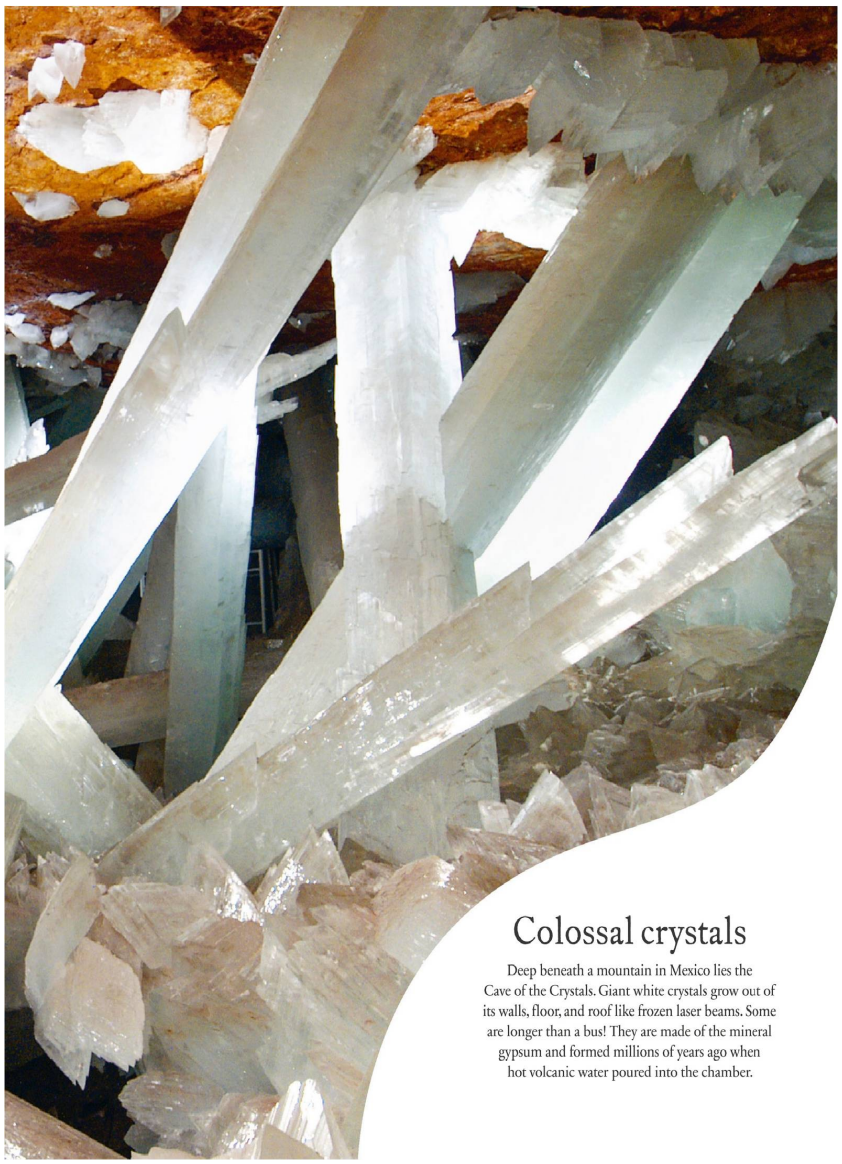
Moonstone

Moonstone

Several varieties of mineral are known as moonstone. They contain a mixture of elements, including sodium, potassium, aluminum, silicon, and oxygen.

Rocks and minerals





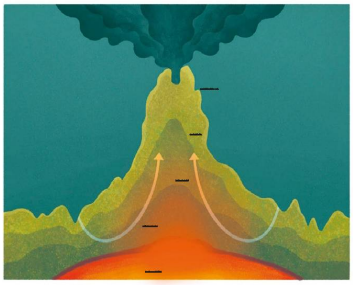
Colossal crystals

Deep beneath a mountain in Mexico lies the Cave of the Crystals. Giant white crystals grow out of its walls, floor, and roof like frozen laser beams. Some are longer than a bus! They are made of the mineral gypsum and formed millions of years ago when hot volcanic water poured into the chamber.

Hydrothermal vent

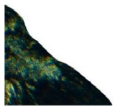
Hydrothermal vent

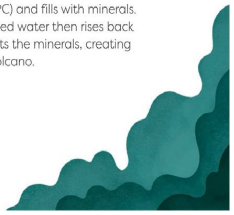
Every ocean has hydrothermal vents. They are found at depths up to 16,500 ft (5,000 m) below the surface and cluster together in groups called vent fields.



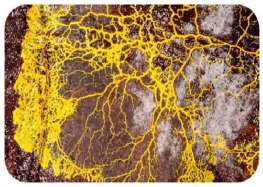
Superheated water

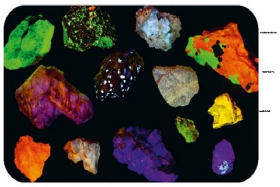
Hydrothermal vents form over cracks in the ocean floor, where the plates that make up Earth's crust pull apart. Ocean water seeps into the deep cracks, where it is heated to as much as 750°F (400°C) and fills with minerals. The superheated water then rises back up and deposits the minerals, creating a vent like a volcano.





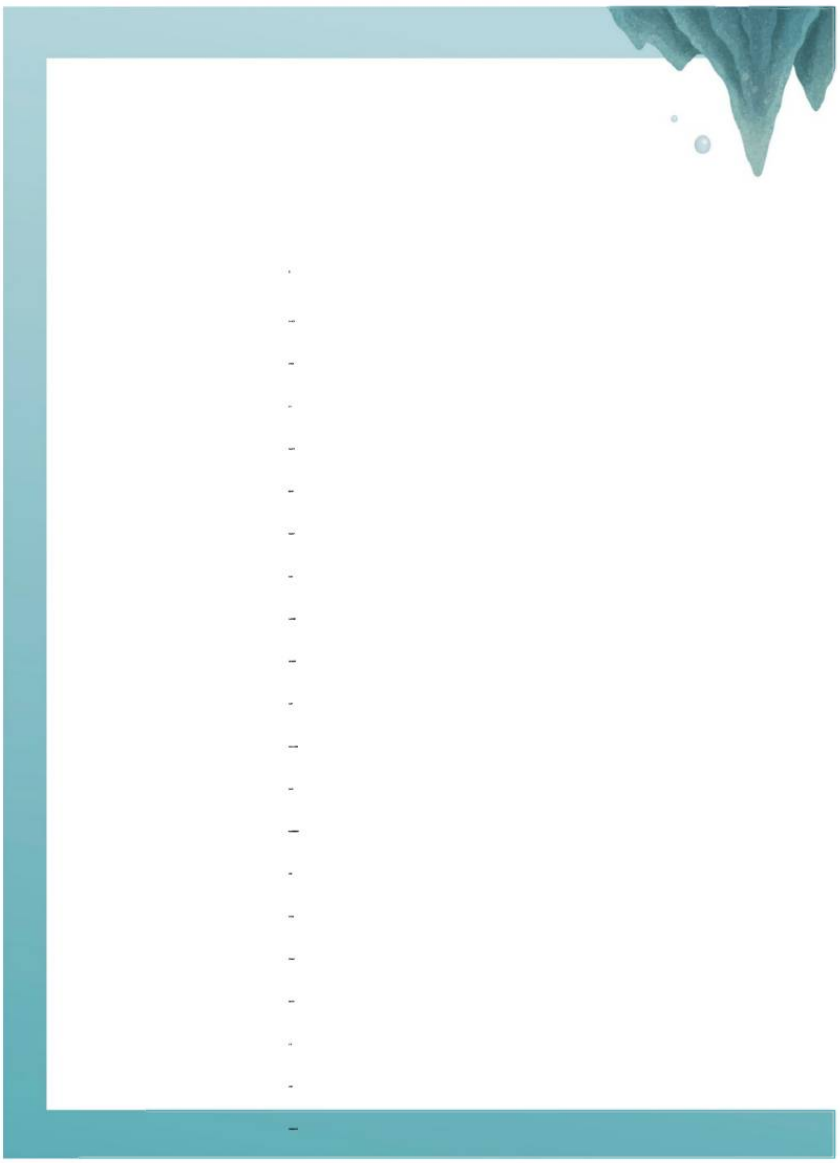
Weird, but true!

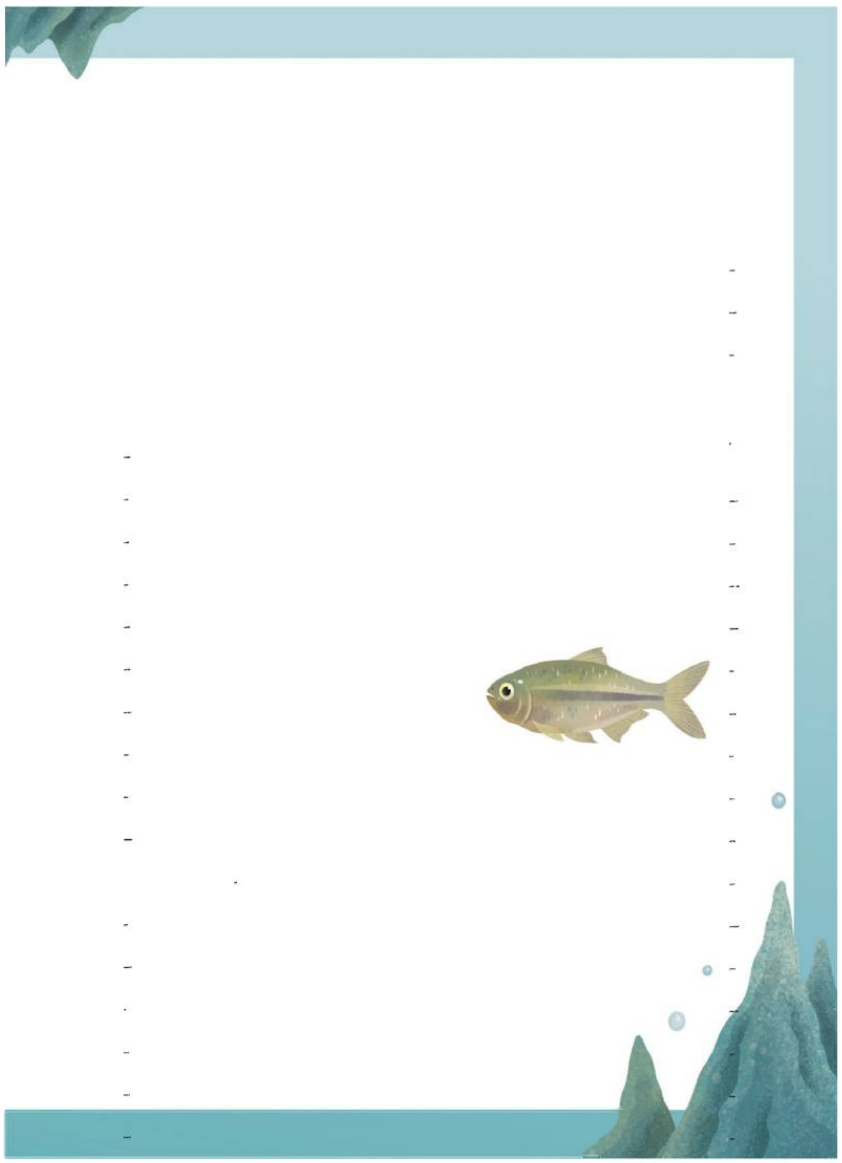




Glossary

Index





For the curious