



# Life in the REPTILIAN REALM

— STRUGGLING TO SURVIVE



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**STRUGGLING TO SURVIVE**

# Life in the **REPTILIAN REALM**



Dear Students,

I am sure, by now, you are familiar with the definition of biodiversity - it is all about the variety of life that exists on this Earth. But did you know that scientists estimate that around 5 to 100 million species of organisms call it home? From these, we have only identified 2 million species so far!

The United Arab Emirates is located in a hot arid desert - one of the most fragile ecosystems in the world. Here, the plants and animals are heroes. They are trying to survive against all odds. However, despite the harshest of conditions, the country still manages to support an impressive 800 species of plants, 64 species of terrestrial and marine mammals, 67 species of reptiles and 430 varieties of bird species.

However, as tough as these species are, they still face severe threats. Species extinction around the world is on the rise – 1 out of every 8 birds, 1 out of 4 mammals, 1 out of 3 amphibians, and 75 per cent of the world's fish are under threat. With 31% of the world's forests gone, there is a scarcity of resources provided by forests, such as food and medicine. This also means that animals are losing a safe habitat.

Biodiversity is closely linked to what we breathe, eat, drink and even wear. It is so important to our existence that in fact that we cannot afford to sit around and watch as these species and habitats are being lost. They are vanishing because of many reasons such as pollution, contamination, introduction of alien species and climate change. WE humans played and continue to play a large part in the reasons behind these problems and so WE need to come up with the solution, without further delay.

Protecting our natural heritage and conserving biodiversity is one of our priorities at the Environment Agency - Abu Dhabi. We strongly believe in raising environmental awareness and promoting environmental education. We have already reached out to hundreds of thousands of students, just like you, through our educational programmes. However, this series, developed jointly with TERI – The Energy and Resources Institute, will help us reach even more students to raise their awareness about species around the world, including in the UAE, whose lives are in danger.

I hope that you enjoy reading this series and it helps you to better understand what plants and animals are facing on Earth. Help spread the message far and wide, so that others can also start protecting and conserving our precious biodiversity.

**Razan Khalifa Al Mubarak**  
Secretary General  
Environment Agency - Abu Dhabi





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# Introduction

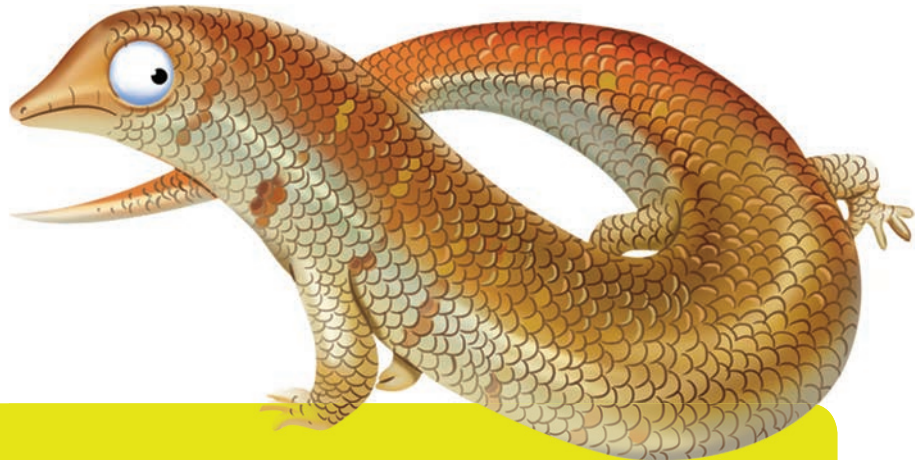
**Reptiles and their characteristics:** We, reptiles, belong to the class “Reptilia”. Our family members are snakes, lizards, worm lizards, crocodiles, tortoises, and tuataras (lizard-like creatures found only in New Zealand). All of us are vertebrates, have scales on our body, and lay shelled eggs. We are “cold-blooded” creatures. It means, to maintain our body temperature, we need an external heat source (like the Sun). We live in various habitats, ranging from land, grasslands, forests, and deserts to lakes, rivers, seas, and mountains. Most of us are carnivores (flesh eaters); we eat insects, birds, frogs, fish, mammals, and even other reptiles. However, some of our kinds like the turtles and iguanas eat only plants.

**Why are we important:** Did you know that we play an important role in biomedical research? For example, snake venom is used in some painkillers. Reptiles are also studied to understand the process of evolution better.

**Threats to us:** People eat our meat and eggs. Our shells are used to make jewellery, while shoes, bags, belts, and other leather products are made from our skin. Cutting down forests, building dams, canals, and barrages are destroying our homes. Climate change is another major threat. We are extremely sensitive to even small changes in the temperature of our surroundings.

**Reptiles in the United Arab Emirates (UAE):** Altogether, UAE is home to 70 species of us – the reptile species can be divided into five marine turtle species, 42 lizard species, one amphibian species, and 22 snake species. All the lizards found in the region are harmless, while only four terrestrial snakes – Arabian horned viper, Sind saw-scaled viper, Oman saw-scaled viper, and Persian horned

viper – are harmful to humans. In the UAE, marine reptiles exist in two groups: sea turtles and sea snakes. Of the seven species of marine turtles in the world, 2 species, namely the Hawksbill turtle and the Green turtle, predominantly occur in the waters of the UAE, while the Olive ridley turtle, Leatherback turtle, and Loggerhead turtle are rare visitors to the UAE. Nine species of sea snakes are found in the region. All of them are extremely poisonous.



### **Did you know?**

- Snakes and lizards flick their tongues to capture scent in the air.
- Turtles and tortoises do not have any teeth.
- Crocodiles cannot stick their tongue out. The tongue is attached to the mouth.
- A chameleon changes its colour due to changes in its emotion, as well as light and temperature.
- King cobra is the only snake that builds nests for its eggs.





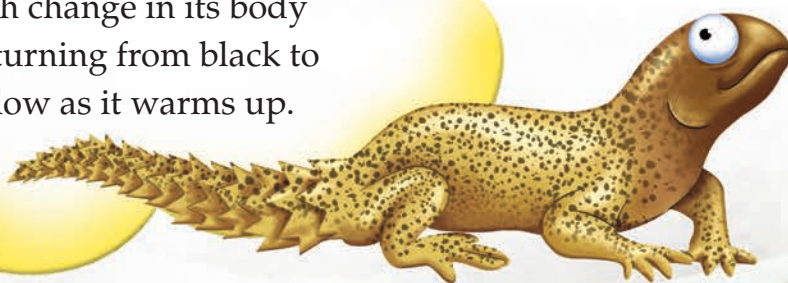
# Dhub lizard

## Large and impressive

I have a short and heavily spined tail, because of which I am also known as the Egyptian spiny-tailed lizard. With a large and rather flat body, a large head, and strong limbs, I am a large lizard.

### Did you know?

The Dhub lizard is capable of changing its colour with change in its body temperature, turning from black to white or yellow as it warms up.



**Bio**

diurnal; length: up to 76 cm; weight: up to 2 kg; lifespan: 33 years or more







If cornered, the dhub lizard can give painful blows with its spiny tail.

## Blast from the past

The dhub used to be a welcome source of protein in the form of delicacies for the Bedouin (Desert nomads of Arabia) and the strong leather of its skin was widely used.

### My range and habitat

You can find me across Sudan and Egypt, through Jordan, Syria, Iraq, and Iran, and into the Arabian Peninsula. I typically occur in gravel plains or wadis of arid regions and desert areas. I construct extensive burrows, up to 10 meters long and 1.8 meters deep, in firm sand, soil or soft rock. I use these deep burrows as a shelter from predators and from extreme desert conditions for many years. I like to bask at the burrow entrance to warm up myself before heading out to forage for leaves, buds, fruits, seeds, and flowers.

### Gentle Dragon of the Desert

I am also called the mini-Dinosaur or Gentle Dragon of the Desert, as despite my formidable appearance, I am a very placid animal. I prefer to flee rather than enter into conflict. However, I have strong jaws with no teeth that possess sharp bone plates. When someone tries to catch my face, I tend to bite their hand.

### Save me if you can

I am collected from the wild unsustainably for food, traditional medicine, and international pet trade. All this, along with developmental activities, has led to a reduction in our local population. To make matters worse, erosion by off-road vehicles damage our burrows and surroundings. Sometimes, we are killed by cars on roads.

To save our population, we have got protection from international trade. We are also legally protected from hunting in regions where we are found. In UAE some dhub populations are being impacted by development activities. They have been translocated to suitable habitat.

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# Congo dwarf crocodile

## Blast from the past

Dwarf crocodiles are the sole members of the family Osteolaemes although there are two subspecies called *Osteolaemes tetraspis tetraspis* and *Osteolaemes tetraspis osborni*.

## Life in a pond

I live in swamps and slow-moving freshwater rivers of the rainforests. Though I am small in size, nature has provided me with a body armour of sharp scales, so that I can protect myself better. I eat lots of fish and amphibians during the rainy season, but during the dry season, I eat crustaceans and reduce the quantity of food that I eat.

I am one of the three types of crocodiles that live in Africa. My name is Congo dwarf crocodile, and I live in Congo. My brother, tetraspis, lives in West Africa and has a knob on his snout and lighter skin colour, which makes him look different from me.

**Bio**

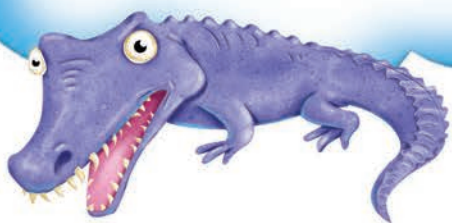
Length: 1.5 m (male), 1 m (female); Weight: 30–80 kg; Lifespan: 50–100 years





## Did you know?

Dwarf crocodiles, like other crocodilians, have a special valve in their throats, which helps them open their mouth in water without water going down their throat.



Swamps and slow-moving water bodies are home to the dwarf crocodile.

## Burrow man

I am a nocturnal crocodilian, so during the day, I spend my time in my burrow, which has an entrance that is submerged under water and has a big chamber at the other end, where I rest. I also take shelter from cold weather here. At night, I go out and look for food.



The dwarf crocodile feeds on amphibians such as frogs.



Destruction of habitat, primarily in the form of deforestation for logging, is the leading cause of deaths of this species.

## No one knows I am dying

Very poor research has been done about me, and no one knows how many of my family survive in the wild. Thousands from my family are killed for consumption every year. Humans are also encroaching upon my home and making it smaller and uninhabitable.

## The dwarf needs attention

I have been put on the World Conservation Union and the Convention on International Trade in Endangered Species lists. In 1991, a successful experiment was conducted in Gambia, where my family was bred in artificial pools. Such programmes, along with extensive research, need to be revived in order to save us.

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# Cuban crocodile



Cuban crocodiles have blunt rear teeth, which help it crush the shell of turtles.

## My two homes

I have strong legs, which help me walk fast and swim well. So, I spend equal amounts of time on land and in water. I am also a good jumper and can leap out of water and catch prey sitting on overhanging branches. I eat fish, small mammals, and turtles, crushing their shells with my strong teeth. I am a cold-blooded animal. To get warmth, I spend the night in warm water and the day, basking in the Sun on land.

My name is Cuban crocodile. I live in the Zapata and Lanier swamps in Cuba. Many consider me one of the most intelligent crocodilians.

## Blast from the past

The Cuban crocodile is a relic from the Pleistocene era. During that period, it lived all over Cuba and the neighbouring islands, relishing its favourite food, the giant sloth.

**Bio**

Length: 3.3 m; Weight: 130 kg; Lifespan: 50–75 years





## Baby woes

In my family large females lay up to 40 eggs. We nest in holes dug in the ground, filled with dirt and vegetable matter. However, babies in my family are always in danger of becoming food for mammals, reptiles, and birds. I've even heard stories of our own elders eating the babies.

## Crocodillo fried

I live in a small area, which humans are destroying, using it for agriculture and charcoal burning. As if that were not enough, humans have been hunting me for centuries for my skin and meat. Now, there are only three thousand to six thousand of my family left in the wild.



The hide of the Cuban crocodile is used to make bags, belts, and other leather products.

## Did you know?

Cuban crocodiles are sometimes called "kangaroo crocs" because they can jump up to two metres vertically!



The common caiman, which has recently shifted to the Cuban crocodile's area, is also driving it away from its home.

## Save me

The World Conservation Union and the Convention on International Trade in Endangered Species have put me on their lists. Special farms have been established where my family is being bred to meet the demand of the meat and skin markets. This is to prevent people from hunting us in the wild. A lot more needs to be done to protect us in the wild.

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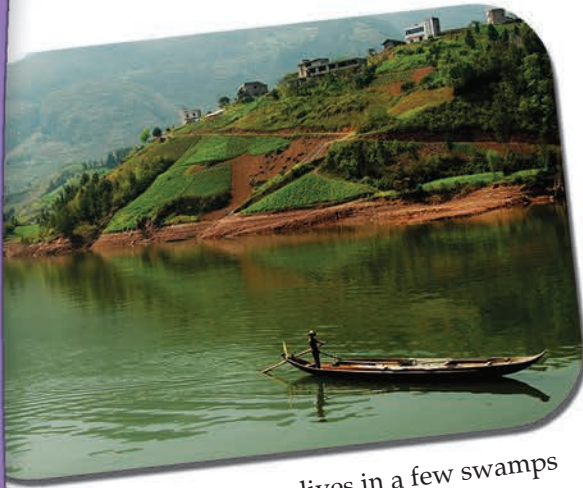
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# Chinese alligator

## Did you know?

The mythical Chinese dragon originated from a blend of the Chinese alligator, the monitor lizard, and the python.



The Chinese alligator lives in a few swamps along the Yangtze River.

## About me

Earlier I used to live all over China, but now I live only in a few marshes and swamps along the Yangtze River. My body is fully protected with an armour! I have hard scales on my back and softer scales on my sides and belly.

## Wonder burrow

I don't like cold weather, so I hibernate underground in burrows from November to March. I also spend the nights there. I make complex burrows, with a den, which can be over 22m deep, to rest in. I also make holes called gator holes in my burrow, which keep the marsh, where I live, watered all the time and make good homes for small animals as well.



During the dry season, alligators dig gator holes.

## Alligator endangered

Today, there are less than 200 members of my family left in the wild. It has occurred primarily because humans have taken over my home to convert it into agricultural land. Now, when I make burrows next to their farms, they don't like it and kill me, selling my organs to make medicines from them.



## Let's bring me back

As a species, I am listed as Critically Endangered by the World Conservation Union and endangered by the Convention on International Trade. In the past decade, our nesting and reproduction has reduced invariably. Moreover, when we lay eggs even fewer offsprings survive. My captive population exceeds 10,000 individuals, but the need of the hour is to bring my family back into the wild for the wild is where we truly belong.

## Blast from the past

Chinese alligators, one of the two surviving "true alligators", along with their cousins caimans, are Crocodylians from the family Alligatoridae.

I am from China and am one of the most endangered crocodylians today. My name is Chinese alligator, or Yangtze alligator.



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# Leatherback sea turtle

## Did you know?

I have a rubber-like shell. This is why I am known as the leatherback turtle!



## Where I live

I have the widest range among turtles. I live in the ocean, migrating from Alaska to Norway to Africa to New Zealand. I have a high metabolic rate and the capacity to minimize body heat loss, which helps me survive in the colder parts of the ocean as well.



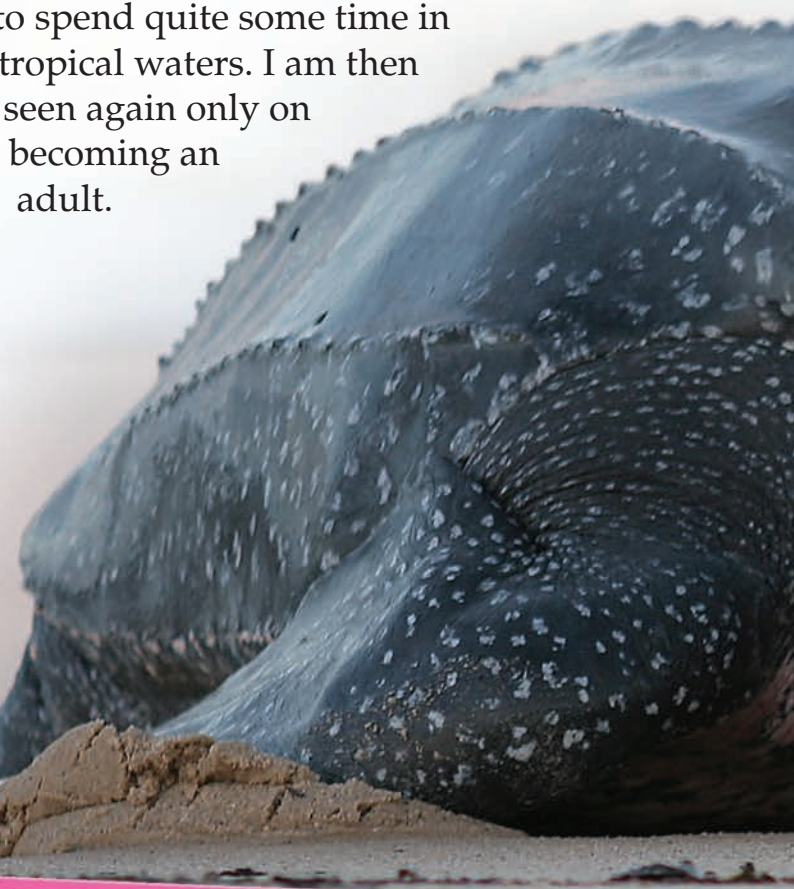
Leatherback sea turtles have scissor-like teeth, and eat jellyfish, cephalopods, and tunicates.

## Mysterious kid

At birth, when I come out of the egg, I have to struggle to protect myself from being eaten up by birds and other reptiles. After making it to the ocean, I have to spend quite some time in tropical waters. I am then seen again only on becoming an adult.

## Dying turtle

Sometimes we die after being caught in fishing nets laid out by humans. Moreover, there are what humans call polythene bags and balloons in the ocean which members of my family have mistaken for jellyfish and eaten.





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## Bring back the leatherback

I am legally protected by the Convention on International Trade in Endangered Species. The Leatherback Trust has been set up to save all sea turtles, especially my family. It is important to generate public awareness so that locals stop killing us and help save us.

### Bio

Weight: 200–506 kg; Length: 1.2–1.9 m; Lifespan: 80 years

I'm the largest sea turtle. In 1992, I made it to the *Guinness Book of World Records* by swimming at a speed of 35.28 km per hour in water.



Asians exploit the leatherback turtle for meat and oil. They also eat its eggs as a delicacy.

## Blast from the past

Scientists once tracked a leatherback turtle that swam from Indonesia to the United States in search of food, covering the enormous distance of 20,000 km in 647 days.

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# Brothers Island tuatara

## A day in my life

I live in low forest scrub areas, in rock stacks on the island. I like to wander around at night. I prefer cool temperatures, but I do step out during the day sometimes to sunbathe.

I have two rows of teeth in my upper jaw and one in the lower jaw, with which I crush my food.



Brothers Island tuataras like to eat crickets and beetles.

## Mr Extraordinary

I have a crest on my back and head, which is more prominent in males than in females in our family. When I sense danger, I can drop my tail off, and grow it back soon after. Also, I shed my skin once a year. As a teenager, I shed skin three to four times a year.

## Rat trouble

The Maori tribals, when they settled in my home in New Zealand, brought rats along with them. These rodents ate up our babies. Humans took over a lot of space in my home. Though I lived all over New Zealand once, now I live only on a single island in the country.



Ever since humans and predatory mammals encroached into the territory of the Brothers Island tuatara, the numbers of tuataras have declined to 400.

## Did you know?

The name *tuatara* comes from the Maori language and means “peaks on the backs”. Today, tuataras are regarded as the island’s *taonga*, or “special treasure”.





## The tuatara needs help

The New Zealand government has made my home a wildlife sanctuary. They have also found new homes for some of my family in neighbouring islands like Titi and Matiu. However, the most important thing is to sustain and continue these efforts so our population can increase substantially.

I live on Brothers Island in New Zealand, and my name is Brothers Island tuatara. I am neither a lizard, nor a snake, although they are my relatives.

## Blast from the past

Tuataras, which belong to New Zealand, are the world's oldest animals living today. They are part of the group Rhychocephalia, which were ancient reptiles that walked the Earth 200 million years ago.

**Bio**

Height: 60 cm (male), 50 cm (female); Weight: 0.6 kg; Lifespan: 60–104 years



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# Gharial

## Mr Aquatic

I spend most of my time in water, in the calm parts of fast-flowing rivers. I spend time on land to sunbathe or rest. Since I spend more time in water, I don't have well-developed legs, so I don't walk very quickly, but I am the best swimmer among crocodilians.

## Bio

Length: 4–5 m (male), 4 m (female)

Weight: 159–181 kg

Lifespan: 40–60 years

## Blast from the past

The gharial is the sole surviving member of the oldest crocodilian family, called Gavialidae, which has twelve other species recognized from fossils found in India, America, Africa, and Europe.

I live in the Brahmaputra, Ganga, and Mahanadi river systems, which flow through India, Pakistan, Nepal, and Bangladesh. My name is gharial and I am a timid, shy crocodilian.



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## Snout pot

My peculiar narrow snout with sharp teeth serves as a fishing device. In water, I move my head from side to side to catch fish with my snout. In my family, grown-up males have a bulbous growth on their snouts that looks like a *ghara* (Hindi word for pot). Hence we are called gharials.



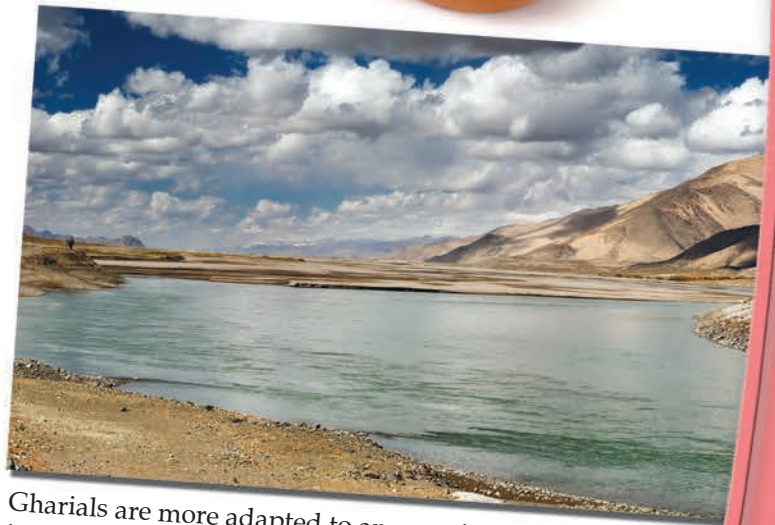
Young gharials eat insects, larvae, and small frogs. Adult gharials feed almost solely on fish.



The gharial derives its name from the Hindi word "ghara", meaning "clay pot".

## Vanishing gharial

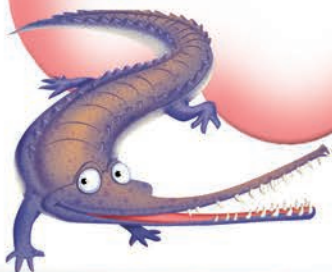
Back in the 1970s, my family was on the brink of extinction. Successful efforts were made to stabilize our population, but now again our numbers are going down. There are less than four hundred of us left in the wild. Habitat loss is a major reason, as humans encroach upon my home. They also compete with me for food, that is, fish.



Gharials are more adapted to an aquatic lifestyle in the calmer areas of deep, fast-moving rivers.

## Did you know?

The Indian gharial is one of the largest crocodilians attaining a length of up to six metres.



## Bring the gharial back

The World Conservation Union and the Convention on International Trade in Endangered Species lists, along with the Indian Wildlife Protection Act, protect me. There are nine areas where members of my family are bred and upon maturing, released into the wild. However, unless the wild is made safe first, all efforts will go waste.

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# Asian river terrapin

I am one of the most endangered turtles in the world. I used to live in various countries in Asia, but now I live in very few of them. My name is Asian river terrapin.

## Blast from the past

Before 1975, Asian river terrapins were protected by royal decree in Cambodia, and guards patrolled their nesting sites. In 2001, the royal protection was reinstated.

**Bio**

Length: 0.6 m; Weight: 30 kg; Lifespan: not known



## Mangrove baby

I like to live in coastal mangrove estuaries and creeks, where there is fresh water. I look a bit different from regular turtles because I have an upturned snout and four toes instead of the regular five.



Asian river terrapins feed on small animals like clams.



## Did you know?

Asian river turtles are from the Geoemydidae family, which is the largest and most diverse turtle family, with over 75 members living in Asia, Europe, and North Africa.



## True blue

My family is referred to as “royal turtles” because the Cambodian royals used to consume our eggs as a delicacy. I think I am royal and unique because I play such an important role in the river ecosystem. I help circulate seeds and form a food source for other animals as well, thus completing the food web. Without me, the chain is incomplete.

## Disappearing terrapin

For years, humans have killed my family members for our meat. Despite the fact that I am legally protected, I am still exported from Indonesia to China in substantial numbers. Besides, the mangrove waters, where I love to live, are shrinking in size and getting more polluted and uninhabitable.



Mangroves are the natural habitat of the Asian river terrapin. Because of the pollution of mangrove waters, the terrapin population is decreasing.

## All is not Lost

The World Conservation Union considers me as critically endangered. Efforts are being made to protect me in countries like Malaysia although our population there isn't increasing. The most important thing is to raise awareness among the locals who live near me, so they can be proud of me and help protect me. Such efforts have been successful in Cambodia.



Asian river terrapins eat mangrove fruits and water plants.

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# Olive ridley turtle

## Did you know?

As adults, the olive ridleys are the smallest of the sea turtles.



## My vast home

I am a migratory sea turtle and travel thousands of kilometres to certain coasts of the world, to find food and have babies. I swim around in surface water to look for food or even in the deep sea, diving up to 150 m.

I feed during morning hours and then spend the afternoon on the ocean surface, basking in the Sun along with my family.

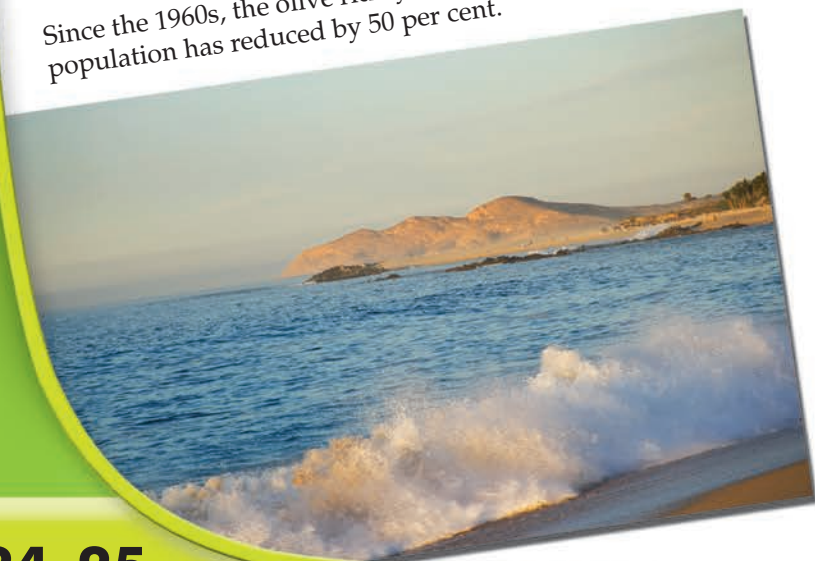


Though the main diet of olive ridleys is crabs, shrimp, jellyfish, and other sea creatures, they also eat algae.

## Arribada

We ridleys like to go and give birth to babies at the very same beach where we are born. So, when the time comes, female olive ridleys gather in vast numbers, go ashore to their birthplace and nest. Their mass arrival on a shore is called *arribada* (meaning "arrival by the sea" in Spanish) and is a beautiful sight.

Since the 1960s, the olive ridley population has reduced by 50 per cent.



## Threatened lives

Humans have abused us for centuries for our meat and leather. Although some 800,000 of us still swim the oceans, our lives are constantly at risk due to bad fishing practices employed by humans and construction on and pollution of beaches we go to. Our babies also become the prey of dogs and other animals.



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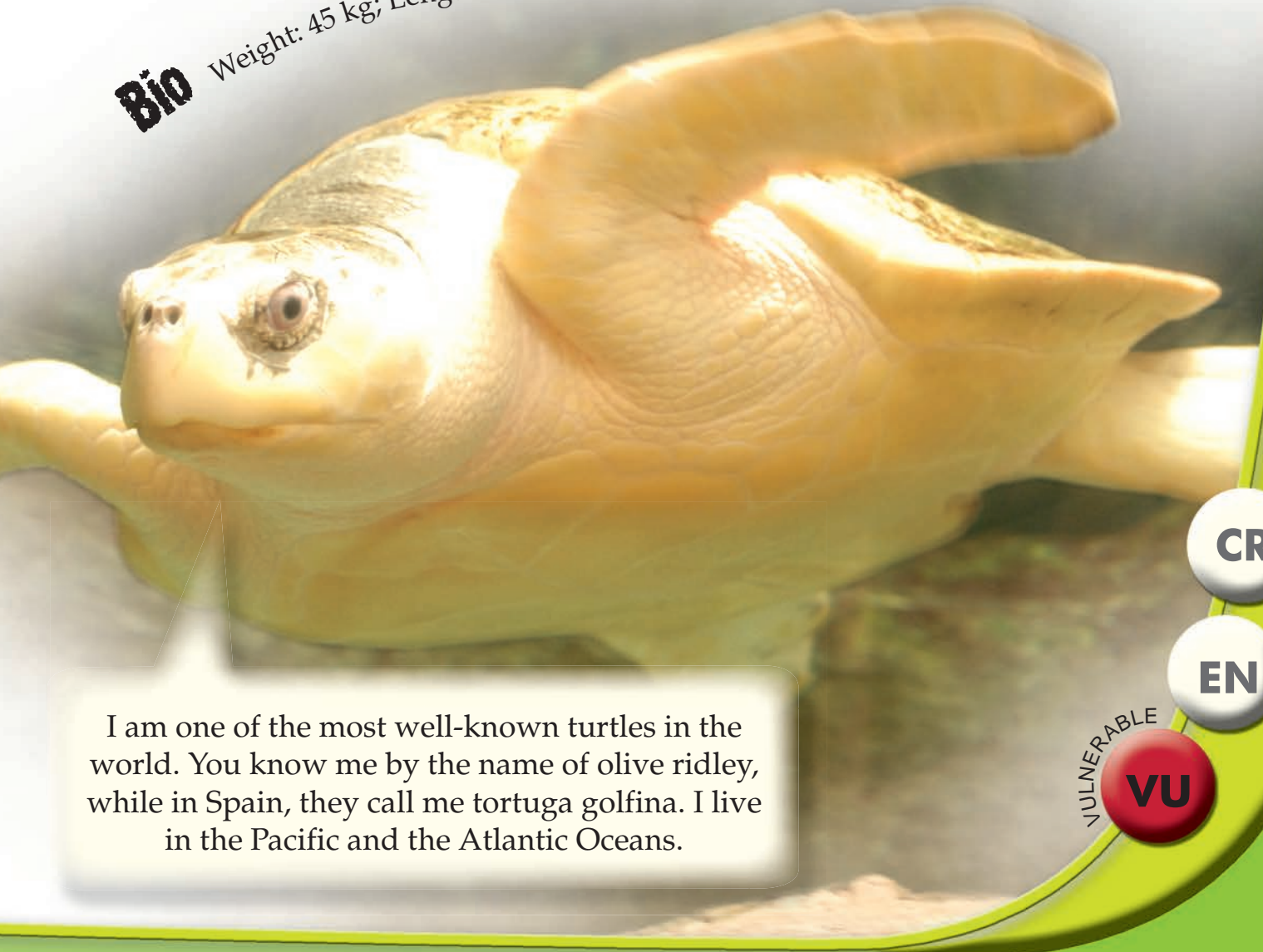
## Protect the ridley

We are still hopeful, thanks to organizations like Greenpeace and World Wide Fund for Nature (WWF). The WWF is trying to get protection for our nesting sites and colonies in India and South America. It is also lobbying for the implementation of turtle-friendly fishing practices. I hope humans listen to them.

## Blast from the past

Olive ridleys come from the family Chelonioidae, a family of seven existing sea turtles, namely flatback, green, hawksbill, leatherback, loggerhead, olive ridley, and its brother Kemp's ridley.

**Bio** Weight: 45 kg; Length: 0.5–0.6 m; Lifespan: 50 years



I am one of the most well-known turtles in the world. You know me by the name of olive ridley, while in Spain, they call me tortuga golfina. I live in the Pacific and the Atlantic Oceans.

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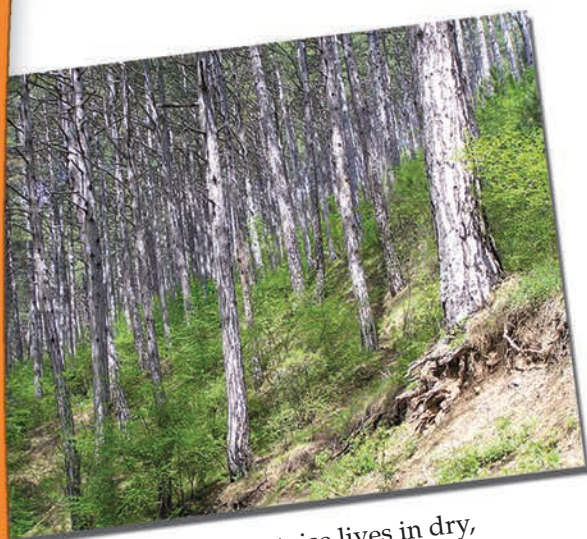
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# Burmese star tortoise



The Burmese star tortoise lives in dry, deciduous forests, open valleys, and grasslands of Myanmar.

## Blast from the Past

Myanmarese farmers believe that planting seeds that have been held in the shells of Burmese tortoises will bring good luck and eventually good harvest.

## Forest bum

I am active during the day. Since some parts of the day can be too hot, I spend most of my time under the shade of plants and shrubs, resting or taking a nap. Once or twice, I get out though, looking for food.

**Bio** Length: 26 cm; Lifespan: not known



I am from Myanmar (earlier known as Burma), and my name is Burmese star tortoise. In French, they call me *Tortue étoilée de Birmanie*.



## Mr Beautiful

The reason people think I am beautiful is my carapace, or shell, which is brown to black with yellow stripes, creating “star” patterns on it.

However, I am more than just beautiful. I am a very important part of the food chain where I live. I duly serve my role as a scavenger as well as a primary consumer.



Myanmarese trade of the Burmese star tortoise has sky-rocketed because of demand in China and Taiwan.

## Did you know?

The Burmese star tortoise’s market price is as high as 7,000 dollars for adults and 3,500 dollars for juveniles.



## Endangered tortoise

My family is almost extinct in Myanmar, because humans kill us for our meat and shells or to make medicines from our bodies. They also export my family in huge numbers to China.

Moreover, I am a very popular pet in the pet trade, and private collectors worldwide pay big money for me.

## Burmese star seeks help

I am protected in the Shwe Settaw and the Minzontaung Wildlife sanctuaries. However, it has only been possible to protect me in the latter because the locals believe that killing me brings bad luck! Perhaps, that is how I should be protected in the rest of the country too!

Sadly, people remain ignorant of my plight and no one listens to those who want to save me.

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# Sandfish

## Learn to recognize me

I am a skink, and I have a long, wedge-shaped snout with its lower jaw driven or sunk into an enlarged hole. My body is covered with smooth, shiny scales, and my legs are short and sturdy with long, flattened and fringed feet. I have a short, finely tapered tail. My colour – yellow-caramel with brown-black cross bands – is considered to be attractive. I often close my bead-like eyes to keep sand out of them. Similarly, my small nostrils keep sand out of my nose and lungs.

## Blast from the past

The name sandfish originated because of its ability to move through sand as if it were swimming.

## Home sweet home

Since I like to burrow into loose sand, you can find me in arid, sandy environments. I have developed a peculiar way of dealing with the desert heat – I possess the ability to dive into soft sand. It prevents me from overheating, as I am a cold-blooded animal, and also helps me hide when I feel threatened.

**Bio** diurnal; length - 20 cm; lifespan: 10 years or more in captivity







Although they live in deserts, sandfish tend to live near a moist area, such as an oasis, which has loose sand and many plants.

## Did you know?

The sandfish are the world's most accomplished burrowers, and belong to the family of desert-dwelling skinks

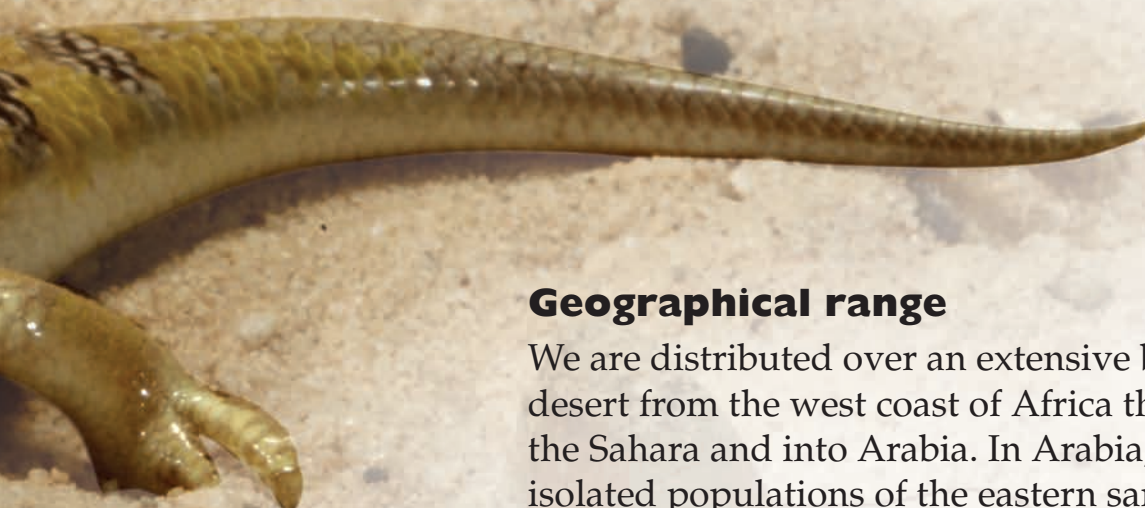


## Swimming through sand

We have a remarkable quality of swimming through sand. Our streamlined body, highly polished skin, strong limbs, a chisel-shaped snout, and tiny ear openings help us move swiftly under sand.

## Crawl stroke

Rather than pulling my limbs close to the body, I move through sand by rotating my legs back and forth in a manner much like the crawl stroke in swimming.



## Geographical range

We are distributed over an extensive belt of desert from the west coast of Africa through the Sahara and into Arabia. In Arabia, there are isolated populations of the eastern sandfish in northeast Yemen, southern Oman, the United Arab Emirates, and Kuwait.

## Food fact

I am an insectivore. I locate my prey, or insects, by detecting the vibrations that they create while moving.

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# Egyptian tortoise

## Blast from the past

The Egyptian tortoise has been living in Egypt for the past 280 million years, much before the pharaohs and the sphinxes.

### Desert King

I live in the desert, sandy riverbeds, dry woodlands, and coastal salt marshes. During winter, I am active only at mid-day when I can get some warmth. During summer, I am active in the morning hours, before it gets too hot. To take rest, I bury myself in the topsoil or under clumps of grass.

I used to live in Egypt, but now I can only be found in Libya. I am the smallest Middle Eastern tortoise and my name is Egyptian tortoise. Some also call me Kleinmann's tortoise.

**Bio**

Length: 4 inches (male), 5 inches (female); Weight: 150 gm (male), 300 gm (female); Lifespan: up to 100 years.





## My wondrous shell

In my family, the colour of our shell ranges from ivory or pale gold to dark brown or dull yellow. This colouring helps me adjust the impact of sunlight and protect myself from the Sun's intense glare. It also helps me camouflage well, in my dry habitat, from predators.

## Did you know?

Egyptian tortoises are still killed to make souvenirs such as "tortoise banjos" that are sold in Morocco.



## Egypt's loss?

I hear that all members of my family in Egypt are dead. Over three generations, our population has gone down from 56,000 to 7,500. In Libya, where we now live, our lives are constantly at risk, because our home is being taken over for human development. Moreover, I am in great demand in the pet trade, both at the national and international levels.



The home of the Egyptian tortoise once extended from Libya to Egypt and Palestine.

## Let the tortoise live

Although the World Conservation Union and the Convention on International Trade in Endangered Species protect me legally, we are still dying. In Libya, where we now live, there is no law to protect us. Measures like educating locals not to kill us and declaring our home protected land need to be taken immediately or my family could go extinct in less than 20 years.



Souvenir shops sell articles made of tortoise shells.

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# Komodo dragon

## A day in Ora's life

I live in dry open grasslands, savannahs, and tropical forests. I get out of my burrow in the morning, bask a little in the Sun, and then find some breakfast.

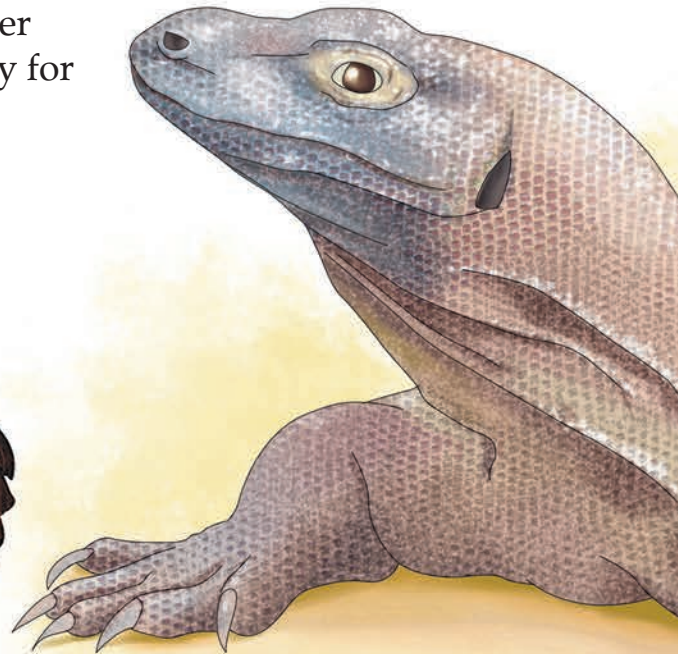
This is followed by a long afternoon nap, some more food, and then burrow-bed again. It's a good life. Sometimes, I venture out at night too.



Komodo dragons have a long, yellow, deeply forked tongue, which reminds people of mythical dragons that spit fire.

## Mr Dragon

I don't have a very good sense of hearing but do have a fantastic sense of smell and can smell food from up to 9.5km away. I can run fast too, up to 20km per hour, though only for short distances.



## Blast from the past

The Komodo dragon's family originated in Asia 40 million years ago, migrated to Australia, and eventually moved to Indonesia. It was 4 million years ago that the now existing Komodo dragons appeared.

## Dragon losing fire

There are only about 5,000 of us left in the wild. There are many reasons why my family is dying. Human activities are one of the main reasons. In the past, many from my family became hunting trophies.



In the 1980s, a wildfire in the Padar Island killed many Komodo dragons. They are now believed to be extinct on that island.





The main island of Komodo, where the dragon lives, has been declared a national park.

## Save Ora

I am on the World Conservation Union and the Convention on International Trade in Endangered Species lists. I still feel that more needs to be done to protect my family, like educating the locals about me, so that instead of killing us they help protect us.

## Bio

Length: 2.5 m (male), under 2.5 m (female); Weight: 91 kg (males), 68 kg (females); Lifespan: up to 50 years

I am the largest living lizard, and I live on Komodo Island and other neighbouring islands of Central Indonesia. My name is Komodo dragon but locals call me Ora.

## Did you know?

Komodo dragons were discovered in 1910. An extensive expedition to study them followed in 1926. This expedition inspired the film *King Kong*, made in 1933.



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# Mallee worm-lizard

## My life

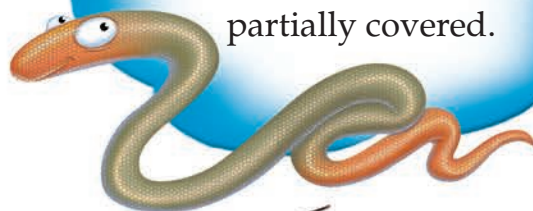
I live in dry areas of plains and sometimes in clayey and sandy soils with vegetation, especially mallee shrubland. I can't move very fast, so I hunt slow-moving prey during the day. At night, I spend my time under leaf litter, large rocks or logs.

## Lizard, not snake

I don't have forelimbs, and my hind limbs are very small. Indeed, they are more like flaps. I have a long body, a large head, and my tail is shorter than my body. I have a blue tongue, which I use when I am threatened. In case that doesn't work, I hiss and flatten out my body to try and make myself look bigger and stronger.

## Did you know?

The mallee worm-lizard can be differentiated from all other worm-lizards by its external ear opening, although it is small and partially covered.



The mallee worm-lizard feeds on ants during the day.



The clearing of mallee vegetation is destroying the home of mallee worm-lizards.

## Mallee's dying

My home is small, with specialized conditions. It is being disturbed as mallee vegetation is being cleared for agricultural purposes and thus killing me. Sometimes, there are fires, which reduce the availability of food and debris, under which I take shelter.



## Let mallee live

The Commonwealth's Endangered Species Protection Act protects me and some of my family members living in the Wathe State Wildlife Reserve. Measures are being taken and funds are being generated to protect my family. The most important thing is to stop the clearance of mallee vegetation and to locate other areas similar to my home where I can live with my family.



Heavy grazing by domesticated animals as well as rabbits and pigs is affecting the mallee worm-lizard.

I look more like a snake but I am in fact a slender, unusual lizard. My name is mallee worm-lizard, and I am from Australia. Some call me the western blue tongue skink.

**Bio** Length: 20 cm; Lifespan: up to 30 years

## Blast from the past

The mallee worm-lizard is from a family that belongs to the group Gekkola that includes geckos as well!



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# Aruba rattlesnake

## Aruba in Aruba

I live in the dry and rocky areas on the south-eastern half of the Aruba Island. In warm months, I venture out during the night and the rest of the year, I step out in the early morning or late afternoon. I have a pair of heat-sensitive pits between my eyes and nostrils, which help me find food.

## Did you know?

Aruba rattlesnakes only eat a few times a year, and a well-fed snake can go for a year or more without food!



## No more rattle

My family and I live on a single island, which has been taken over by humans to an extent that there are only 31 square kilometres left for us to live in, and most of our home and food has been destroyed. Today, there are only about 230 of us left. Our numbers were reduced because of our demand in the pet trade as well.



The Aruba rattlesnake is found only on the Caribbean island of Aruba.

## Mr Venomous

I belong to the viper family and like other vipers I have venomous long, hollow fangs. To kill my prey, I inject it with a deadly chemical mix, which kills it and begins to digest the animal from its insides. Then I swallow my prey wholly by unhinging my jaws, allowing the lower jaw to stretch.

Aruba rattlesnakes feed on rodents, birds, and lizards.





## Save Aruba rattlesnake

I am on the World Conservation Union list and the American Zoo and Aquarium Association has come up with a Species Survival Plan for me. In 1997, the Aruba government developed the Arikok National Park, where I am protected along with other animals. Locals are also being sensitized about my status, which I believe is helping my family greatly.

I live in Aruba Island, and I am amongst the world's rarest rattlesnakes. My name is Aruba rattlesnake, or Aruba Cascabel.

### Blast from the past

It is believed that rattlesnakes evolved their rattles in North America in order to be able to warn large-hoofed animals not to step on them.

**Bio** Length: 94 cm; Weight: 0.9–1.4 kg; Lifespan: 12–20 years



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# Galapagos marine iguana

## Island life

I live close to the sea, near the rocky shoreline of the Galapagos Islands. I spend the first few hours of the morning basking in the Sun and then go foraging for my favourite food, seaweed. I eat it off the rocks or by diving for it into cold seawater.

I am the only sea-worthy iguana in the world and I live near the Galapagos Island archipelago, along with my six brothers. My name is Galapagos marine iguana.

## Blast from the past

Marine iguanas have a much-disputed history of evolution. One theory is that the iguanas rafted over water from South America to the Galapagos Islands 10–15 million years ago.

**Bio**

Length: 0.7 m (male), 0.6 m (female); Weight: 1.5 kg (male), 0.5 kg (female); Lifespan: 5–12 years





Galapagos marine iguanas have strong claws that help them cling to rocks.

## Did you know?

Marine iguanas sneeze out the salt that enters their body through seawater, from a gland near their nose. The salt often settles on their heads, giving them white wigs.



## Mr Adaptive

I am an excellent example of having adapted to my environment. I have a blunt nose to graze seaweed and a flattened tail that helps me swim well. Also, when there is shortage of food, I can grow thin and short by digesting my bones. My size comes back to normal once food becomes available.

## Reducing numbers

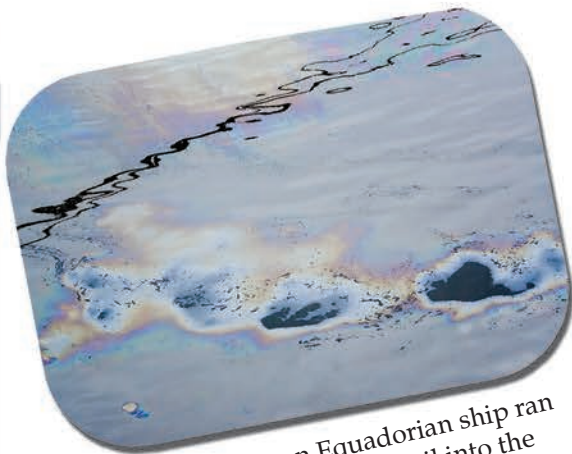
In 2001, there was a shipwreck near my small home, which spilt oil in the water. This killed about 60 per cent of my family in San Cristobal. Weather events like the El Niño are known to kill my family and that of my brothers in great numbers. Moreover, dogs and cats, which were introduced to the islands, eat our babies and us.



The Galapagos marine iguana lives on San Cristobal and Santiago islands.

## Saving the marine iguana

I am protected by the Convention on International Trade in Endangered Species, by a "special law" on the Galapagos Islands, and live in protected areas like the Galapagos National Park and the National Marine Reserve. It is important to control the numbers of dogs and cats in my home and also to protect us during extreme weather or man-made events.



In January 2001, an Equadorian ship ran aground and spilled crude oil into the sea, killing 15,000 marine iguanas.

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# King cobra

## The king's life

I live in dense highland forests and prefer to have water bodies nearby. I can slither on land, climb trees, swim on water, and can raise my body up to one-third of my body length. I usually like to eat other snakes and even smaller members of my family. At times, I eat lizards, rodents, and rats too.



The king cobra lives in dense forests in South and Southeast Asia.



The king cobra can even eat a python!

## How I kill

I find my prey by smelling with the help of my forked tongue, and by sensing vibrations from the Earth. I can also see my prey very well from distances of over 90 m. Once I have my prey, I dig my two fangs into it, injecting the prey with toxins, and then swallowing it whole.

## The King is dying

Although some don't agree, my family is dying. It is because the forests where we live are being destroyed. This drives us into areas populated by humans, who in turn kill us thinking we will attack them. Many of us are killed for our meat and bile, which is used in ancient Chinese medications.



The king cobra is killed for its skin as well, which is very expensive and in demand.

## Did you know?

A king cobra is capable of delivering about seven millilitres, of venom in one bite, enough to kill 20 people or 1 elephant!





## Save the king

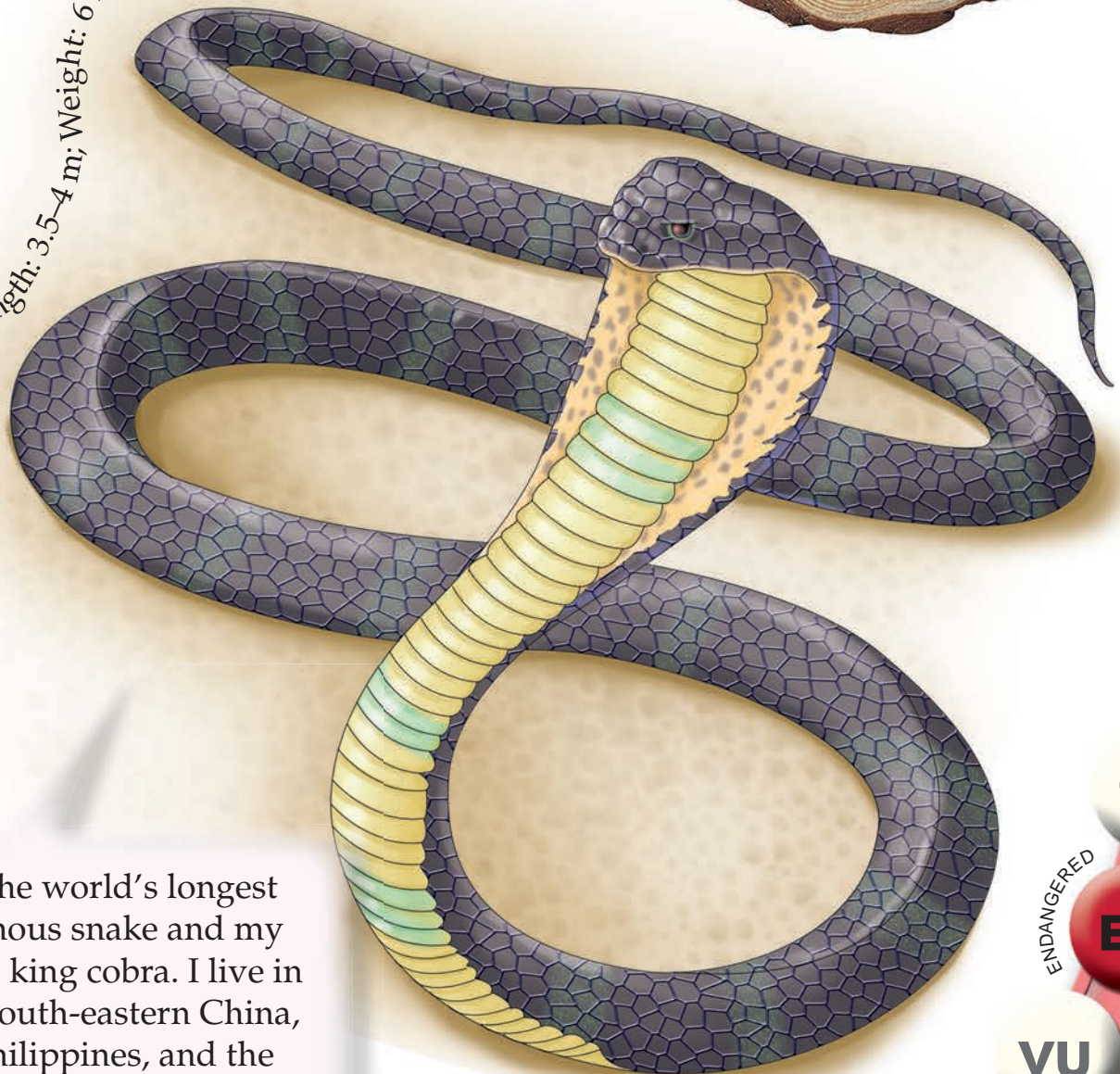
The Convention on International Trade in Endangered Species, along with the Whitley Fund for Nature, a UK-registered charity, protect me. However, it is mainly thanks to people like Romulus Whitaker, Founder Director, Madras Snake Park, who has spent years of his life protecting my family and home, that I am still alive.

## Blast from the past

The king cobra is revered in some parts of India.

**Bio**

Length: 3.5-4 m; Weight: 6 kg; Lifespan: 20 years



I am the world's longest venomous snake and my name is king cobra. I live in India, south-eastern China, the Philippines, and the Indonesian archipelago.

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# Wonder gecko

## Pretty me!

I am one of the largest and arguably most beautiful geckos in my geographical range. A fairly robust species, I have a broad head, long and powerfully built limbs, and a rather short tail. My eyes are large, lidless, and quite prominent.

## Comb-like scales

I inhabit deserts and other arid areas, including sand dunes and gravel plains, below elevations of around 200 m. Unlike several other geckos, I lack the expanded toe pads used in climbing. Instead, my toes have a fringe of comb-like scales that allow me to move more easily in sandy habitat. The scales on my head are small, while those on my body, limbs, and tail are noticeably enlarged, particularly those along the upper side of my tail.

**Bio**

Nocturnal; Length - 16 cm; lifespan - 15 years or more in captivity





## Did you know?

The wonder gecko is also known as frog-eyed gecko, skink gecko, common-plate-tailed gecko, and common wonder gecko.



When threatened, the common wonder gecko displays a distinctive defense posture: it stands on tiptoe, opens its mouth wide, arches its back, writhes its tail, and barks mouth open.

### Burrowing expert

I am an excellent digger. I burrow through the dry surface layers of sand and into moister subsurface layers. These burrows help the common wonder gecko to reduce water loss through its rather permeable skin during the day.

### Escape strategy

My skin is particularly thin and delicate, and it easily tears if I am not handled with care. As an escape strategy, I easily shed my tail, but it can be regenerated easily. However, if provoked, I may squeak, dart forward, and bite, before retreating to my burrow.

### Defense mechanism

In addition to producing a sharp call, I am able to produce a loud, defensive hissing or scraping sound by writhing my tail, causing the large scales to rub together.

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# Fighting for the claws

The World Conservation Union, or the IUCN as it is popularly known, is the world's largest organization that works for the protection of nature and natural resources. The headquarters of the IUCN are in Switzerland. The IUCN prepares lists of threatened plants and animals every year. Scientists at the IUCN study the current population of the species as well as where it is found. The organization then tries to help countries develop ways and means to conserve these dying creatures. The IUCN categorizes species as follows:

**Extinct:** If the last individual of a species is believed to have died, the species is considered extinct. The Yangtze River dolphin, or Baiji, was officially declared extinct in 2007.

**Extinct in the Wild:** A species is thought to be extinct in the wild if it can no longer reproduce on its own. Cuttings of such plant species have to be used to produce them, and animals have to be bred in zoos or sanctuaries.

**Critically Endangered:** Any species is thought to be critically endangered if data suggests that it might become extinct in the wild in the next ten years. This means that its population has reduced significantly, and it will no longer be found in the regions where it used to be. Animals like the gorilla, gharial, rattlesnake, shark, flying fox bat, fox, a large number of trees, and a few species of fish, frogs, parrots, toads as well as corals have been declared as critically endangered.



**Endangered:** Animals like the gazelle, Egyptian vulture, parakeet, blunt-nosed leopard lizard, the Hawaiian finch, green sphinx moth, sawfish, a few species of owls, frogs like the African reed frog, and the Slender Loris are listed as endangered. The survival of these animals is under extreme threat in the next ten years.

**Vulnerable:** The IUCN groups the animals that face a threat but can be conserved in the near future as vulnerable. This group includes the white-headed vulture, the alligator lizard, the lemur, the shark ray, the butterflyfish, the common hippopotamus, the giant gecko, and a few crocodile species. These animals might soon be included in the endangered or critically endangered categories if steps are not taken immediately to protect them.

**Near Threatened:** Species that are not vulnerable, endangered or critically endangered but might fall into any of those categories soon are classified as near threatened.

**Least Concern:** Species that are widely found in plentiful numbers are classified under least concern.

**Note:** *The conservation statuses in this book are not solely based on the IUCN Red List. For some creatures, national and local data have been used.*



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# Glossary

**adapting:** the act of fitting in by making changes

**basking:** to lie or relax in a pleasant warmth

**bulbous:** resembling a bulb, especially in roundness

**burrow:** hole or tunnel dug in the ground by an animal

**camouflage:** to hide by disguising

**consumption:** the act of eating

**extinction:** the process in which groups of organisms die out.

**fangs:** long sharp teeth

**forked:** shaped like a fork

**mallee:** a type of vegetation in Australia, consisting of evergreen shrubs or eucalyptus trees.

**marshes:** soft, wet, low-lying land with grassy vegetation, covered with water

**metabolic rate:** the rate at which chemical processes occur in the body

**migrating:** the act of moving from one place to another

**poaching:** to hunt or catch by illegal methods

**predator:** an organism that lives by eating other organisms

**scrub area:** area with low trees of inferior quality

**swamp:** wet, spongy land; soft, low ground filled with water; marshy ground away from the seashore

**webbed:** having toes that are united by a membrane/web

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**About the Environment Agency – Abu Dhabi (EAD)**

Established in 1996, the Environment Agency – Abu Dhabi (EAD) is committed to protecting and enhancing air quality, groundwater as well as the biodiversity of our desert and marine ecosystem. By partnering with other government entities, the private sector, NGOs and global environmental agencies, we embrace international best practice, innovation and hard work to institute effective policy measures. We seek to raise environmental awareness, facilitate sustainable development and ensure environmental issues remain one of the top priorities of our national agenda.

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# Life in the REPTILIAN REALM

There are about seven thousand species of reptiles, belonging to the four main groups: turtles and tortoises; snakes; lizards and worm lizards; crocodiles, alligators, caimans, and gavials, and tuataras. Reptiles live in all continents of the world except Antarctica. Unfortunately, many of them are losing their homes, and unless we take action to save them, the oldest living animals in the world may soon become extinct.

## Other titles in this series

Life on Land  
Life in the Water  
Life in the Sky  
Life in the Amphibian World  
Life in the Plant Kingdom

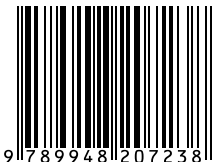


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