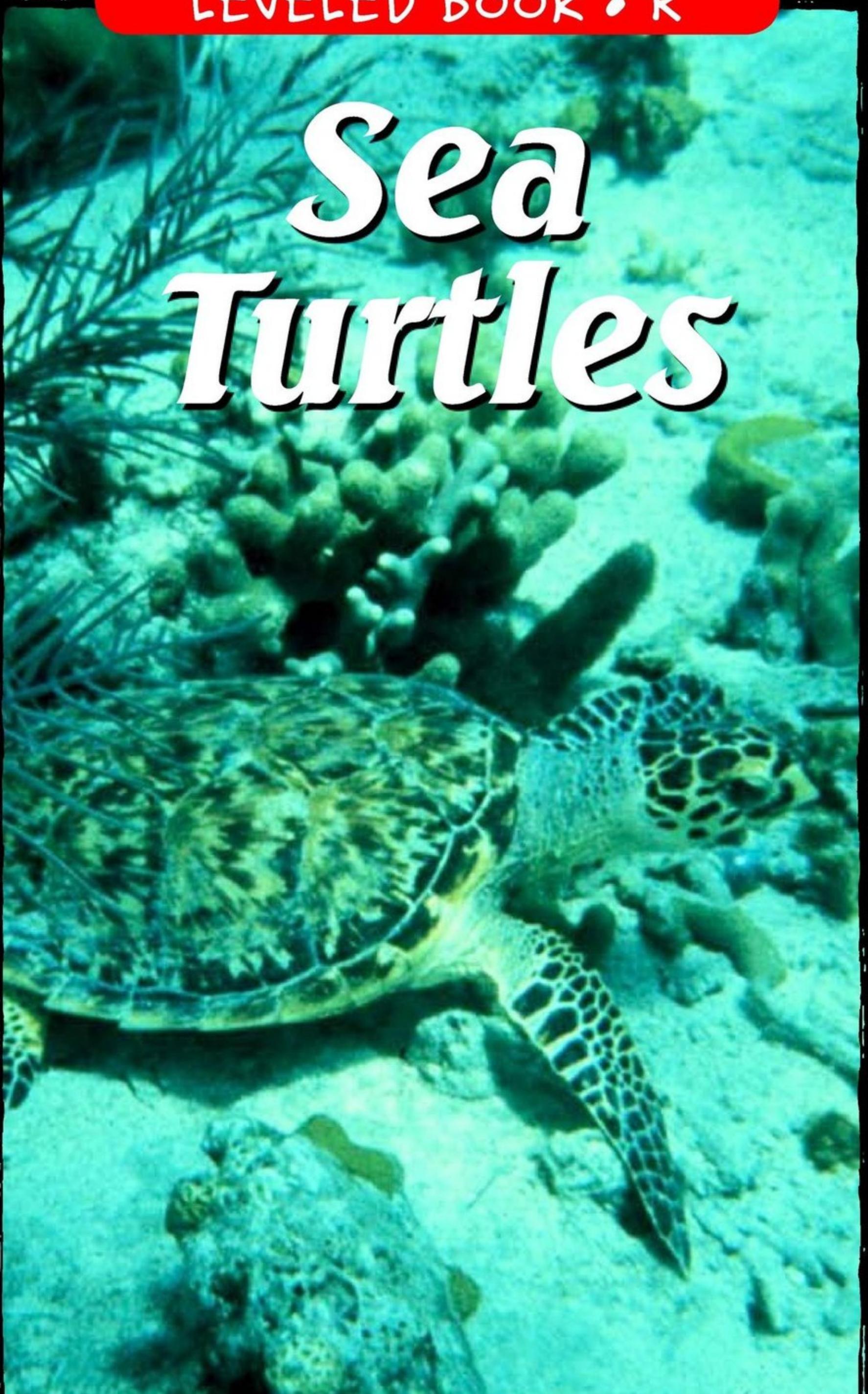


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# Sea Turtles

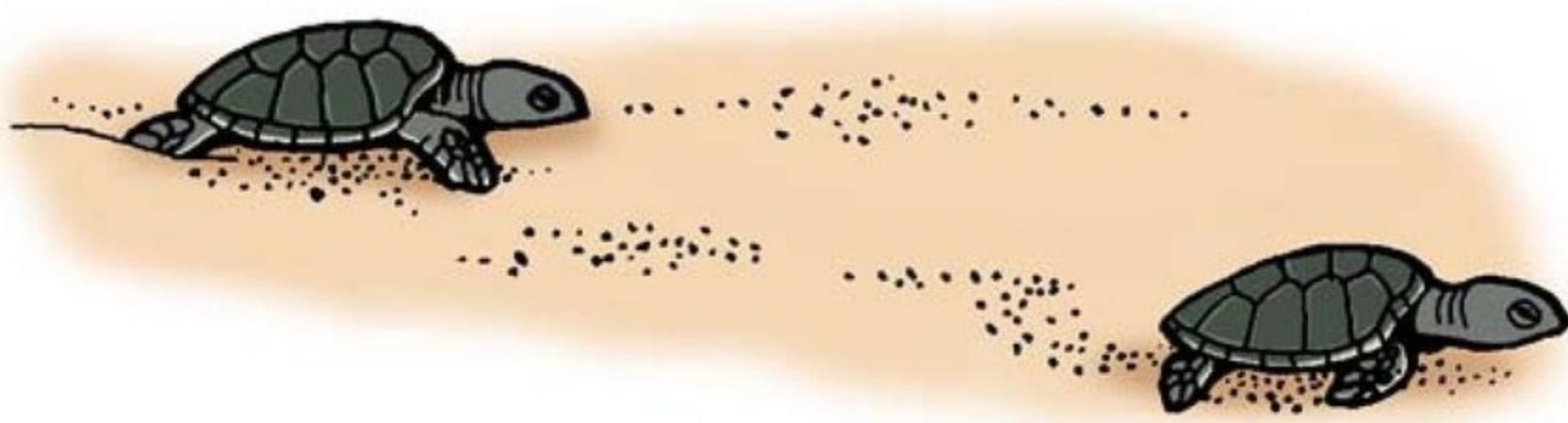


Written by Kira Freed • Illustrations by Cende Hill

# Sea Turtles



Written by Kira Freed  
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Hawksbill

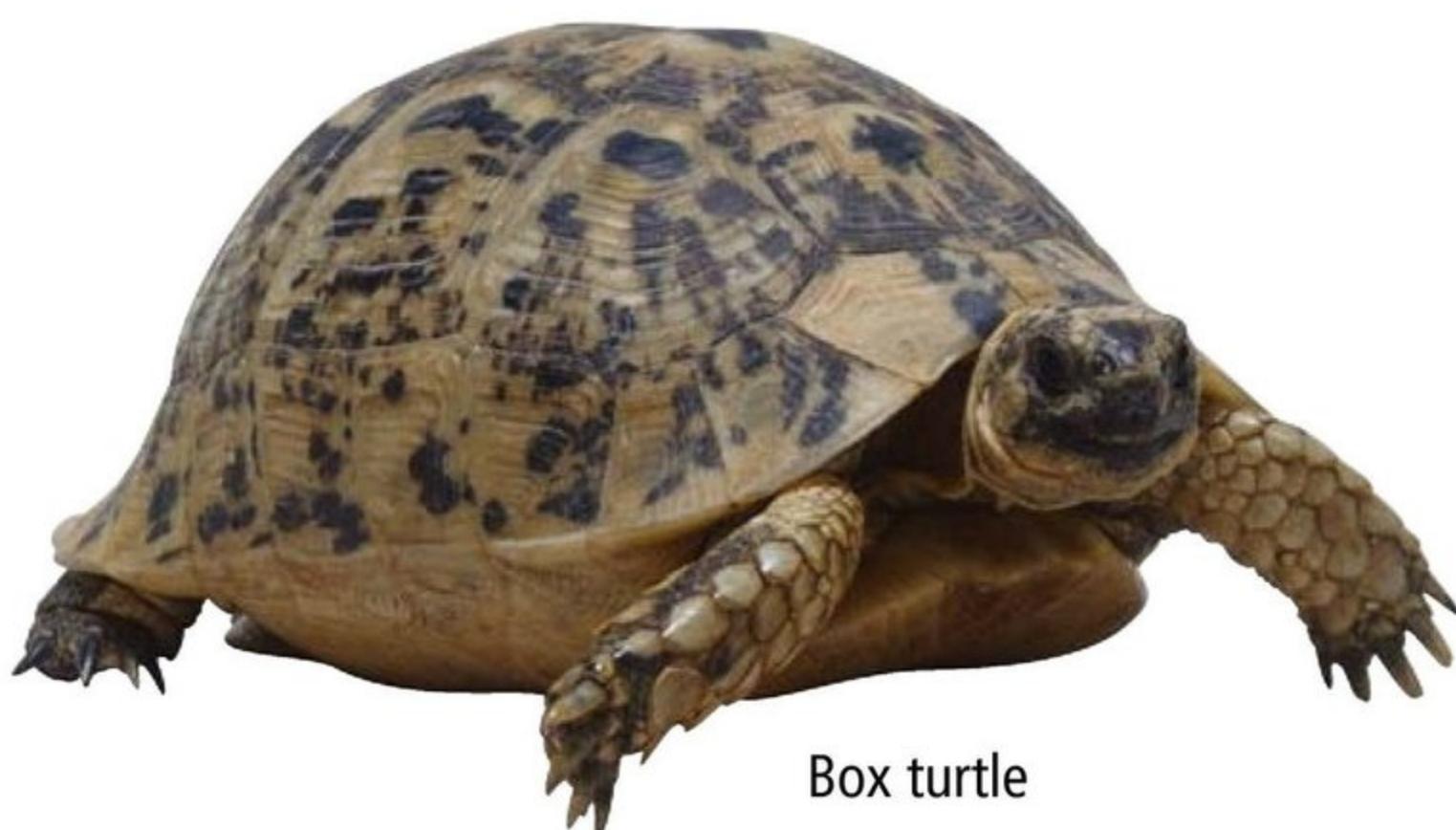
## Introduction

Sea turtles have roamed the oceans for at least 150 million years. They are among Earth's oldest surviving animals, having lived during the time of the dinosaurs. Like dinosaurs, sea turtles are reptiles, and like all reptiles, sea turtles are cold-blooded. They have scaly skin, breathe air, and have a heart with three chambers.

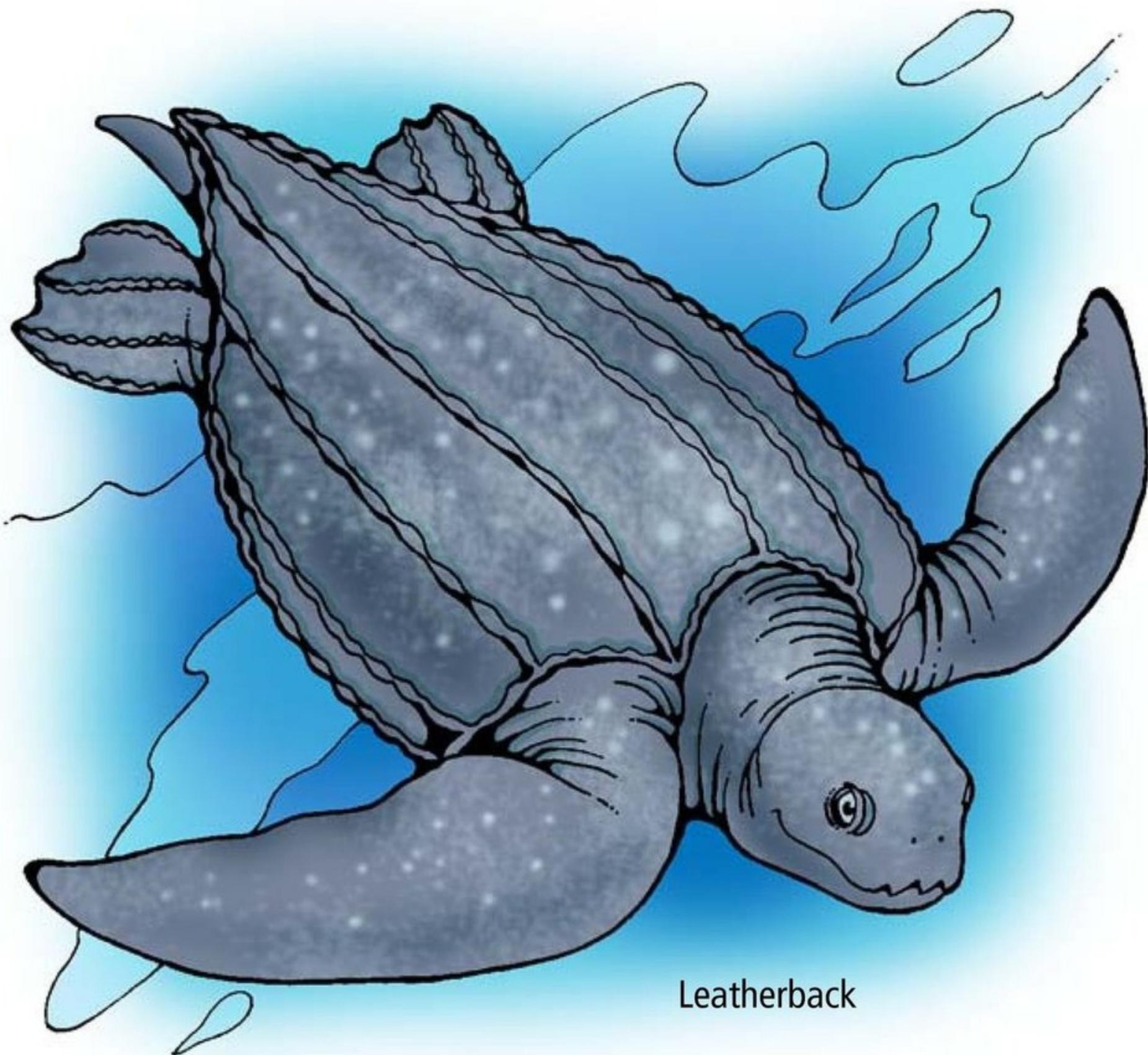


Desert tortoise

Sea turtles have many living turtle relatives, including freshwater turtles, snapping turtles, tortoises, and soft-shelled turtles. All of these turtles live either on land or in freshwater. Sea turtles are the only turtles that live in the saltwater of the world's oceans.



Box turtle

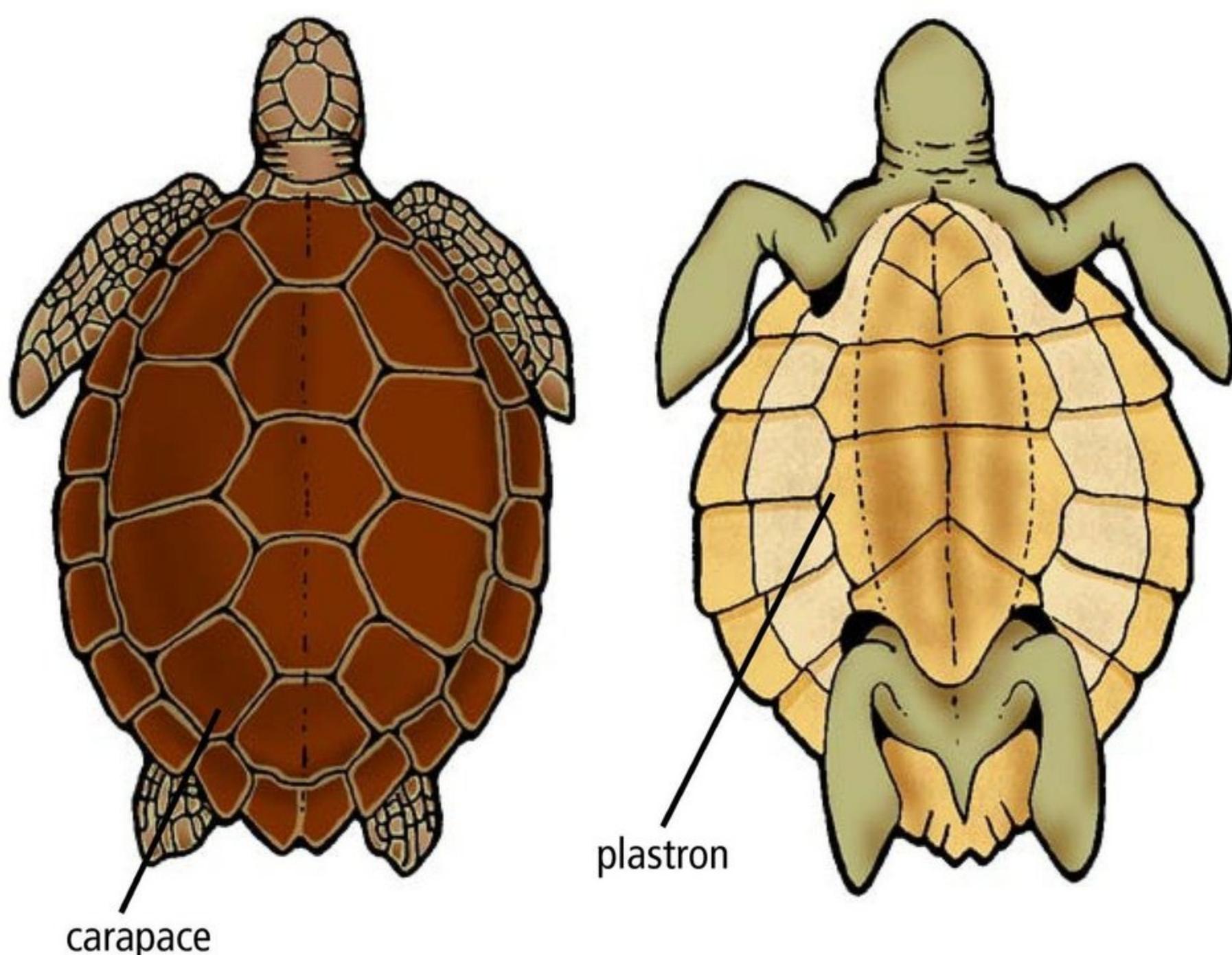


Leatherback

## Types of Sea Turtles

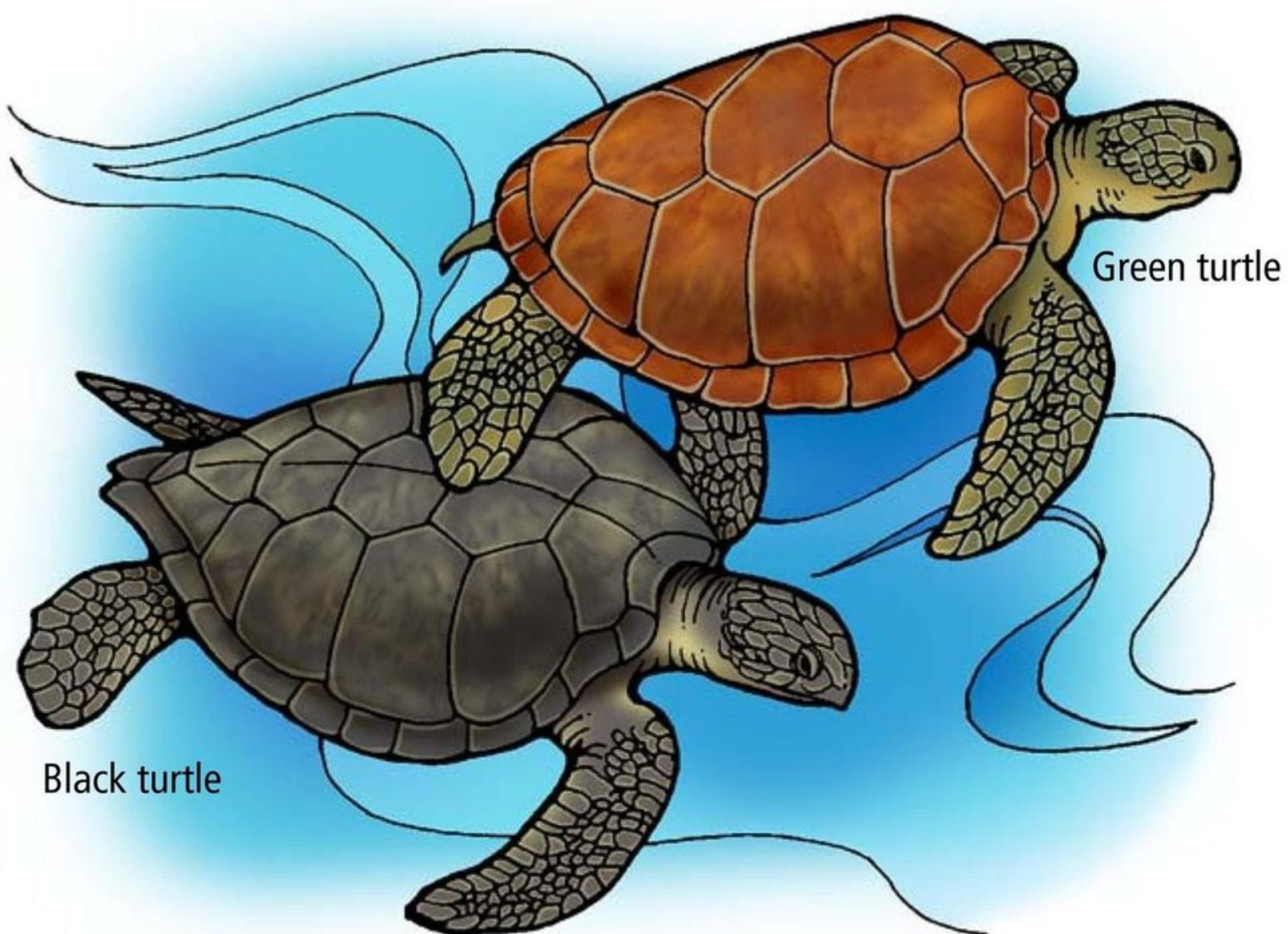
Sea turtles are divided into two types. One type, called the leatherback, is covered with leathery skin. Beneath this skin is a shell made of cartilage and thousands of tiny bones. The cartilage forms prominent ridges that give the leatherback its unique appearance. The leatherback is the largest of all sea turtles and the most widely distributed. It lives far out to sea except during breeding season.

All types of sea turtles other than the leatherback have a shell made of bony plates, or **scutes**. The top part of the shell is called the **carapace**. The part of the shell under the turtle's belly is called the **plastron**. These two parts are connected to the muscles and bones inside the turtle's body. The number and pattern of the scutes is helpful in identifying the type of sea turtle.



### Do You Know?

Unlike a land turtle, a sea turtle cannot pull its limbs or head into its shell.

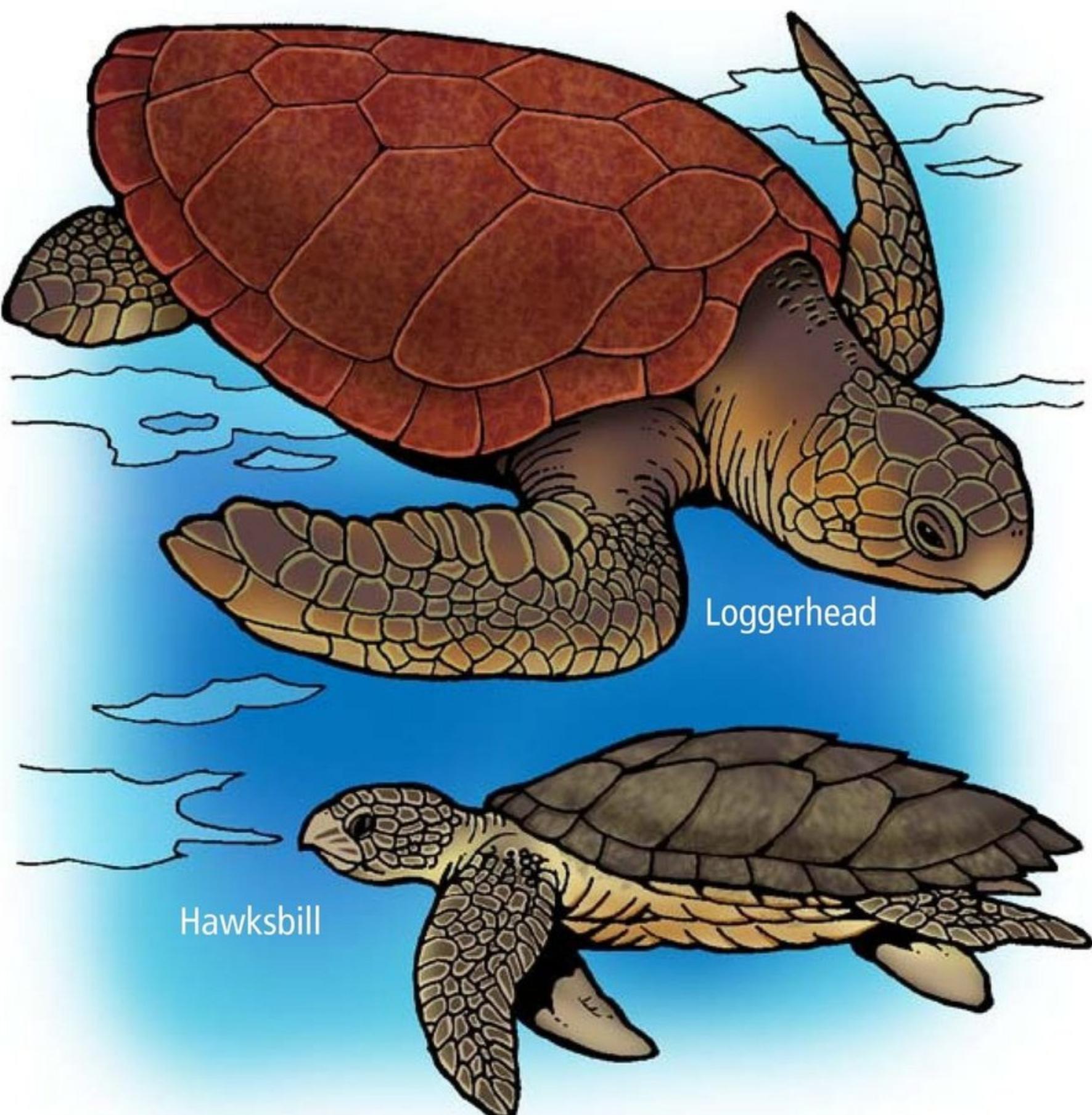


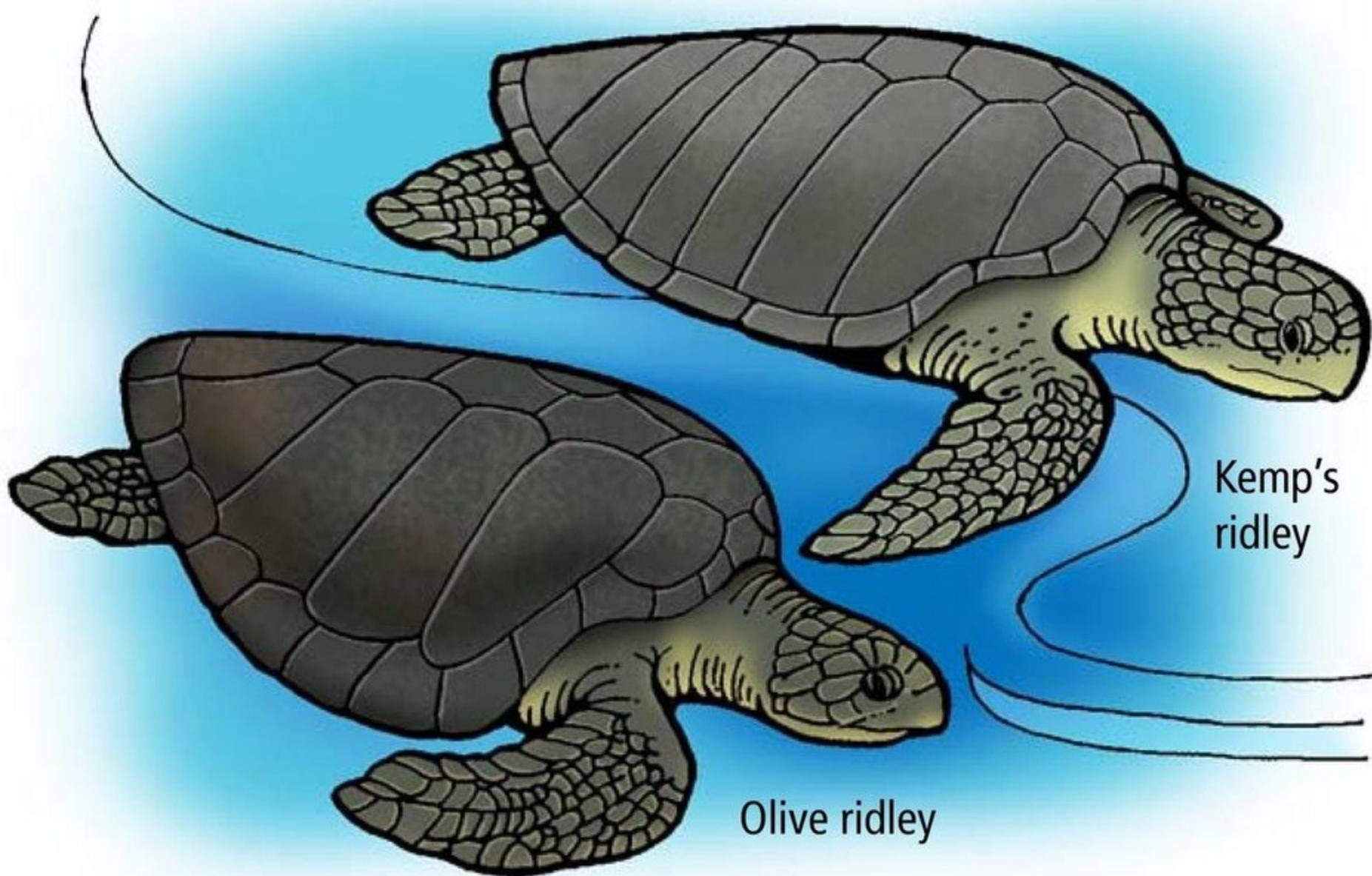
The green turtle is a medium to large sea turtle with a shell that has mottled markings. The green turtle's head is small relative to its body when compared with other sea turtles. It lives in many oceans around the world.

The black turtle is sometimes called the Pacific green turtle. Researchers disagree on whether it is a type of green turtle. The black turtle is dark gray with stripes of other dark colors. It lives on the west coasts of North and South America. The black turtle prefers to live in warm bays and protected shores, and is rarely found in the open ocean.

The loggerhead turtle is a large reddish-brown sea turtle. It has an extremely large head for the size of its body. Loggerheads live along the coast in tropical and subtropical waters around the world.

The hawksbill is a small to medium sea turtle with a hawklike beak. Its shell has a distinctive pattern of thick, overlapping brown scales. It lives in and around shallow coastal waters in and around coral reefs.

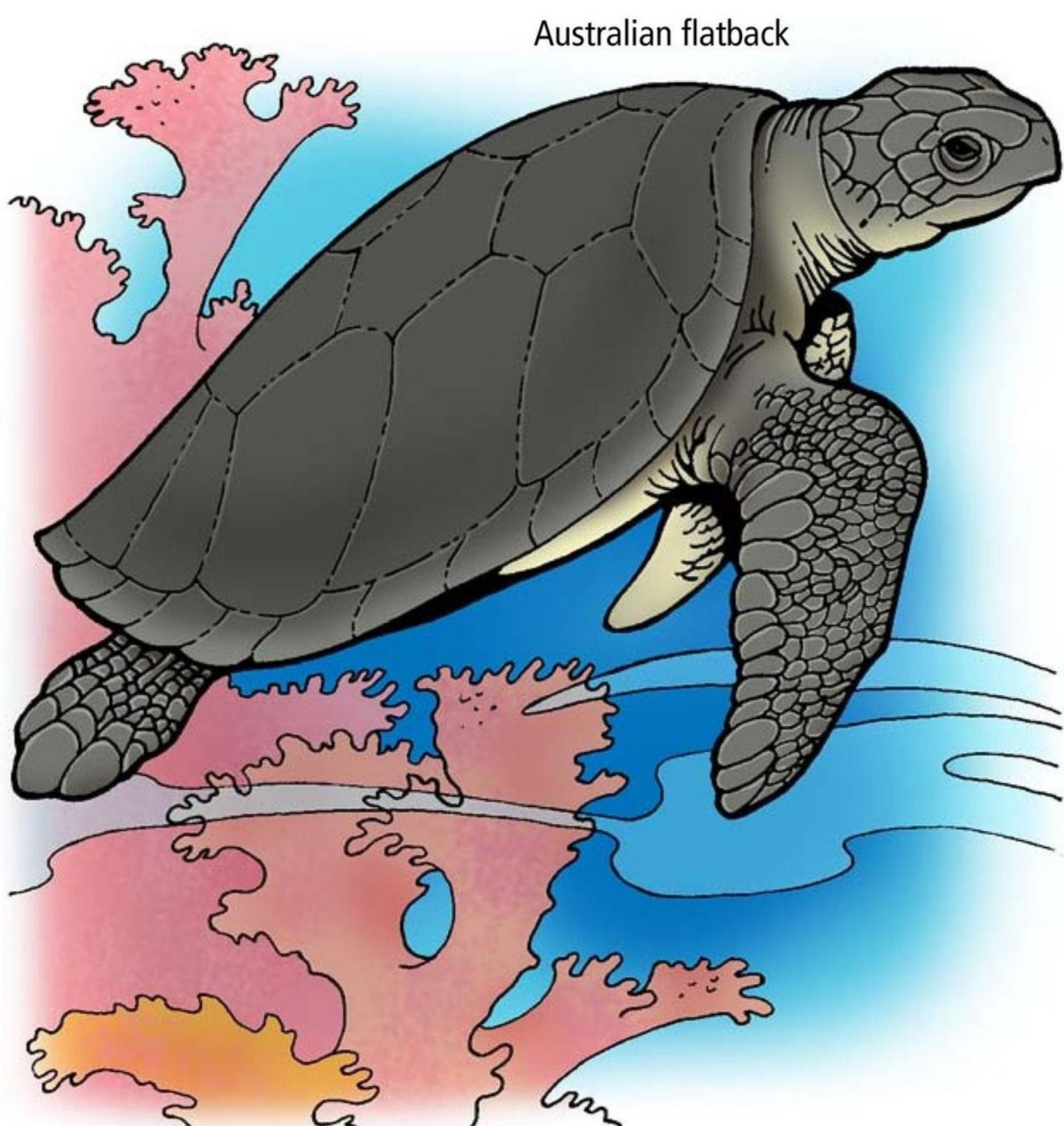


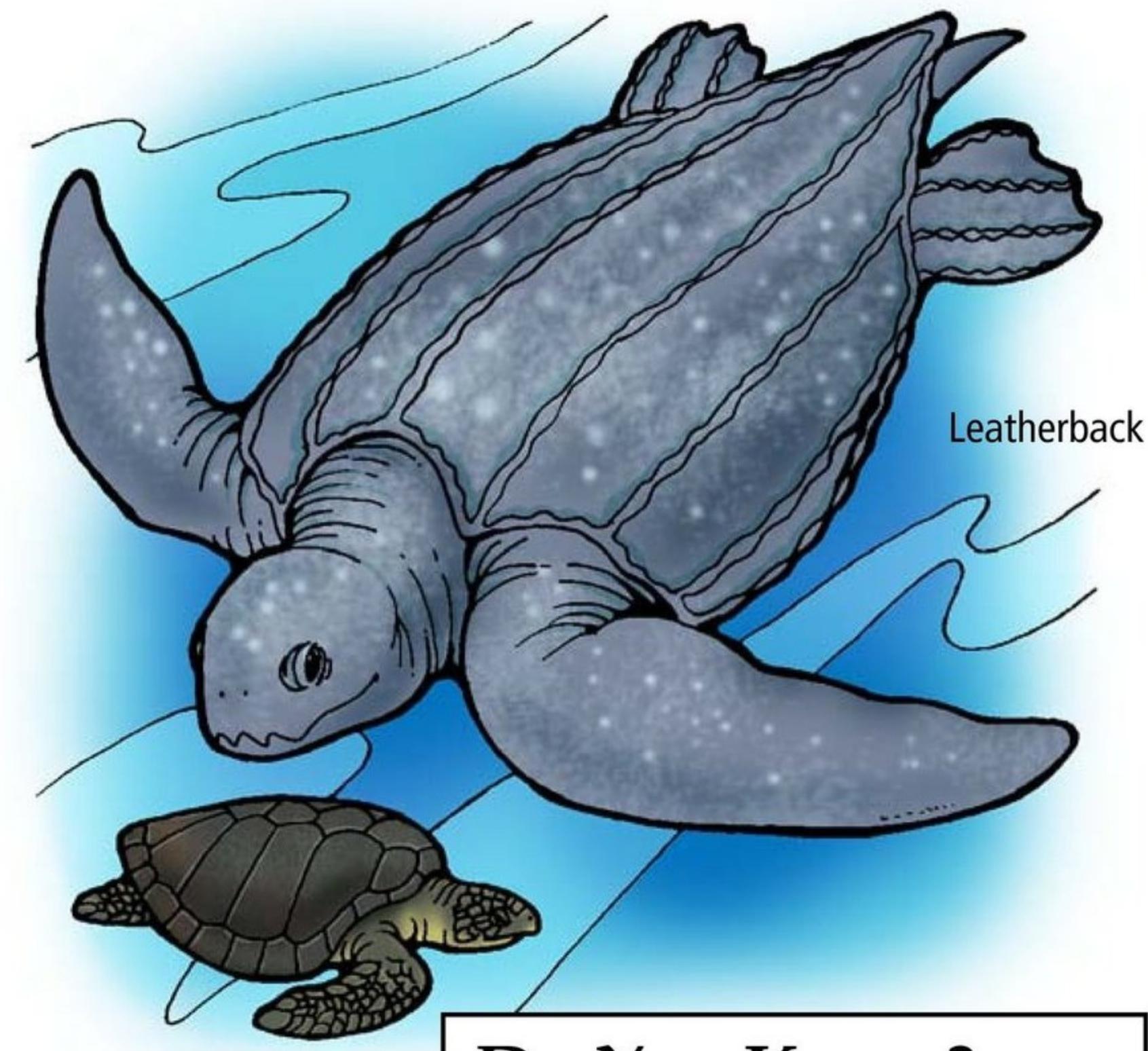


Kemp's ridley, one of the smallest sea turtles, has an oval shell that is black during juvenile years, changing to olive gray during adulthood. The Kemp's ridley has one of the most restricted ranges of all sea turtles. Adults are rarely found outside of the Gulf of Mexico, and almost all Kemp's ridleys nest on a five-mile stretch of beach in Mexico.

The olive ridley, another small sea turtle, is similar to the Kemp's ridley. However, its shell is thinner and its head is smaller. The shell is heart-shaped or round, and may be gray-brown, black, or olive green. The olive ridley lives in coastal tropical regions of the world's oceans.

The Australian flatback lives in shallow waters off the coast of northern Australia and Papua New Guinea. It stays close to the shore, never venturing into the open ocean. It prefers to live around coral reefs and grassy inlets. The Australian flatback has a flat body with a smooth shell that is olive gray with lighter edges.





### Do You Know?

The largest leatherback ever recorded weighed over one ton.

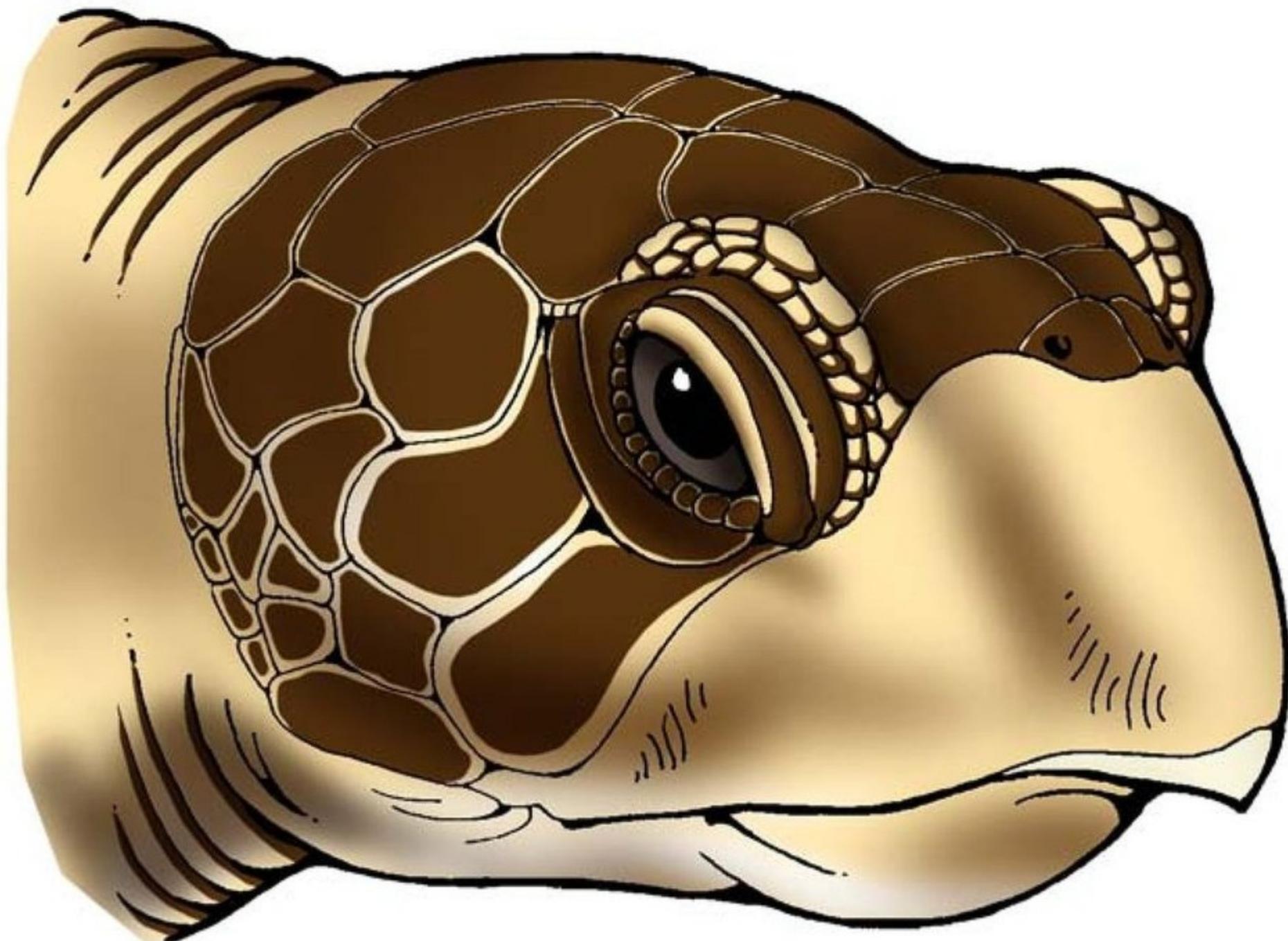
## Physical Appearance

Sea turtles vary greatly in size. The largest is the leatherback, which can grow as large as 2.2 m (7.2 ft) and weigh up to 700 kg (1,500 lbs). The smallest sea turtles are the olive ridley and Kemp's ridley. They may measure up to 71 cm (28 in) and weigh up to 45 kg (100 lbs). Adult male and female sea turtles of each species are equal in size.

Sea turtles are strong, graceful swimmers and divers whose streamlined bodies are well adapted to life in the ocean. Long front flippers provide the power for propelling through the water. The hind flippers are used as rudders for steering. When sea turtles are active, they need to return to the water's surface every few minutes in order to breathe. When resting or sleeping, they can remain under water without breathing for two hours or more.



Hawksbill

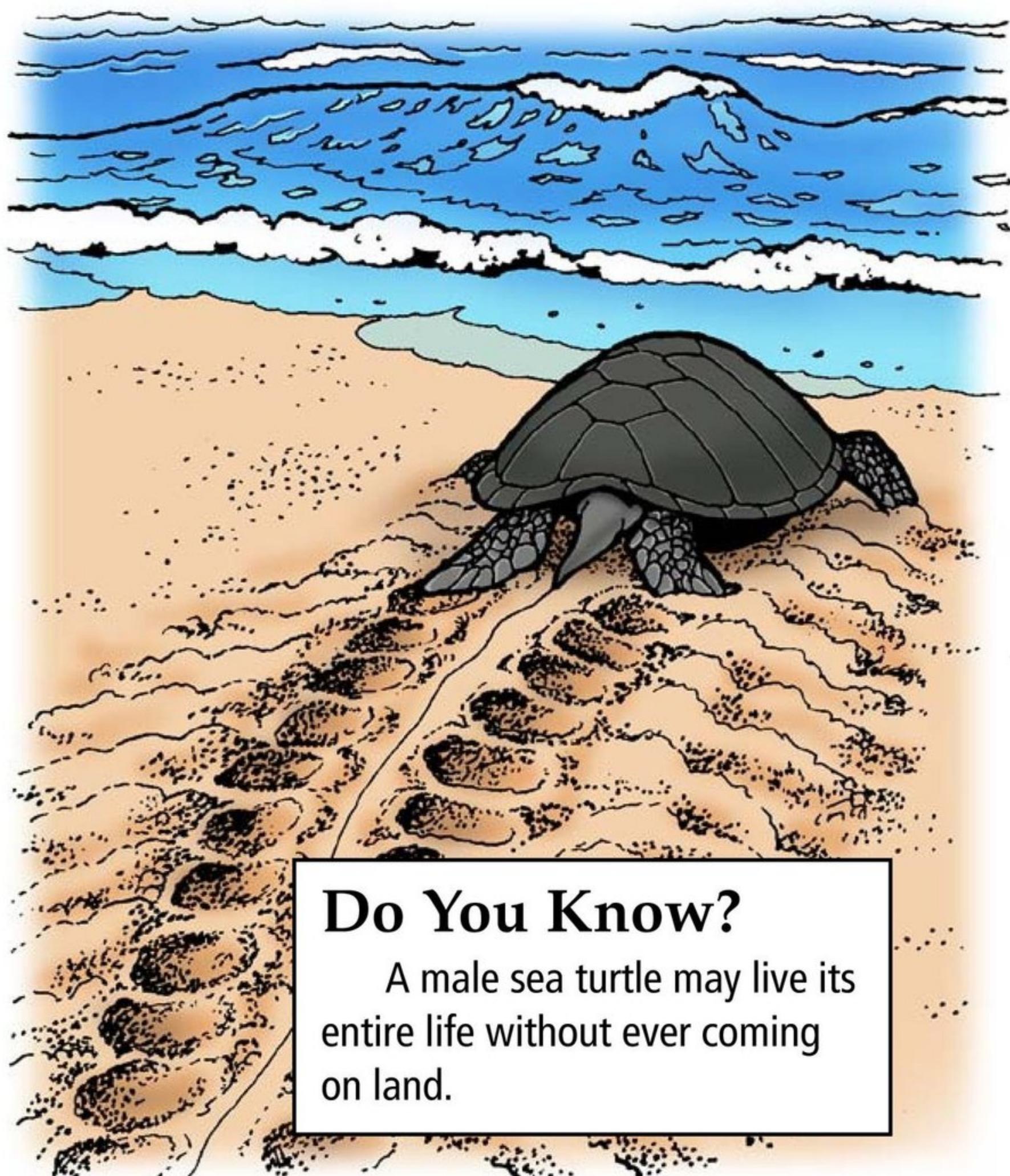


Sea turtles have beaklike jaws.

Like all turtles, sea turtles have jaws that are beaklike in shape and lack teeth. The unique jaw shape of each species is an adaptation to its unique diet. Some sea turtles are **carnivorous** (meat eating), some are **herbivorous** (plant eating), and some are **omnivorous** (eating both meat and plants). Green sea turtles are herbivorous as adults. Leatherbacks feed mainly on soft-bodied animals such as jellyfish. Loggerheads eat crabs, jellyfish, and mollusks.

## Nesting

Sea turtles live almost their entire lives in water. Females come onto sandy beaches mainly to lay their eggs. Sea turtles are awkward and slow-moving on land, as well as being nearsighted. Because of this, they are more vulnerable to attack by predators while on land.



### Do You Know?

A male sea turtle may live its entire life without ever coming on land.



Leatherback

Most females return to the same nesting beach every year. They come ashore at night, alone, usually during high tide. A female chooses a spot above the high tide line so her eggs will not get washed away. With her front flippers, she digs a pit for her body, then digs an egg cavity with her hind flippers.

The female sea turtle lays her eggs in the egg cavity. Depending on the species, she may lay between 50 and 200 eggs. The eggs, which look like Ping-Pong balls, have soft shells and do not break as they fall from her body. When the female has laid her eggs, she uses her hind flippers to cover them with sand. The sand keeps the eggs hidden from predators and keeps them warm so they will incubate.



An egg from a sea turtle nest

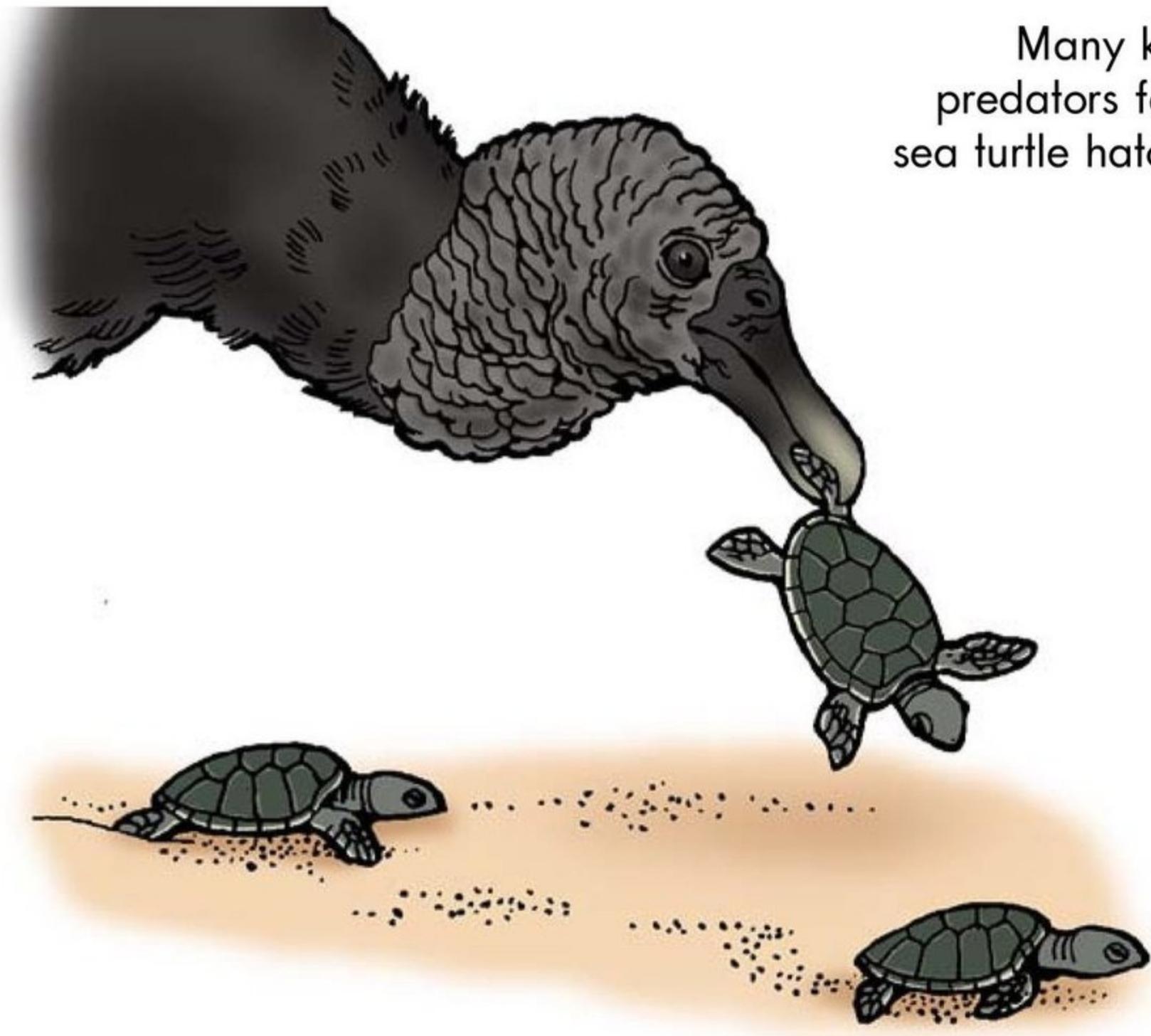
When a female sea turtle comes on land to lay her eggs, she often looks as though she is crying. This is because of a gland that helps rid her body of excess salt. While on land, the “tears” help to keep sand out of her eyes while she is digging her nest.

### Do You Know?

Sometimes a female crawls onto land but for unknown reasons, decides not to nest. This is called a **“false crawl.”**



A female loggerhead returns to the ocean after laying her eggs. Her eyes are free of sand because of the “tears” she has cried.



Many kinds of predators feast on sea turtle hatchlings.

Sea turtle eggs hatch between 45 and 70 days after being laid. Hatchlings usually wait until night to emerge from the nest. They are very vulnerable to predators when they first hatch. Nighttime is a safer time for them to make their way to the water. Still, many hatchlings do not survive the trip to the ocean.

### Do You Know?

Sea turtle eggs do not start out male or female. The temperature of the surrounding sand helps to determine the sex of the hatchling. Hot sand produces more females, and cool sand produces more males.

## Hazards

Adult sea turtles have few natural enemies. Sharks are the main predators, especially tiger sharks. Sea turtle eggs and hatchlings are eaten by fish, dogs, seabirds, raccoons, ghost crabs, and other predators. More than 90 percent of hatchlings are eaten by predators. Only about 1 in 1,000 sea turtles survives to maturity.



Hawksbill



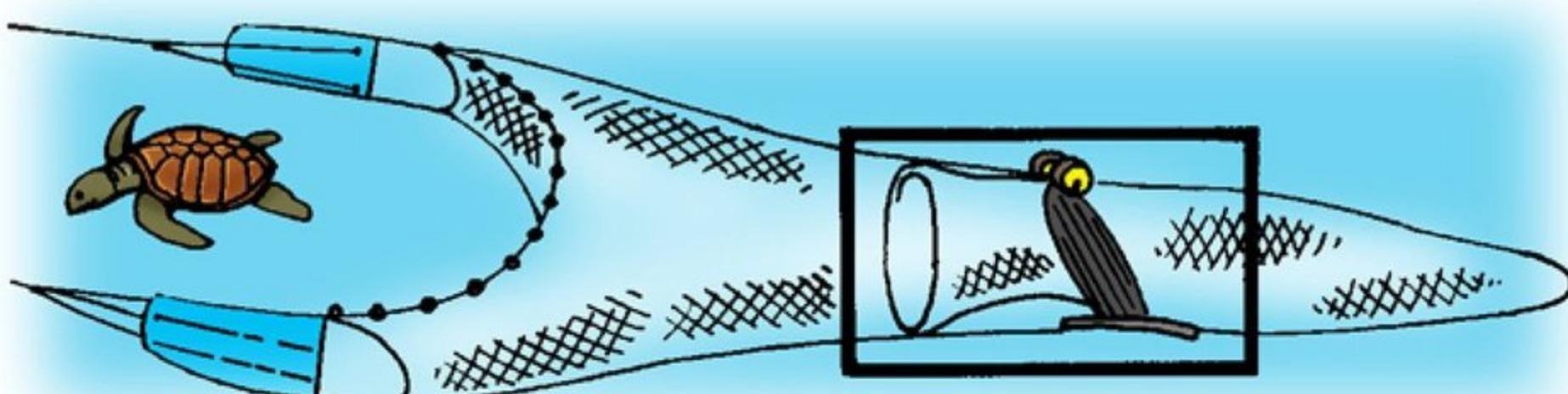
A female sea turtle is discouraged from nesting because of buildings and oceanside development.

The most serious dangers to all kinds of sea turtles come from human impact. Nesting areas are scarce because of building construction along beaches. Lights, noise, trash, and activity on beaches can discourage adult females from coming on shore. All of these things also confuse hatchlings, who may accidentally head away from the ocean instead of toward it.

Some sea turtles die from eating trash. Leatherbacks often mistake plastic for jellyfish and die when it clogs up their digestive system. Sea turtles can also die from injuries caused by collisions with boats.

## Protecting Sea Turtles

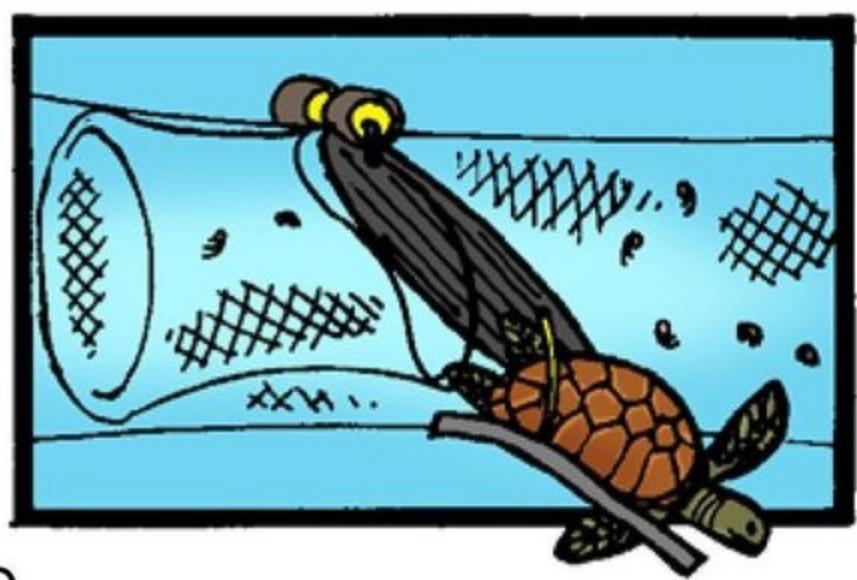
Thousands of sea turtles drown each year in shrimp nets. United States law requires shrimp fishermen to use a Turtle Excluder Device (TED) on all shrimp nets, which is a trap door inside the shrimp net that allows sea turtles to escape. TEDs have saved the lives of many turtles. However, some shrimp fishermen do not follow the law. Shrimp nets without TEDs continue to be a danger to sea turtles.



Shrimp trawling net with Turtle Excluder Device (TED) shown in box

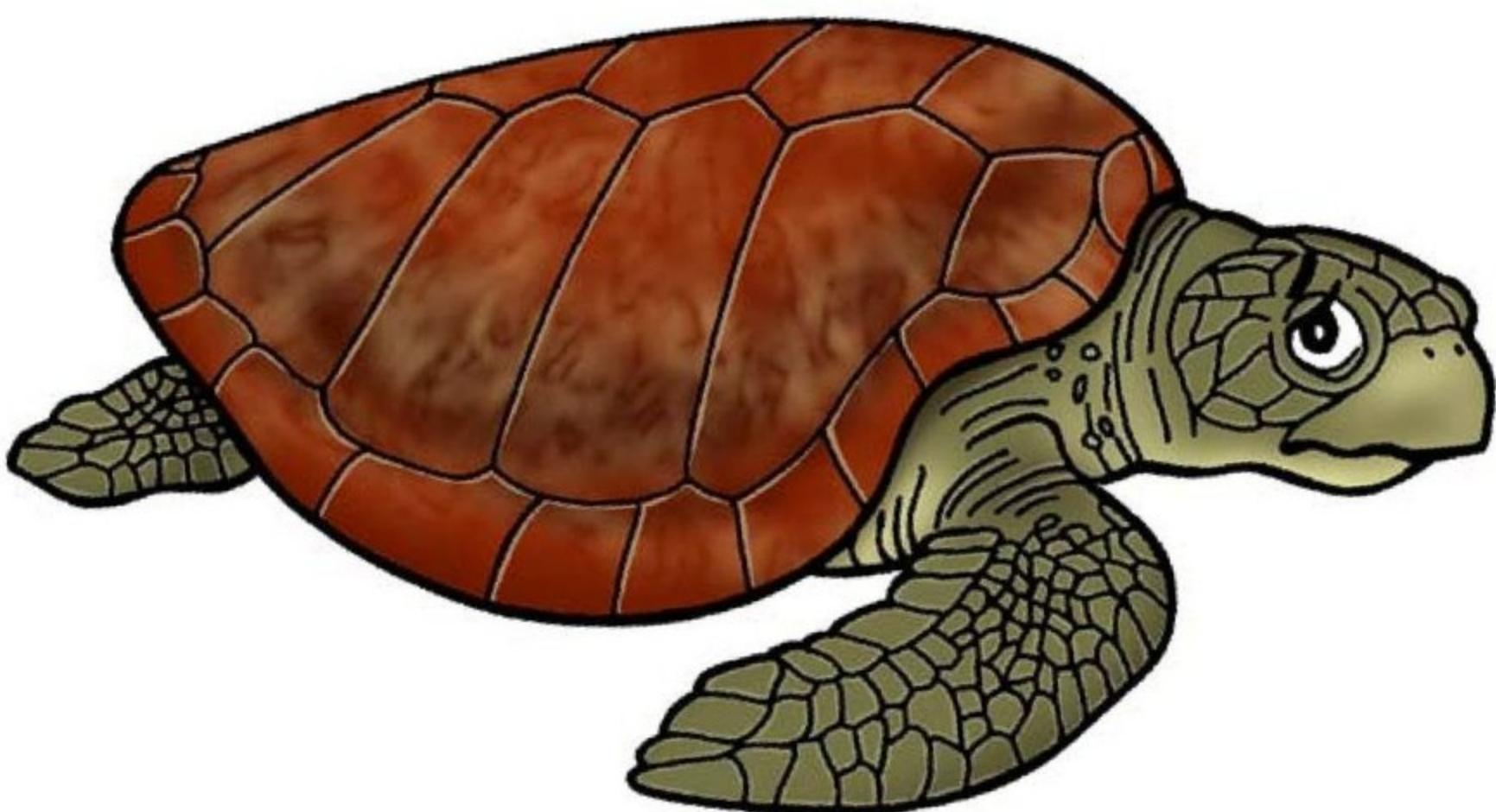


(left) The turtle and shrimp enter the TED.

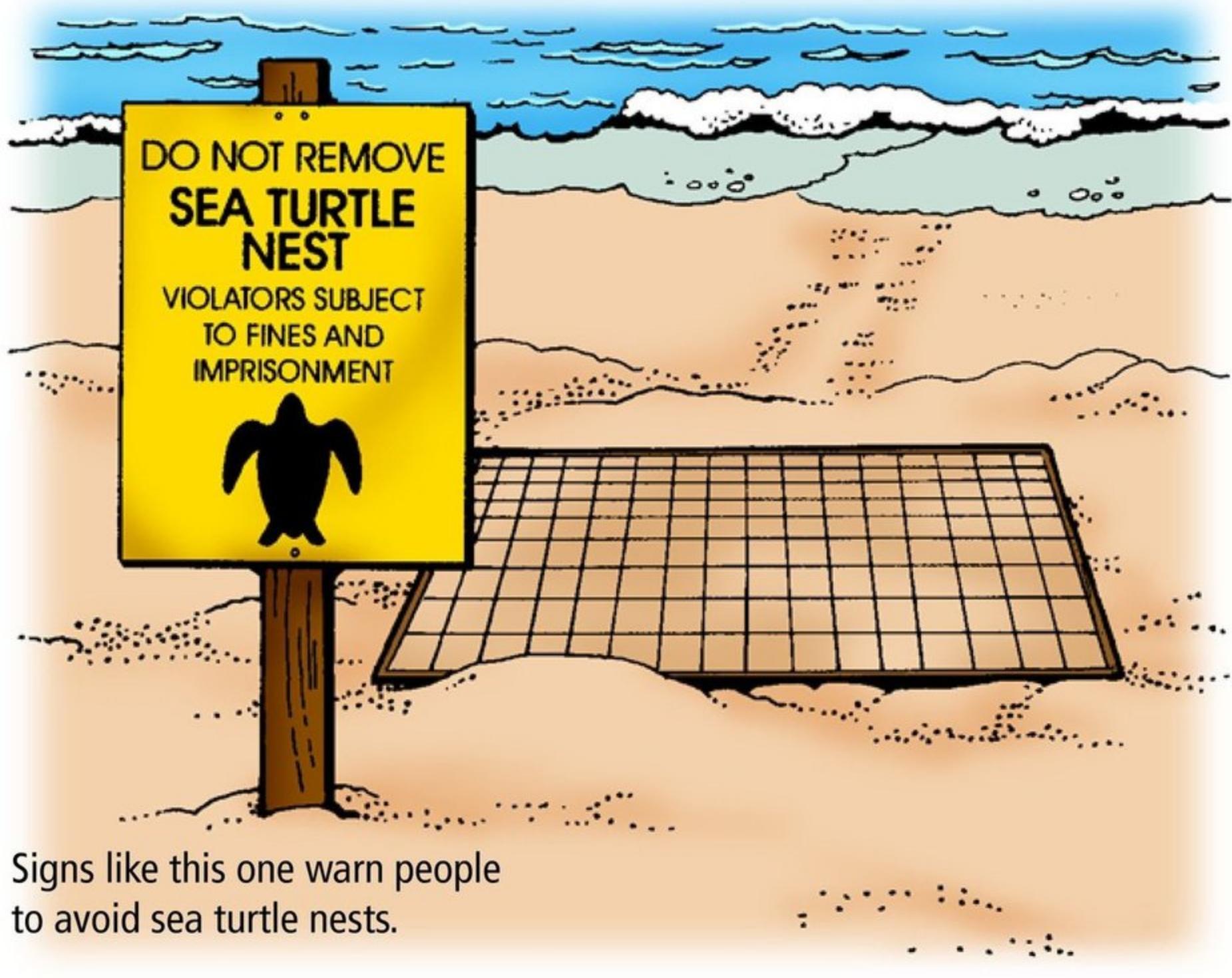


(right) The shrimp are small enough to shoot through the bars and into the net. The turtle slides down the bars and hits a flap, which then opens to release the turtle.

Sea turtles are also hunted for their shells, which are used to make combs, eyeglass frames, and souvenirs. Another danger to sea turtles is the illegal collection of their eggs for food. Green turtles and other sea turtles are also hunted illegally for their meat.



All eight species of sea turtles are threatened or endangered in the United States. It is illegal to harm or interfere with a sea turtle or its eggs. An international treaty protects all species of sea turtles, and over 100 countries have banned the import or export of sea turtle products. Still, many people break laws or are careless. Sea turtle protection must be improved considerably if they are to survive into the future.

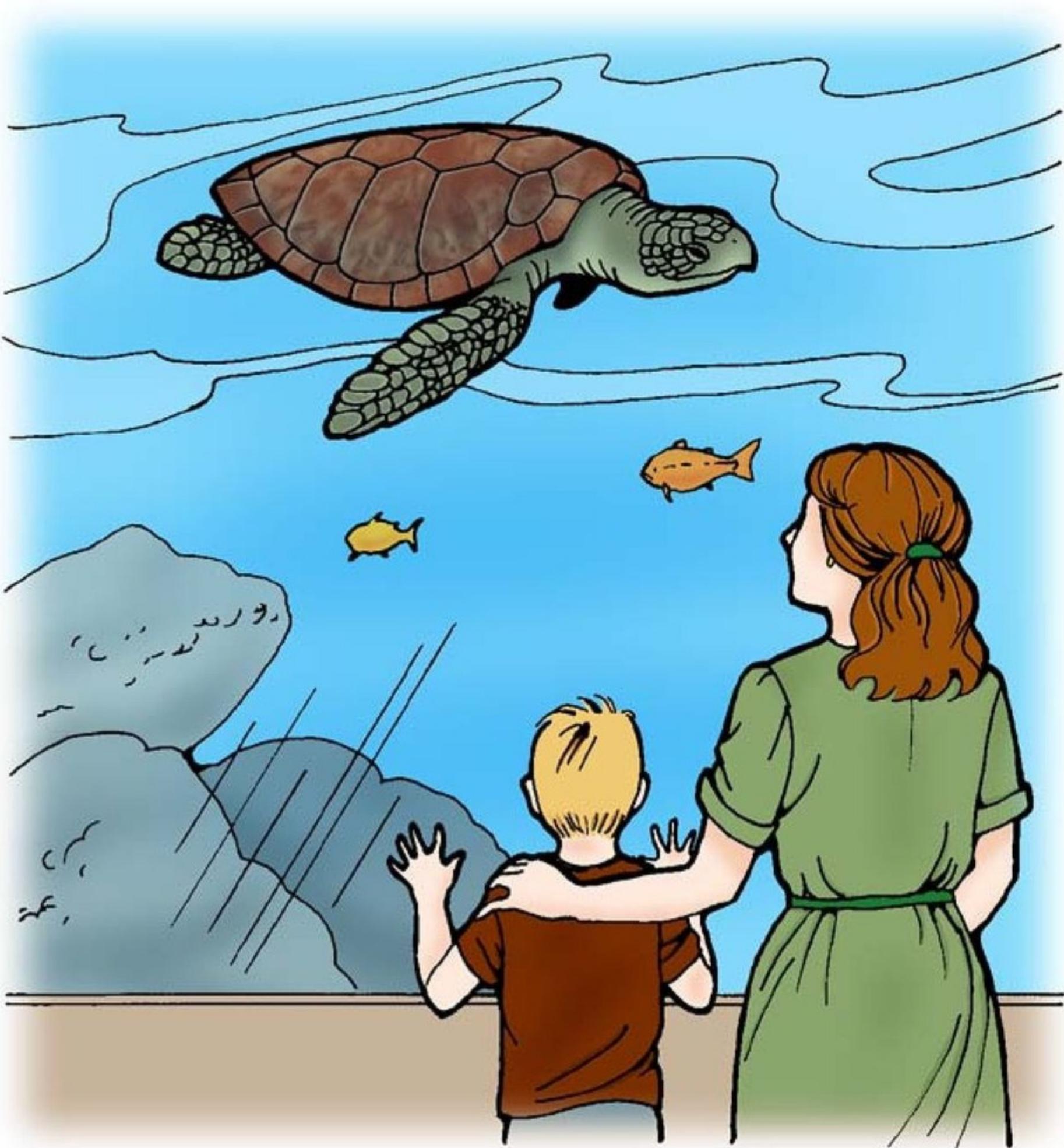


Signs like this one warn people to avoid sea turtle nests.

Many people in many countries are working to keep sea turtle numbers from dwindling. Volunteers in many nesting areas put screens over the nests to keep out predators, and post warning signs to alert beachcombers to the presence of nests. Eggs laid too close to the water are often moved to higher ground.

People are also working to protect important nesting sites by making them wildlife refuges. Also, many clinics help to rescue and give medical attention to injured sea turtles.

Some zoos and aquariums have captive sea turtles. Sea turtles are much happier in the wild. But it is also good for people to learn about sea turtles and watch them up close. People can also learn about the many hazards to sea turtle survival caused by humans. Hopefully, enough people will care about sea turtles to preserve their habitats and help them to survive.



People enjoy watching and learning about sea turtles.

## **Glossary**

<b>carapace</b>	the top of a turtle's shell (p. 7)
<b>carnivore</b>	an animal that eats only meat (p. 14)
<b>false crawl</b>	when a female sea turtle comes onto land but returns to the ocean without nesting (p. 18)
<b>herbivore</b>	an animal that eats only plants (p. 14)
<b>omnivore</b>	an animal that eats both plants and meat (p. 14)
<b>plastron</b>	the part of a turtle's shell underneath its belly (p. 7)
<b>scutes</b>	the bony plates that make up a turtle's shell (p. 7)

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Cover photo: Hawksbill sea turtle

This book is dedicated to Nehemiah Stark,  
who shares my love of sea turtles.

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Level R Leveled Book  
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