

EXTREME LIFE



Arizona Astrobiology
Center

A detailed illustration of a wood frog in its natural habitat. The frog, with its brown and tan mottled skin and a white stripe along its side, is perched on a dark grey rock in the foreground. It is looking towards a small, clear blue pond in the middle ground. The pond is surrounded by lush green grass, reeds, and lily pads. In the background, a dense forest of tall green trees stands under a bright blue sky with soft white clouds. A semi-transparent white box with a green border is positioned in the upper right, containing the title and descriptive text.

WOOD FROG

Wood frogs live in forests and ponds that freeze in winter. They can freeze solid and wake up again in the spring.

THORNY DEVIL

Thorny devils live in deserts in Australia and get water using special grooves on their skin. If they step in a small puddle, the water moves to their mouth along their skin.



EMPEROR PENGUIN

Emperor penguins live in Antarctica, where it's super cold all year. They stay warm using a thick layer of fat, warm feathers, and huddling together in groups.



An illustration of a tadpole shrimp (Triops) in a desert environment. The shrimp is large, with a rounded, copper-colored carapace and a long, segmented tail. It is positioned in the foreground, standing on cracked, dry earth. The background features a desert landscape with sparse green shrubs, yellow grasses, and distant mountains under a blue sky with white clouds. A small pool of water is visible near the shrimp's head.

TADPOLE SHRIMP

Tadpole shrimp live in deserts where water dries up very fast. They have special eggs that can dry out. The eggs will stay dry for many years until it rains again. When the rains come, they will hatch.

A Sifaka lemur is shown climbing a tree with a thick, brown, bumpy trunk covered in small, sharp, light-colored spikes. The lemur has white fur on its head, neck, and body, with black fur on its face, ears, and limbs. It is looking towards the right. The background is a dry, orange-brown landscape with scattered rocks and small, green, spiky plants. In the distance, there are more trees with similar spiky trunks under a blue sky with white clouds.

SIFAKA LEMUR

Sifakas live in forests where all the plants are very spiky. They can climb spiky trees that most other animals can't climb. They have thick pads on their hands and feet to protect them from these spikes.



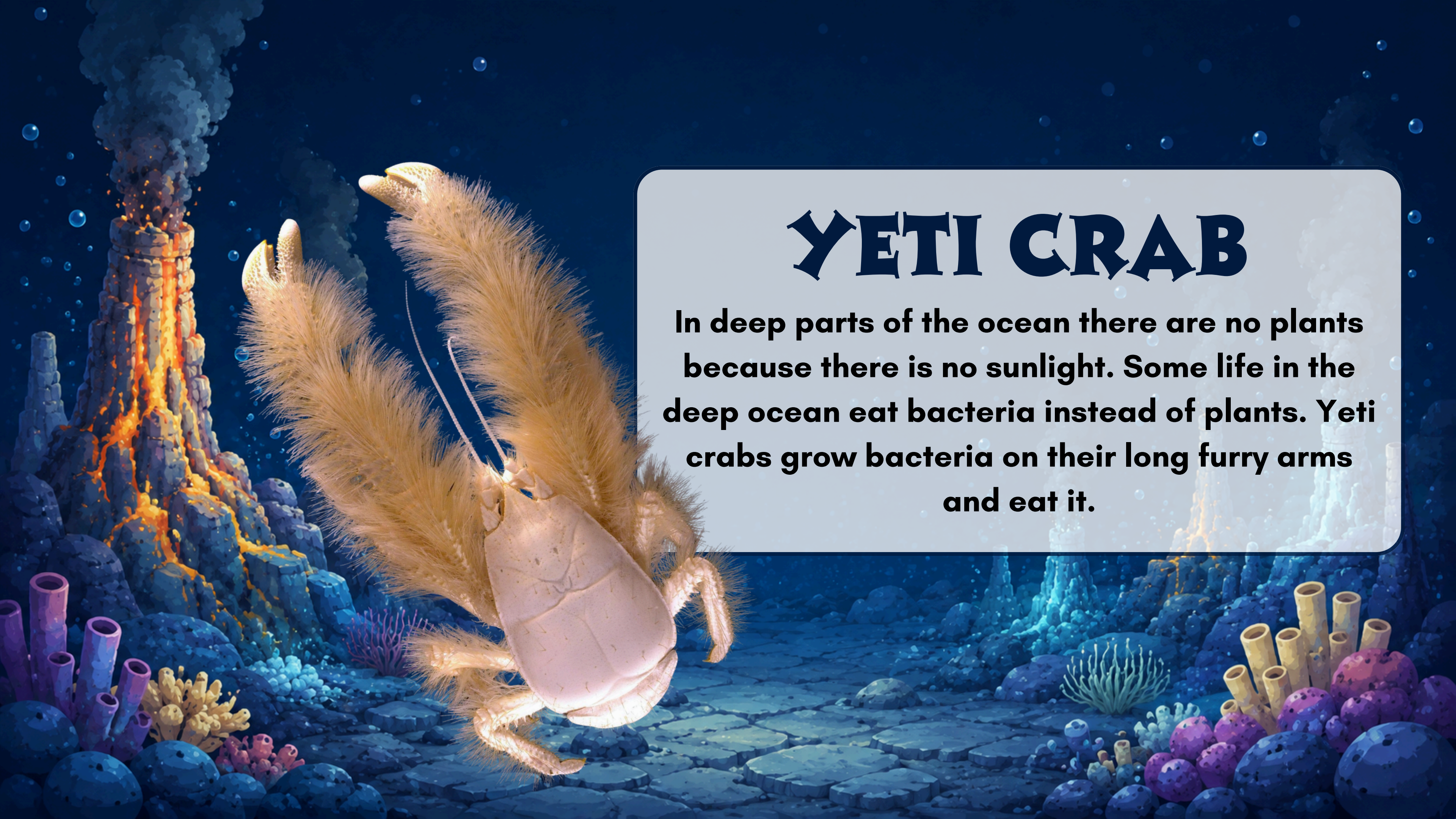
VOLCANO SNAIL

At the bottom of the ocean, there's a lot of pressure from the water above. Volcano snails can handle it because they have very tough shells made of iron.

A detailed illustration of a platypus swimming in a river. The platypus is shown from the side, with its head and bill pointing towards the bottom right. Its body is covered in brown and grey fur, and its large, flat tail is visible. The river water is a murky greenish-brown. The banks are lined with green grass, reeds, and fallen logs. In the background, there are more trees and a blue sky with some clouds.

PLATYPUS

The platypus lives in murky rivers and streams. It can be hard to see things. They find their food by sensing the electricity made by the small animals they eat. They have a special detector in their bill.

A detailed illustration of a Yeti Crab (Kiwa hirsuta) in its natural habitat. The crab is positioned in the center-left, facing right. It has a light-colored, textured carapace and two exceptionally long, thick, and very hairy (setose) arms that are a darker, brownish-orange color. The background is a deep-sea hydrothermal vent, or "black smoker," environment. On the left, a tall, dark, rocky chimney structure is covered in orange and yellow mineral deposits, with a plume of white smoke or superheated water rising from it. The seafloor is composed of dark, jagged rocks and is populated with various deep-sea organisms, including purple and yellow tube anemones, small sponges, and other crustaceans. The overall lighting is dim, with a blueish-purple hue, punctuated by the warm colors of the hydrothermal vent structures and the crab's hairy arms.

YETI CRAB

In deep parts of the ocean there are no plants because there is no sunlight. Some life in the deep ocean eat bacteria instead of plants. Yeti crabs grow bacteria on their long furry arms and eat it.



MUSSELS

Mussels live on the coast where waves crash on rocks. They use lots of thin threads to attach to the rocks so they don't get knocked off by the waves. They also close their shells so they don't dry out when they're out of the water.

A detailed illustration of a lungfish in its natural habitat. The lungfish is a long, slender, greyish-brown creature with a pointed snout and small eyes. It is positioned in a shallow, muddy stream, with its head and front half out of the water. The background is a lush tropical forest with dense green foliage, including large monstera leaves and palm fronds. The sky is blue with soft white clouds. The overall scene is bright and vibrant, capturing the essence of a tropical environment.

LUNGFISH

Lungfish live in tropical streams and lakes that sometimes dry out. Lungfish can burrow in the soil when it is dry, and have a lung to breathe air.

JAVELINA

The javelina lives in the Sonoran Desert. Cacti store lots of water, but they have sharp spines. Javelinas have big teeth and tough skin so they can eat cacti and get the water they need.





CREOSOTE BUSH

Plants lose water through their leaves. Creosote bushes live in the Sonoran Desert and have small waxy leaves so they lose less water and don't dry out.



ELF OWL

Elf owls are tiny owls that live in the holes of a saguaro cactus in the Sonoran Desert. Inside the cactus is cooler and keeps them safe from the sun.





SAGUARO CACTUS

**The saguaro cactus lives in the Sonoran Desert.
When it rains, saguaros can fill up like a sponge to
store water for when it's dry.**