

## Extreme Organisms

Every organism on Earth has a unique role within its ecosystem. This job, combined with its environment, is an organism's niche.

Some living things have an extreme or unusual niche that is defined by where or how they live or what they eat.

Let's travel to Yellowstone National Park in the northeastern corner of Wyoming to see an extreme organism in action.

Yellowstone draws in millions of visitors per year from all over the globe to experience its stunning hydrothermal activity of many hot springs, geysers and volcanic activity.

Some of the most beautiful sights in this beloved national park are its colorful hot springs.

These hues and textures are a result of bacteria, microscopic single-celled organisms, that thrive in water hot enough to scald the skin and as acidic as a car battery.

These bacteria are known as thermophiles, which means heat-loving. They join together in the millions to create dense mats of color within the hot springs, relying on photosynthesis as their major energy source.

To examine another extreme organism, we must travel to the tropical regions of southeast Asia. It is here that one of Earth's most fascinating producers is found.

The pitcher plant is a species of carnivorous plant that occupies two different places within the same food chain in its ecosystem. It is both a producer and a consumer!

While capturing light energy to make food, it also forms a beautiful yet deadly pitcher-shaped structure filled with sweet fluid to entice insects and even mice.

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When unsuspecting organisms visit the hollow structure for a treat, they are trapped in the liquid, which actually contains powerful digestive enzymes, and become the plant's lunch.

In the United States and Canada, a special genus of pitcher plant has unassuming red flowers that attract flies. Once inside, the flies slide down the slippery walls of the pitcher into its digestive juices. This frog has found a sneaky way of catching flies by hiding inside the top of this pitcher plant.

Native to the Carolinas in the United States, the Venus fly trap also acts as both a producer and consumer as one of the planet's only fast-action plants.

When two or more hairs inside the plant's trap are triggered, it snaps shut, then releases digestive enzymes to breakdown and absorb the nutrients within its prey.

When it comes to extreme organisms in the ocean, the remora definitely lives on the edge.

This unassuming ray-finned suckerfish lives around and attached to sharks, consuming scraps from the shark's meals.

The shark tolerates the remoras as they eat parasites from the shark's skin. Some even clean them from inside the shark's mouth! Now that's extreme living!

Perhaps one of the most surprising environments to find life is inside the international space station, where, aside from humans who come and go, several types of bacteria and even fungi call home.

Although their address is 400 kilometers above Earth's surface, subjected to microgravity, radiation and increased levels of carbon dioxide, the bacterial types are similar to those you'd find in any home, office or gym.

The microscopic life within the international space station originated from its inception, as well as entering with astronauts and deliveries, despite painstaking efforts to sanitize items before arriving.

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Extreme organisms are evidence of the persistence of life, from organisms that light their own lures for prey in the depths of the ocean to prey that hide high on cliffsides from predators.

Through adaptation, producers, consumers and decomposers are constantly fighting to obtain energy to thrive on our planet Earth.

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