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Commentary

Impact of Oceanic Depth on Skin Colour of Marine Animals

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DESCRIPTION

Sunlight contains all the colors in our visible spectrum. The combination of these colors looks white. Red light has the longest wavelength and therefore the lowest energy in the visible spectrum. Wavelength decreases and intensity increases as light moves from red to blue along the spectrum in the following order: red, orange, yellow, green, blue and blue. Unlike animals on land or in shallow water—the color of skin, fur and fur varies across habitats like the colors of an artist's palette—the animals of the deep sea in an unexpected pattern of color. A little deeper, the animals above are blue and below are white. At the deepest point, the animals are transparent, but their bellies are red. Below, the whole body of the animal is red and black. Finally, almost all animals have a red or cream bottom. A possible explanation for this distribution is contrast (a color that blends in with its surroundings).

To make the animal invisible, it must be the same color and brightness as the background. Unfortunately for the animal, the color also depends on the moon in question. For example, white paper looks red in red light and blue in blue light. In our day and age, changing the color of the surrounding light can have a significant effect on the color of what we see. As the wavelength of light decreases from red to blue, the ability of light to penetrate water also decreases. Blue light is the best penetrator, green light is second, yellow is third, orange light and red light. Red light is quickly filtered out of water and deep water, and red light never reaches the depths of the ocean. Color comes from the reflection of different wavelengths of visible light. When white light (including all colors of the spectrum) hits an object, some wavelengths are absorbed. Wavelengths that are not absorbed are reflected back to our eyes. That's how it's colored, which affects the color patterns of marine animals. When a goldfish is placed on a white surface, it reflects red light, absorbing all colors and producing red. But the deeper you go with the fish, the less red the fish will be because less red light is being reflected from the fish. At 100 meters, the red light does not penetrate, and at this depth it is difficult, if not impossible, to see goldfish. Instead, the fish appear black because no red light is reflected at that depth, and the fish absorb other color wavelengths.

In the dark region there are many animals that are black or red. At depth, these animals cannot be seen. Black animals absorb all colors of light, red animals are black because they have no red light to reflect and their bodies absorb all wavelengths of other light. Therefore, red animals and black animals are the majority of the deep sea.

Since the blue color penetrates the water well, blue animals do not exist in mid-ocean areas-their entire bodies reflect blue light, making them highly visible to predators. An animal that relies on color for identification must consider the background color and the color of the surrounding light. For animals that live under the sea, the background and the animal are lit with the same light, so the animal is good. Animals swimming in water do so because the backlight does not affect the surrounding light. Scientists are still studying the "tricks" that marine animals use to hide themselves.

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