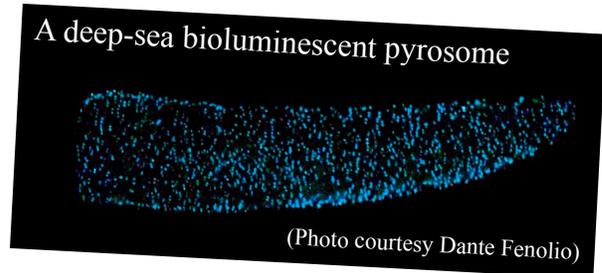


# 10 things you should know about...



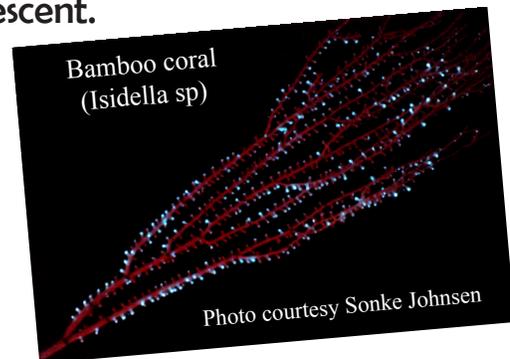
## Bioluminescence

**1** Bioluminescence is **living light**. It is light made within the body of living things.



**2** Bioluminescence is common in the deep-sea. Scientists estimate that 9 out of 10 deep-sea animals are bioluminescent.

**3** Bioluminescence is rare on land. Examples include fireflies, click worms, glowworms, and some fungi. There are no known bioluminescent land vertebrates (animals with backbones).

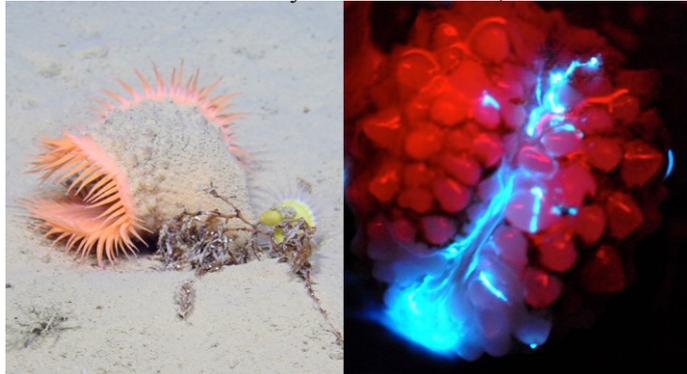


**4** Unlike light from the sun or a light bulb, bioluminescent light does not create heat.

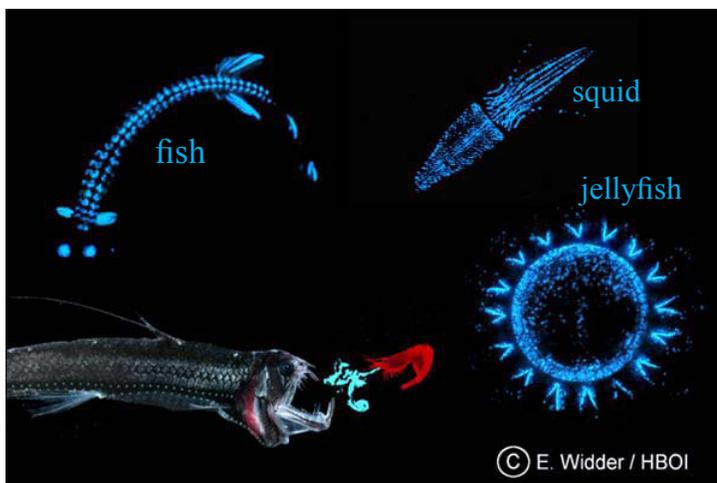
**5** Bioluminescence is created through a chemical reaction within living things. The exact chemicals depends on the kind of animal (living thing).

**6** The generic name of the chemicals that mix to create bioluminescence are called **luciferan** and **luciferase**. Together with oxygen, they create the glow.

A deep-sea anemone photographed with white light. The bioluminescence made by the same animal,



**7** In the deep sea, jellies, squid, octopus, coral, seastars, crustaceans, and many species of fish are bioluminescent. It is estimated that 50% of jellies (this includes jellyfish, comb jellies, and other jelly-like animals) are bioluminescent. Many deep-sea fish are bioluminescent. Ten-percent of sharks are bioluminescent!



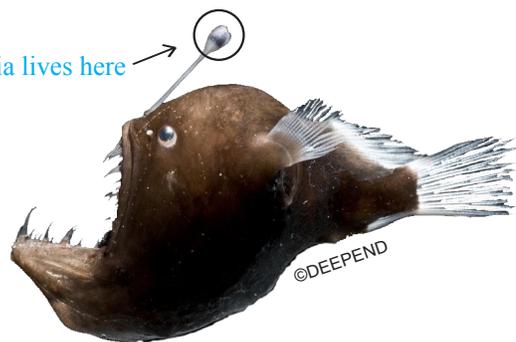
**8** Animals use bioluminescence to communicate (talk), to lure or trick prey, to avoid or escape from predators, and as a camouflage.

This deep-sea shrimp vomits glowing goo to startle and escape predators



**9** Some animals create their own light. Some have a **symbiotic** relationship with bacteria and the bacteria create the light. **Symbiotic** means a relationship that benefits one or both living things. The glow of an anglerfish's lure is made by bacteria.

Bacteria lives here



**10** Depending on the kind of animal, bioluminescent light comes in many colors from green, blue, red, purple, and yellow. Most deep-sea bioluminescence is blue-green.