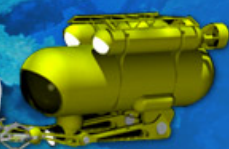


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The Sea



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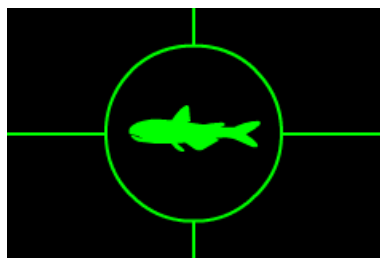
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[Sea and Sky](#) > [The Sea](#) > [Wonders of the Sea](#) > [Deep Sea Creatures](#) > [Lanternfish](#)

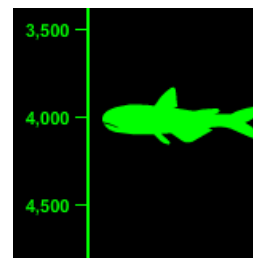
Page 1 of 1

CREATURES OF THE DEEP SEA



Lanternfish

Other Names: None
 Scientific Name: *Symbolophorus barnardi*
 Size Range: About 6 inches
 Habitat: World wide
 Depth Range: 1,200 - 3,000 feet



Lanternfish (*Symbolophorus barnardi*)

The **lanternfish**, also known as *Symbolophorus barnardi*, is a deep-water fish that gets its name from its ability to produce light. The light is given off by tiny organs known as photophores. A chemical reaction inside the photophore gives off light in a chemical process known as **bioluminescence**. It is the same process used by fireflies and is similar to the chemical reaction inside the green light sticks that children use on halloween. The photophores are located on the fish's head, underside, and tail. It is believed that these light organs are used to attract other small fish on which the lanternfish feeds. They may also be used to signal other lanternfish during mating.

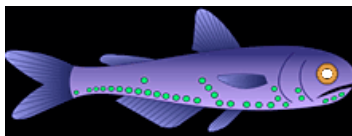


Photo of a lanternfish. Light -producing photophores are visible as white dots.
(NOAA public domain image)

covered with silvery scales and relatively small fins. They also have a large, round head and large eyes. Large eyes are common in deep sea creatures as they help to collect as much light as possible

There are over two hundred different species of lanternfishes in the deep sea. In fact, they are thought to be some of the most common deep ocean creatures. Sampling by deep sea trawling indicates that lanternfish make up as much as 65% of the deep sea biomass. They are among the most most widely distributed and diverse of all vertebrate species and it is believed that they play an important role as prey for larger organisms. In southern oceans, they provide an important food source for squid and penguins. Lanternfish typically grow to a length of up to 6 inches (15 centimeters), although some species can range in size from 1 to 12 inches (2 to 30 centimeters) in length. They have a very slender, compressed body

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[Giant Isopod](#)
[Giant Squid](#)
[Giant Tube Worm](#)
[Gulper Eel](#)
[Hatchetfish](#)
[Lanternfish](#)
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in the eternally dark waters. The body of the lanternfish is covered with light-producing photophores. The arrangement of these lights varies by species. In some species, it also varies by gender. There is only one species of lanternfish that is not capable of producing light.

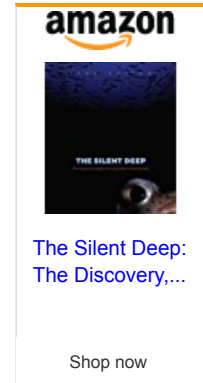
Lanternfish are known for their diel vertical migrations. They spend the day in the deep ocean but come close to the surface at night in search of food. They do this to follow the similar migrations of plankton, which serve as their primary food source. It is thought that these migrations may also serve to help the lanternfish avoid predation. By returning to the deep sea during the day, they avoid many of the large predators in the shallower seas. At shallower depths, lanternfish provide an important food source to a number of organisms including whales, dolphins, tuna, sharks, seals, squid, and sea birds.



Image of a lanternfish with photophores visible
(Image courtesy of [Danté Fenolio](#))

Lanternfish are known as non-guarding pelagic spawners. This means that the females release their eggs into the water column as a group where they are then fertilized externally by the males. Depending on the species, between 100 and 2,000 eggs are released by each fish. Spawning is believed to occur year around in most species. Once the eggs hatch, the young larvae have a small number of photophores for producing light. They are left to fend for themselves until they reach maturity. Lanternfish are so plentiful it is thought that their larvae may account for nearly 50% of all fish larvae found in the ocean.

Lanternfish are found in all of the world oceans at depths ranging from 1,200 to 3,000 feet (about 360 to 900 meters). Most species prefer to remain close to the coast where they are commonly found in large schools near the continental slopes. Different species have been known to separate themselves according to depth. They will form dense layers according to species. It is believed that this behavior helps to reduce competition between species. These layers contain so many fish and are so dense that they can actually be visible on sonar. They can reflect the sonar beams and give the impression of a false ocean bottom known as a deep-scattering layer. This phenomenon confused oceanographers for many years until the source was finally identified.



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