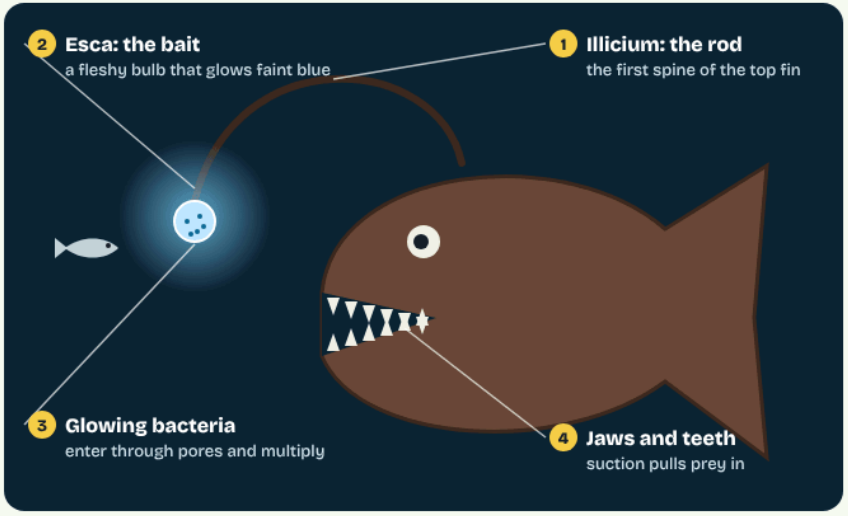
That is why

Why do anglerfish have a light?

A fin became a fishing rod, and the glow in its bait comes from bacteria the fish picks up from the sea.

A The fishing gear



A rod that moves

Muscles let the fish jerk and wiggle its lure. Only females have one: the tiny males are fully grown at a couple of centimeters.

Drawing simplified, not to scale.

B Where the light comes from

1. **Born without light**
   Young anglerfish have never been found with bacteria in their growing lures.
2. **Sink and build**
   Near adulthood they sink to the deep and grow the lure.
3. **Catch it from the sea**
   Glowing bacteria move in from the water. Each kind turned up in 4 of 52 seawater samples.

Same light everywhere

Every lure held one of just two kinds of bacteria, each more than 99% identical from the Gulf of Mexico to Cape Verde, in samples about 20 years apart.

Half the genes gone

about 50% of the genes of free-living relatives

C Why wait in the dark?

1. **Food is scarce**
   Deep-sea meals are "unpredictable and infrequent." Waiting costs less than chasing.
2. **Light stands out**
   Scientists have proposed the lure attracts prey, confuses predators or signals to mates.
3. **Other baits**
   Shallow frogfish wave lures like shrimp or worms. Batfish lures release a chemical.

The anglerfish builds the lamp; the bacteria bring the light.

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