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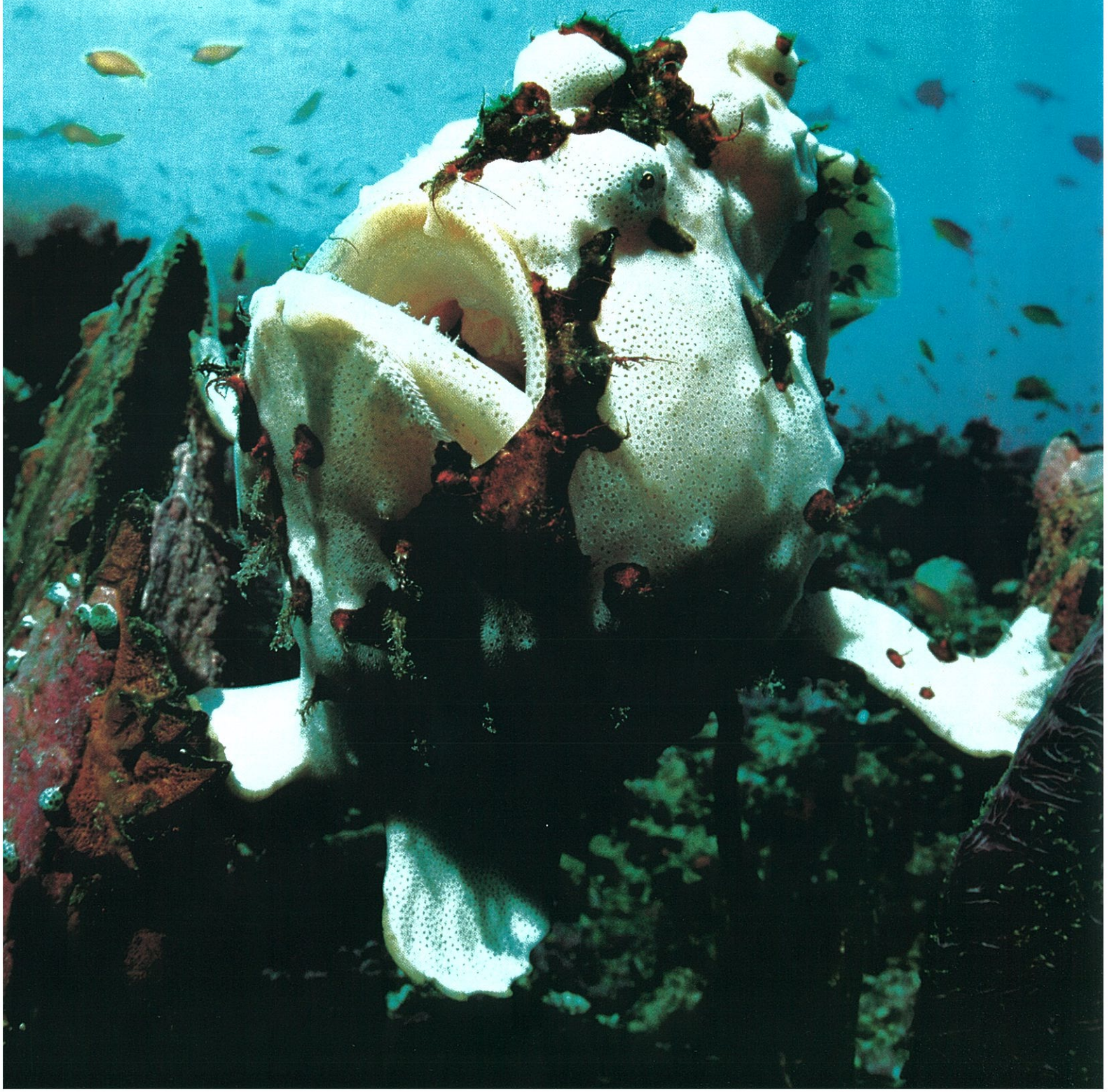
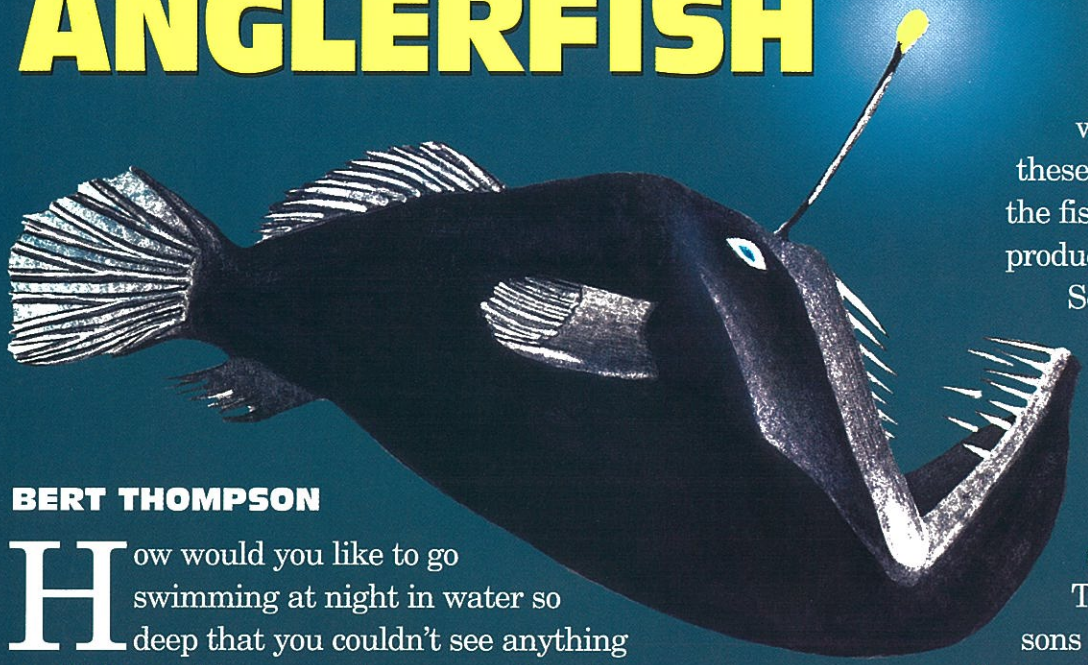
Discovery

Scripture & Science for Kids



Here's the **Angle** on the **ANGLERFISH**



BERT THOMPSON

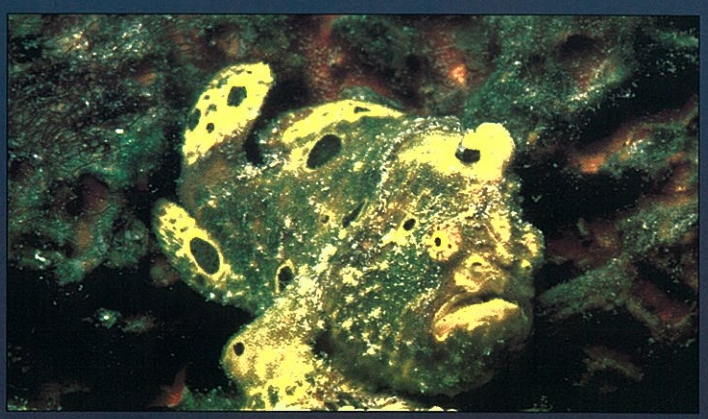
How would you like to go swimming at night in water so deep that you couldn't see anything at all? Everything around you was—**black**! Scary, eh? But what if you had your very own built-in flashlight? Believe it or not, there is a fish that does! The anglerfish gets its name from the fact that it uses what appears to be a "fishing pole" and "lure" to catch its food. Actually, the pole is a special spine that grows from the fish's head. The anglerfish dangles what appears to be a "light" from the end of its "pole." When other fish see it, they come to investigate. The anglerfish then opens his mouth and eats them!

What's going on here? The deeper one goes into the ocean, the less light from the Sun may be seen. Sunlight penetrates the ocean to a depth of around 375 feet. Below that, the water is pitch-black. However, some fish have the ability to make their own light. How?

These fish have special pouches near their eyes, tails, or fins. In the pouches lives a colony of bacteria—which produce chemicals that give off a faint glow; the darker the surroundings, the brighter the glow. Some of these fish have special "shutters" over the pouches. When the fish do not want to be seen, they close these shutters. At other times, the fish open the shutters to produce a glow.

Some scientists think the fish use these "flashlights" to attract fish as food. Other scientists think that the fish use the light to attract a mate so they can reproduce. There may be other reasons for this special "flashlight" that we have not yet discovered.

Amazing! Bacteria that give off light, live inside fish deep within the dark water of the oceans. One organism (bacteria) helps another (fish). This seems odd, doesn't it? How do you think the anglerfish ever got the idea to grow a spine and dangle a light in order to catch food? He didn't! His unusual spine was designed by the Creator—God. Just as God planned the anglerfish to be especially suited to the dark places of the ocean, so God made all of His creatures to fit into their own places in this big, fascinating world in which we live.



A LIFESAVING MUCOUS COCOON

KYLE BUTT

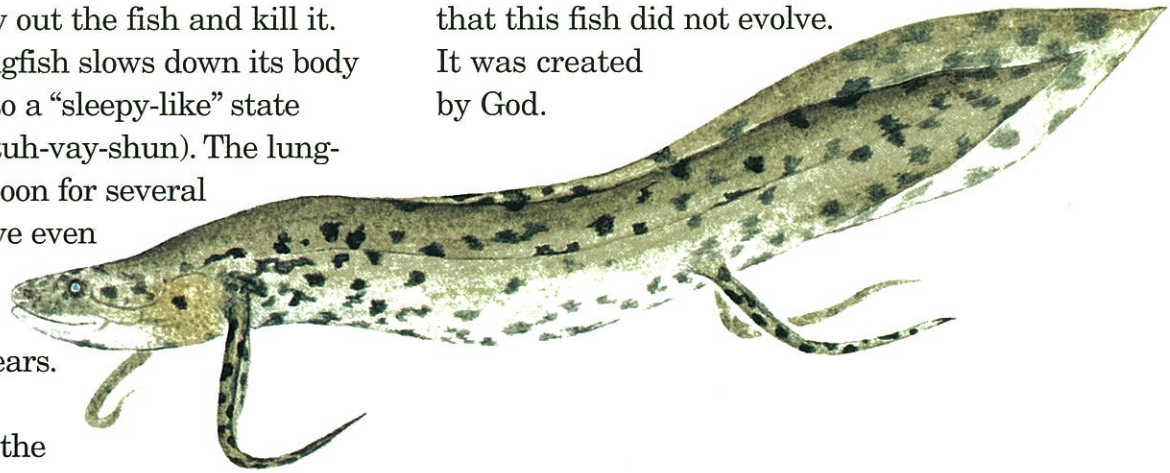
Many of us have seen fish out of water that flop all around trying to get back into the water so that they can breathe. Most fish must be in water to breathe, because they have gills that take oxygen from water. They do not have lungs like you and I have, which we use to breathe air.

But did you know that there is a group of fish called lungfish that do have lungs and can breathe air? These lungfish live mostly in Africa, South America, and Australia. Lungfish have bodies that are long and slender like an eel, and some of them can grow up to 6 feet long.

Another amazing feature about certain lungfish is the fact that they can live even when their water hole or pond dries up. When the African lungfish begins to lose its watery home, it burrows down into the mud and creates a cocoon out of mucous. In this cocoon, lungfish leave tiny holes so that they can breathe. The holes are so small that they do not let too much air into the cocoon, which would dry out the fish and kill it. In this cocoon, the lungfish slows down its body functions and goes into a "sleepy-like" state called estivation (ES-tuh-vay-shun). The lungfish can stay in its cocoon for several months, and some have even been recorded to stay in their mucous cocoon for up to three years. It is reported that the African people dig up the fish—cocoon and all—and save it for anytime they would like to eat fresh fish.

Many evolutionists claim that the lungfish evolved, but that does not make sense. Can you imagine the first lungfish that tried to evolve a mucous cocoon? What if the hole it left in the cocoon was too big? Or what if it did not leave a hole at all? And, how did the lungfish evolve lungs? The truth is, if any tiny item of the lungfish's system went wrong, the fish would die immediately. It is impossible that the lungfish evolved.

Instead of evolution being responsible for the lungfish, it was God Who created this marvel of nature. God designed the fish so that it would know just how to burrow in the mud, make a mucous cocoon, leave the perfect-size hole for air, and go into its "sleepy" state. Only the intelligent Creator of the Universe could design a fish this amazing. The next time you see a lungfish, or read about one in a book or on the Internet, you should remember that this fish did not evolve. It was created by God.



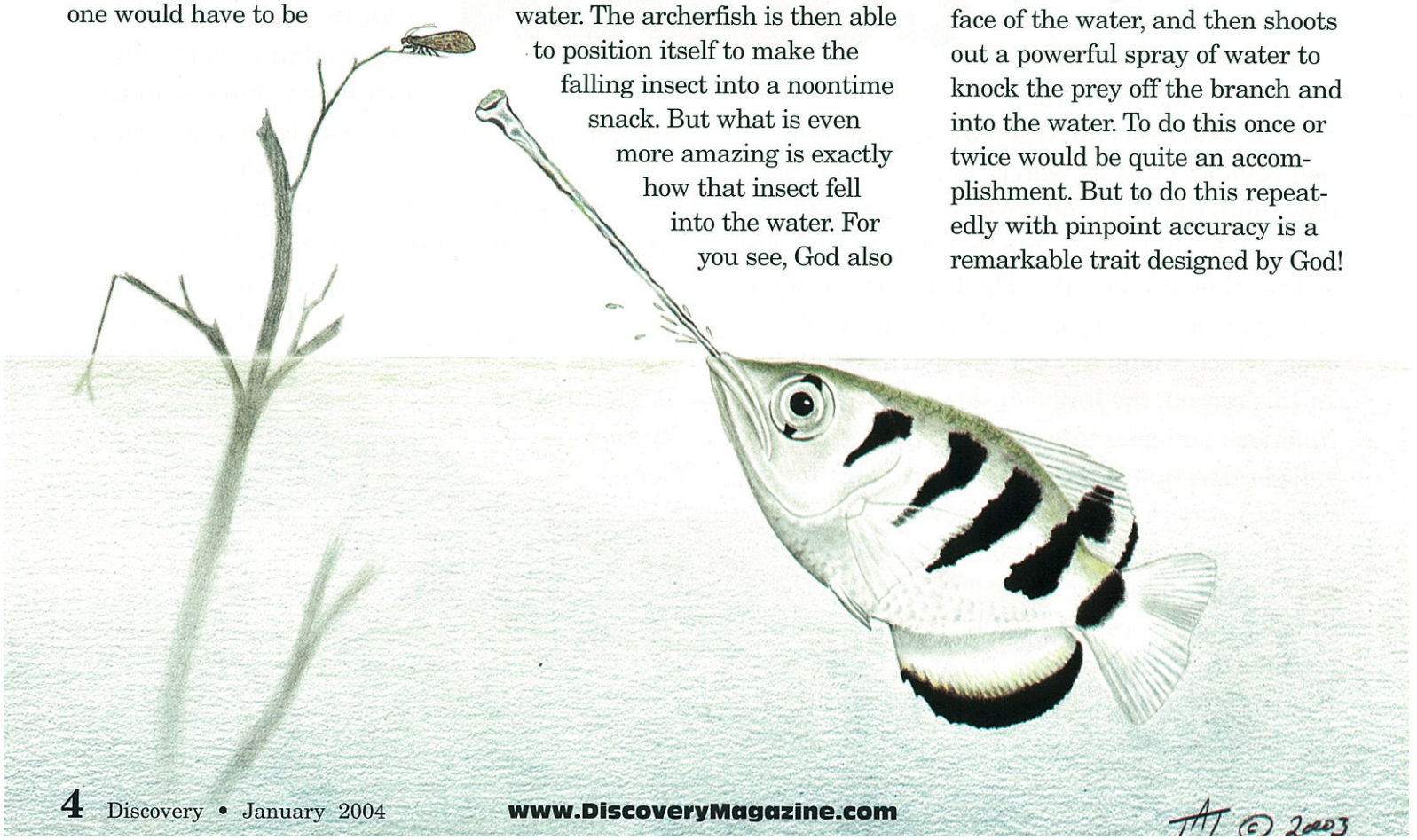
MVP Outfielder–the Archerfish

BRAD HARRUB

The pitcher releases the ball, and almost instantly a loud "crack" is heard throughout the stadium as the bat connects with the ball. As it heads for the outfield, the ball looks like a rocket, going higher and higher with each passing second. The left fielder sees the ball leave the bat and, without ever taking a second look at the ball, he jogs over to a particular spot in the outfield, waits four seconds, and then extends his glove. A second later the ball drops in. Can you imagine how good someone would have to be to glance up that single time, in order to determine where he or she needed to be to catch the ball? Normally, ball players look up repeatedly, making minor corrections to know exactly where the ball is going to land. Looking up only once would require not only a great deal of talent, but also an enormous ability to calculate the speed and path in which the ball is traveling.

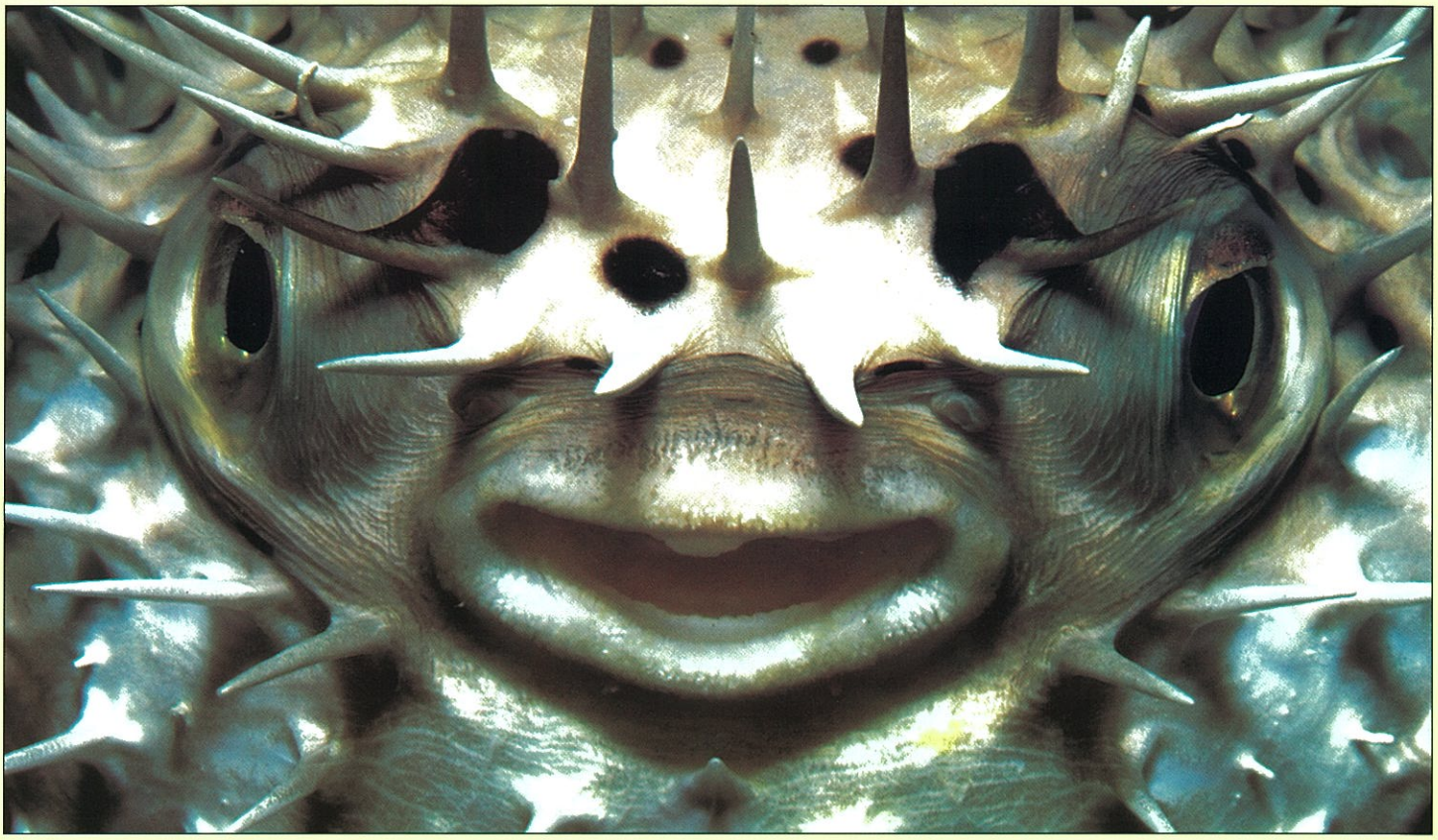
God designed a fish with just those talents and characteristics —the archerfish. With just a single glance, it can judge exactly where insects are going to hit the water. The archerfish is then able to position itself to make the falling insect into a noontime snack. But what is even more amazing is exactly how that insect fell into the water. For you see, God also designed the archerfish with the incredible ability to shoot a jet spray of water up into the air, knocking the insects off of branches. (Keep in mind that things look different underwater, yet the archerfish accounts for this difference when aiming at its targets.)

When an insect, butterfly, or spider unsuspectingly lands on a low branch, the archerfish will position itself underneath the creature. God designed the archerfish in such a way that it can use its tongue to form a tube inside its mouth. It fills the tube with water, eases up toward the surface of the water, and then shoots out a powerful spray of water to knock the prey off the branch and into the water. To do this once or twice would be quite an accomplishment. But to do this repeatedly with pinpoint accuracy is a remarkable trait designed by God!



UNDERWATER PORCUPINES

THOMAS TARPLEY

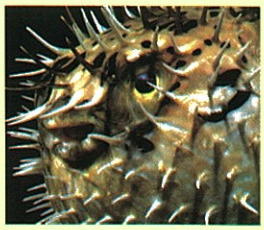


What if I told you there was a creature in the sea that has big eyes, jaws powerful enough to crack the shells of crabs, one of the most deadly poisons known to man, and the ability to puff itself up into a spike-covered ball twice its size! Believe it or not, such a creature actually exists.

This creature is a fish called the porcupine fish. You may have seen one in the movie *Finding Nemo*. Its favorite places to live are shipwrecks, underwater caves, coral reefs, and ocean ledges. The porcupine fish is a spiny puffer fish. The largest species, *Diodon hystrix*, can grow up to 3 feet long. *Diodon* means "two teeth," and the word *hystrix* is taken from the Greek word for "porcupine." The porcupine fish has only two teeth—one on the top and one on the bottom. The front portions of each tooth bite together to form a beak-like pair, while the back part of the tooth, being flat, forms upper and lower crushing plates. Its teeth are designed this way to help it grind and crush its food.

The porcupine fish is nocturnal, which means it comes out at night. Its big eyes are interesting because they can move different ways at the same time, helping the fish to see all around in the dark as it hunts for food. Porcupine fish eat sea urchins, crabs, hermit crabs, snails, shrimp, small lobsters, and coral. It definitely needs its powerful teeth for this menu.

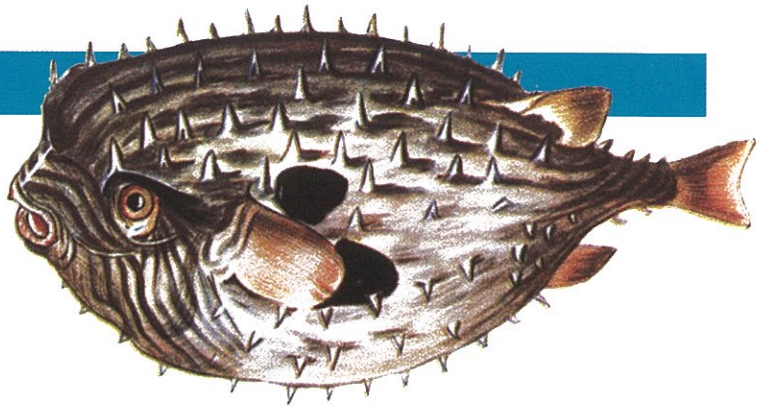
Most fish use speed and quickness to escape predators. But what if a fish can't swim fast? The porcupine fish is slow, so how does it keep from becoming lunch for bigger fish? This special fish surprises its enemies by sucking in water and becoming very big—very quickly! As this happens, the spines that normally lie flat against its body begin to stick straight out. This is enough to scare almost any predator. What fish would want to eat a big ball of prickly spines?



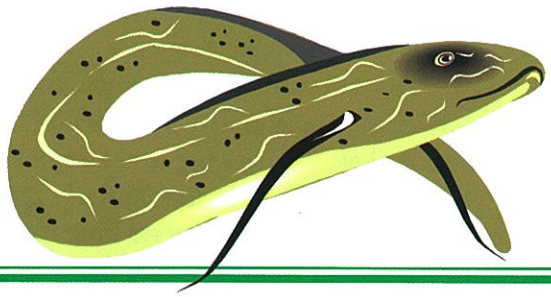
When the porcupine fish is not threatened, its spines lie down flat on its body.

The porcupine fish is another example of God's amazing creatures. Learning about this unusual creature can strengthen our faith, especially when we think about the amazing design it has.

TRUE OF FALSE



1. _____ Nocturnal fish are active only during the daytime.
2. _____ Fish evolved from lower forms of life.
3. _____ Halibut swim on their sides.
4. _____ The porcupine fish has over 200 teeth in its mouth.
5. _____ Some fish (like tuna) are usually motionless in the water during the night.
6. _____ When they are 500 feet below the water, fish can still see light from the Sun.
7. _____ Archerfish were designed by God to "calculate" where insects will fall into the water.
8. _____ God made all fish with eyelids to help them sleep better at night.
9. _____ It is possible for evolution to correctly explain the angler-fish's existence.
10. _____ Fish never sleep.

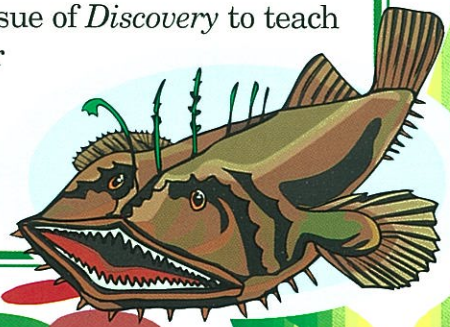


NAME THAT FISH

1. Has a built-in "fishing pole." _____
2. Shoots water out of its mouth at potential prey. _____
3. Have been known to stay in their mucous cocoon for up to three years. _____
4. Sucks up water when predators are near, and becomes very big. _____
5. Has two eyes on one side of its body. _____
6. Grow to become the largest **flat**fish in the world. _____
7. Bacteria that give off light live inside this fish. _____
8. Has lungs and can breathe air. _____
9. A kind of spiny puffer fish. _____
10. Have bodies that are long and slender like an eel. _____

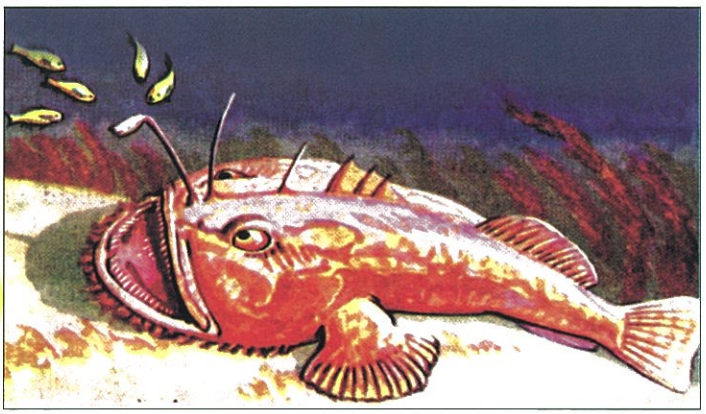
EXPLAIN (on a separate sheet of paper)

1. What makes the "light" of anglerfish glow? Explain why other fish may not always see it glow.
2. How can you use the amazing fish discussed in this issue of *Discovery* to teach friends about the existence of God? [After writing your answer to this question, consider sending it to Digger Doug at Apologetics Press so that we can read your answers. We may even publish one reader's response in a future issue of *Discovery*.]

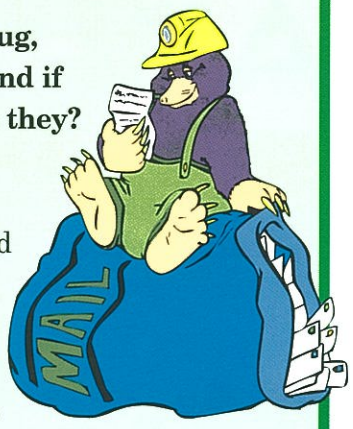


FIND A FISH

Hey Kids! It's time for another contest. In this month's issue of *Discovery*, we have looked at God's amazing design found in certain fish. We would like you to give it a shot for yourselves. Find a **real** fish that shows God's amazing design. Draw that fish, and write a paragraph describing how your fish shows that it was designed by an intelligent Designer. Send us your drawing, a picture of yourself, and your paragraph. We will select some of the most creative ones and feature them in a future issue of *Discovery*. All winners will receive a special prize. But hurry! The "Find a Fish" contest ends March 1, so get your fish in soon.



Dear Digger Doug,
Do fish sleep? And if they do, how do they?



Dear reader,

Most fish spend part of every day "asleep." Being asleep can mean different things to different fish. Some fish (like herring and tuna) are motionless in the water during the night. Other fish, like rockfish and grouper, don't appear to sleep at all. They rest against the rocks, bracing themselves with their fins and have a calm period of rest (we think). Also, some freshwater fish (like catfish) swim up under a log or riverbank for shelter during the day.

In the middle of the night, scuba divers have often handled fish that live around reefs, without the fish even waking up. Some fish have even been lifted out of the water before stirring.

By the way, fish can't close their eyes when they sleep; they don't have eyelids. This is one of the reasons why it is hard to tell whether fish are asleep or not.

All this writing is making me tired. I think I'll close the eyelids God made for me and take a nap.

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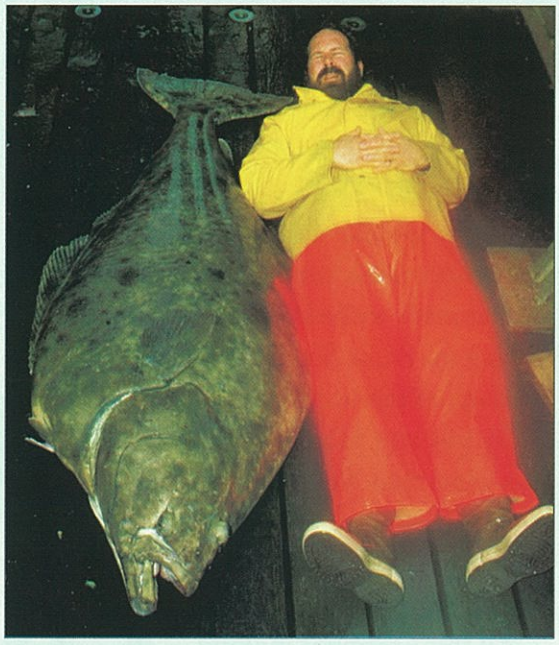
Side-swimming Wonders

ERIC LYONS



Courtesy NOAA.gov

Halibut can grow to be 8½ feet long and weigh 500 pounds. Notice how the eyes rotate to the top of the halibut, and its underside becomes lighter.

Like nearly all land animals, most fish have one eye on each side of their body—one on the left and one on the right. Fish known as halibut are no different, at least while still in the newly hatched larva stage. After emerging from one of the hundreds of thousands of eggs released by its mother, a young halibut begins life swimming in an upright position like most fish, with one eye on each side of the head. Very soon, however, a halibut goes through a major change. When it is about one inch long, the eye on the left side of its body moves over the snout to the right side. Halibut live this way the rest of their lives. (Can you imagine having both of your eyes on the right side of your nose?)

Other changes also occur when the halibut's left eye moves to the right side of the snout. Directly around the eyes, changes are made to the skull bones, nerves, and muscles. Also, the eyeless side of the fish becomes more flattened and lighter in color, while the other side grows a little more rounded and darker in color. Finally, the developing fish turns over on its left side and begins swimming right-side-up. Both eyes are now on the top side of the fish, facing upwards. Such a change in swimming styles may not seem very effective to us, but halibut actually become very strong, successful swimmers, with some reaching ages of over fifty years.

Halibut grow to become the largest flatfish in the world, sometimes growing up to 8½ feet long and weighing 500 pounds. In order to get so big, these strong, side-swimming wonders feed on such ocean life as crabs, clams, cod, rockfish, and octopus. At the same time, its size, active nature, and deep-sea habitat make halibut much less likely to be eaten by predators than other kinds of ocean-living creatures.

Halibut are just one of many amazing fish and sea creatures designed and created by God on the fifth day of Creation. Somewhat similar to tadpoles that eventually change into frogs, the young halibut go through certain changes before becoming side-swimming wonders.

ANSWERS

ACTIVITY PAGES MAY BE COPIED FOR MULTIPLE STUDENT USE

TRUE OR FALSE: 1-F; 2-F; 3-T; 4-F; 5-T; 6-F; 7-T; 8-F; 9-F; 10-F. **NAME THAT FISH:** 1. Anglerfish; 2. Archerfish; 3. Lungfish; 4. Porcupine fish; 5. Halibut; 6. Halibut; 7. Anglerfish; 8. Lungfish; 9. Porcupine fish; 10. Lungfish.