

## ELECTRIC EELS—“SHOCKING” EVIDENCE OF GOD’S EXISTENCE

Presented by

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Life is full of surprises, isn't it? Sometimes, things happen to us that we just aren't expecting. For example, have you ever walked across the carpet in your home and reached out to grab a doorknob to open a door? Then, suddenly, you hear a loud “CRACKLE!,” which is immediately followed by a fierce electric shock that makes you draw back your throbbing hand because the shock hurt so badly? Or, have you ever slid across the cloth seats in a car as you were getting out, and when you grabbed the door handle to shut the door, you heard a “ZAP!”—and once again you got an unexpected electric jolt? Most of us have had these types of experiences. And the shocks that we receive on such occasions hurt, don't they?

You probably know that the crackles and zaps that we receive in such situations are caused by what is known as “static electricity.” Static electricity occurs when an electric charge builds up in an object, often because of friction (like when we walk across carpet or slide across car seats). As the electric charge builds up in our bodies, it is temporarily stored there because it has nowhere to go. But when we touch something (like a door knob in our house or car), the built-up electricity is then released. As it exits our bodies, it causes the “shock” with which we are all familiar—because enough electricity was stored for us to notice it when it leaves all at once. And, as we all know, the sudden release of all of that electricity can produce some pretty unpleasant results.

But did you know that there is an animal in the oceans that can actually produce its own electricity? In fact, the animal even has the word “electric” as part of its name. We call it the “electric eel.” It is interesting to note, however, that the electric eel is not really a true eel at all. Rather, it is an electrical fish that can reach lengths of almost 8 feet, and that can weigh up to 60 pounds. Known by the scientific name, *Electrophorus electricus*, these eels (which can live to be more than 12 years old) are found in rivers in South America. Adding to the “strangeness” of these “shocking creatures” is the fact that they actually are **air-breathing fish**, which means they occasionally must return to the water's surface to take in gulps of air. However, unlike many brightly colored fish in the oceans, electric eels are nothing special to look at. They have long, slender, snakelike bodies that are dull brown with yellow spots. And, making the eel seem even weirder is the fact that all of its internal organs are packed into about the front one-eighth section of its body.

But how does this bizarre fish do what it does? How can an animal manufacture its own electrical current—especially while living in water?! The eel's electricity is produced by a group of highly compacted nerve endings found all along its body. Each one of these nerve endings—and there are approximately 250 of them per square centimeter of the animal's body!—produces a small amount of voltage that, when combined, represents quite a “shocking experience.”

Electric eels can use the current they produce for a variety of things. For example, they use it for navigation purposes by honing in on other electrical signals in their environment. They also use their strange electrical “talent” to detect prey. In fact, the eels’ ability to detect electrical signals in other animals is so finely tuned that they can even sense the heartbeat of another fish—which they then can track, stun with their own electrical current, and devour right on the spot!

Electric eels also use their uncanny electrical expertise for self-defense. A full-grown eel can produce **over 600 volts of electricity**—which is **five times as much electricity as a standard household electrical outlet**. In fact, in the past the most popular animal attraction at the New York Aquarium was an eel that produced enough electricity to light a neon lamp—which it did three times a day as onlookers looked on “in shock!” Even more “shocking” is the fact that an electric eel produces a current that is so powerful that it can travel through more than 25 feet of water! Scientists have learned that an eel’s current runs through its body at a rate of more than 1,000 yards per second, which is roughly ten times the speed at which electrical impulses travel along the nerves of humans.

Fortunately, electric eels are not normally aggressive. But when they are startled or threatened (like if you or I were to step on one of them), they can produce a shock that is strong enough to kill. [Needless to say, they don’t make very good pets!] A single discharge would not be enough to kill an adult human, but repeated shocks could prove to be fatal.

We all know that whenever there is electricity around (like during a lightning storm), it’s not a good idea to be in or near the water. Yet electric eels not only **live** in the water, but also **produce and use their electricity in the water!** So why don’t the eels shock and kill **themselves**? To understand the answer to that question, think of how electricity from a wall socket in your house can shock you, yet not affect the material that serves as insulation for the socket. Electric eels use the same principle. They have a thick layer of fat in their bodies that acts as an insulator to protect them from their own electrical bursts—even in the water. Pretty amazing, huh?

People who believe in evolution suggest that genetic mutations and natural selection “somehow” caused the electric eel to “evolve” all of its amazing abilities. But could “nature” alone design the vast numbers of complex power-producing cells in the electric eel’s body? Could nature have “invented” an insulating layer of fat in the electric eel at exactly the same time that the electrical cells were being produced? Could nature have done all of this **in one fish, at one time**? Hardly! Evolution cannot do such things. **But God can**, as Moses pointed out when he spoke of the God Who created “every living thing that moves, with which the waters abound, according to their kind...” (Genesis 1:21). God—the Great Designer—gave the electric eel its abilities. As the Bible says, “He Who made all things is God” (Hebrews 3:4). The truth is, God created these amazing animals so that you and I can see His power. In fact, perhaps God made such “weird” animals so that we could understand that **nothing** is impossible for Him. That bears thinking about, doesn’t it?