

## THE BOMBARDIER BEETLE AS EVIDENCE OF GOD'S EXISTENCE

Presented by

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Have you ever heard of an animal that has a sword for a nose? Or have you ever heard of an animal that carries its house everywhere it goes? Or how about an animal that stores its food in a pouch under its beak? What is the animal that has a sword for a nose? It's a swordfish! What is an animal that carries its house everywhere it goes? It's a snail! What is the animal that stores its food in a pouch under its beak? It's a pelican! These are strange creatures that have amazing design built into them.

Who built the design into these creatures? If you saw a painting, wouldn't you know that it was done by a painter? If you read a poem, wouldn't you know that it was written by a poet? If you heard about a law, wouldn't you know that it was made by a lawyer? And if you see design, wouldn't you know that there was a designer? Of course you would! Who is that designer? The Bible gives us the answer. Hebrews 3:4 says, "For every house is built by someone, but He who built all things is God" (Hebrews 3:4). God did indeed create all things. Exodus 20:11 tells us, "For in six days the Lord made the heavens and the earth, the sea, and all that is in them, and rested the seventh day." In Acts 17:24, Luke talked about the fact that "God made the world and everything in it, since He is Lord of heaven and earth." God is the Great Designer!

If you think that an animal with a sword for a nose is weird, or if you think that an animal that carries its house with it is strange, or if you think that an animal that stores its food in a pouch under its beak is odd, you haven't seen anything yet! Surely, one of the most amazing animals that God ever created is a tiny beetle with a bomb in its belly! In fact, the word bomb is even in the animal's name. I'm speaking about the bombardier beetle. This little bug is less than two inches long, but it **really** packs a wallop. Here is how it works.

Inside its body, the bombardier beetle has some tiny glands that produce two chemicals, which are kept in a storage tank near its belly. This storage tank is known as a "collecting vesicle." One of these chemicals is hydrogen peroxide. If you were cleaning out your shed and you scraped your arm, you would go inside and clean off the wound with hydrogen peroxide. Normally, hydrogen peroxide is harmless. But the bombardier beetle produces another chemical known as hydroquinones. When the beetle feels threatened by one of its enemies, muscles surrounding the storage tank tighten and squeeze the tank, which sends the chemicals into a special "explosion chamber." Once the chemicals enter that chamber, a small muscle known as a sphincter prevents them from re-entering the storage tank.

While these chemicals are still in the storage tank, the beetle also adds a mixture of enzymes. When the hydrogen peroxide and the hydroquinones come into contact with the two enzymes, the hydrogen peroxide decomposes into water and oxygen. The oxygen then reacts with the hydroquinones to produce still more

water and an extremely irritating chemical called quinone. These reactions release a lot of heat, which causes the temperature to reach the boiling point of 212 degrees Fahrenheit in just a couple of seconds. Some of the water vaporizes into steam. The steam and the oxygen together exert a lot of pressure on the walls of the explosion chamber, but the little sphincter muscle won't allow anything to go back into the storage tank. That means that there is just one place for the boiling hot mixture to go—**outward!**

But before the beetle releases its chemical bomb, it takes **careful** aim at its enemy. On the rear end of its body, the bombardier beetle has two small gun-like projections that it can swivel in any direction. It aims these small tubes at its enemy and then sprays the boiling mixture of chemicals and gasses into its enemy's face. This hot, noxious mixture can kill smaller creatures, and it can seriously wound larger animals. In either case, the bombardier beetle wins, and its enemy loses.

Have you **ever** heard of such an amazing animal as the bombardier beetle? Think about all the parts that have to be in place for this beetle to do what it does. It has to have a storage vesicle, a sphincter, an ectodermal gland, catalase and peroxidase enzymes, an explosion chamber that can withstand a temperature of 212 degrees Fahrenheit, and a system of special ducts to aim the mixture accurately. [As I have discussed all of these things with you, have you stopped to consider how many **big** words it takes to describe such a **tiny** beetle?]

Earlier in this sermon I asked you this question: If you see design somewhere, wouldn't you know there was a designer behind that design? Of course there must be a designer to create such incredible design. The bombardier beetle is one of the best-designed animals in the whole world. So **who** designed the bombardier beetle? Did nature design it? No, because nature does not have the power to design anything. So I ask you again, **who** designed it? God—the Designer of everything in the Universe—is the only One Who could design something as complicated and amazing as the little bombardier beetle! How does it make you feel to know that such a powerful God created and loves **you**? The Bible speaks of just such a God when it says in Psalm 46:10—“Be still, and know that I am God; I will be exalted among the nations, I will be exalted in the earth!” I hope that each one of us in this audience today is doing everything we can to exalt our heavenly Father.