

And God Created“Beetle Guard”

By David Everson

Recent studies into the animals of the world have resulted in some truly amazing discoveries of the wisdom of God in creating creatures that can survive in almost any condition they are found in. As scientists examine the structural features of these animals, they then study how they are designed to make products for man's use. This science is called Biominetics and has resulted in some very useful new products for use in our everyday lives.

Scientists are now looking at a tiny beetle for the next group of amazing new “inventions”. As reported in the December 2006 Scientific American magazine by Mark Fischetti the African Stenocara beetle is causing engineers and scientists to think of many different ways to mimic it's abilities. Let's take a few minutes and look at what is so amazing about this beetle.

The stenocara beetle lives in the hot, dry environment of the Namibian desert of Africa. This very arid climate makes survival very difficult for all but a hand full of uniquely created animals. With precious little rain falling from the sky any plant or animal must be designed to take advantage of the liquids available and that is fog. Moving in off the Atlantic Ocean most everyday is a heavy fog which blankets the sand dunes of the Namib desert for a few hours. Even this form of water can be used by a few animals and plants for drinking water. The stenocara beetle being one. In the folds of the wing covers the beetle can collect and channel freshwater into it's mouth for drinking. Upon examining this structure scientists found that some of the materials that make up the wing covers will channel water into tracts that lead toward the beetle's head. Some sections of the cover is described as “superhydrophilic” or “super water loving” in that water will collect readily in these areas while other areas are “superhydrophobic” or “super water fearing” what will drive water readily away from it. The combination of these two areas produces a water collecting system that provides the stenocara beetle with all of the water it needs. It stands in the fog with it's tail end up in the air and as water droplets form on its back and is “driven” into the collection system heading for it's mouth.

This collection system with its superhydrophilic and superhydrophobic areas is being copied for use in several different applications. They are looking at this design to produce cloth that is “extremely stain resistant.” They want to copy this ability to make better windshields and goggles that will shed water without windshield wipers. This technology could also be used to produce biochips to perform rapid medical test for DNA and viruses detection in identification of diseases. Last but not least engineers want to apply this technology to harvest dew for peoples who live in very dry areas. (imagine that!!)

Now that scientists understand the technology of the creator in making the stenocara beetle, and now that they have possible uses for the technology, they must now learn how to make it happen. Most recent and promising attempts has come by coating a very thin film of plastic with rows of silica nanoparticles and coating this surface with fluorinated chemicals that will repel water into the channels of water loving areas.

In even the simplest of creatures in the Almighty's creation we can see the wisdom that was necessary to make it possible for these animals to live in such extreme climates as the hot, dry Namibian desert. Let us praise the creator and be ready always to defend the creation account as given in His word.