

Proclaiming Evidence for Truth

THIS WEEK'S CREATION MOMENT

Bacteria That Dissolve Steel



Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt, and where thieves break through and steal: (Matthew 6:19)

They work silently and in the dark. While most of Earth's inhabitants need oxygen for life, they merely tolerate it. They prefer to build their own environments where there's no oxygen. Then they go to work. And

they love metal. Using complex chemistry, they begin dissolving metal. They can make a sixteenth-of-an-inch hole through an inch-thick pipe in six months. Stainless steel isn't so tough - it doesn't slow them down a bit. Even modern space-age metals like titanium can't stand up to them.

No, we're not talking about some hideous creatures from outer space. These strange-sounding creatures are called sulfate-reducing bacteria. Each year, metal corrosion causes about \$167 billion in damage. And a large part of that damage is caused by bacteria destroying metal pipes.

Sulfate-reducing bacteria begin by sealing off their colony from liquid in a pipe or tank. Once sealed off, bacteria begin forming hydrogen gas. Sealed under the biosphere, the hydrogen accumulates and is absorbed by the metal. The absorbed hydrogen begins to corrode and make the metal brittle. Researchers, using pipes coated with epoxy, couldn't stop the bugs. It appears that the bugs thought the pigment in epoxy made a great change of diet.

Despite our modern scientific sophistication, moth and rust continue to afflict our efforts. This is God's way of reminding us that we, along with the creation, are afflicted with sin and are in need of the forgiveness of sins that is ours only through Jesus Christ.

Ref: Raloff, Janet. 1985. "The bugs of rust." Science News, v. 128. Photo: *Desulfovibrio vulgaris* is the best-studied sulfate-reducing microorganism species. (PD)

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