These tiny, plastic-munching caterpillars can clean up our world – but there's a catch

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We have a huge problem with plastic waste. About 300 million tons of plastic are trashed every year. That's about the weight of 800 Empire State Buildings.

Now, a tiny superhero may help with the problem. It is a kind of caterpillar called a waxworm.

Eats Through Common Plastics

Researchers discovered the waxworm in 2017. It seems to be able to eat through common plastics. Polyethylene is one. Polyethylene is a non-biodegradable type of plastic. It cannot break down naturally. Polyethylene is the most commonly used plastic worldwide.

A baby waxworm is called a larva. Waxworms larvae eat a lot, Bryan Cassone said. Cassone is a professor of biology at Brandon University. Biology is the study of living things.

Now researchers have an explanation. A study was released on March 3. It appeared in the journal Proceedings of the Royal Society B. The key is the micro-organisms in the wax worm's gut. Micro-organisms are tiny living things. Bacteria are micro-organisms, for example. The waxworm's gut micro-organisms help break down plastics.

Researchers studied the waxworm at Brandon University in Manitoba, Canada. They found that waxworms can eat and break down polyethylene at very high rates. It is a speed never seen before.

Traditionally, the caterpillars eat honeycomb. When the caterpillars ate the plastic, researchers found many micro-organisms in the bugs' gut. There were more micro-organisms around when eating plastic than when the bugs ate honeycomb.

In waxworms, polyethylene breaks down into a glycol. This is biodegradable. That means it can break down naturally. It doesn't leave plastic bits behind.

Not The Perfect Solution

Still, waxworms are not the perfect solution. Wax larvae are pests for bees. They naturally feed off bees' honeycomb. The worms could hurt bee populations. In turn, they risk hurting populations of plants and crops. Plants need bees to help them grow.

We still don't know how the worms break down plastic. We also don't know how eating the plastic affects the bugs' health.

Researchers will study the caterpillars' gut bacteria. Cassone hopes they find out how it works. They want to know what is inside. That way it can be used to design better ways to get rid of plastic. Scientists do not want to just have the worms eat the plastic.