## This uncrushable beetle can survive being run over by cars

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## Bug withstands 39,000 times its own weight

Put your flyswatters down and grab a hammer.

Oh, wait — that won't work either.

If you thought superpowers only existed in Marvel films, Scientists are currently studying a beetle with a coat of armour that makes it virtually unsquashable.

As part of a new study, researchers from Purdue University in West Lafayette, Indiana, have been driving over the diabolical ironclad beetle with cars to test the strength of its tank-like armour.

The species, which can be found in Southern California's woodlands, withstood compression of about 39,000 times its own weight.

That would be similar to a 200-pound man withstanding the weight of 36 blue whales or 327 school buses.

## How does the beetle do it?

Researchers used electron microscopes and CT scans to examine the beetle's exoskeleton and figure out what made it so strong.

The diabolical ironclad beetle's shell has a crazy jigsaw-like structure that makes it super tough. Other local beetle species shattered under one third as much pressure in the study.

They found that the beetle's elytra — a protective case that normally covers wings — had special, jigsaw-like bindings.

This allows the beetle's shell to fracture slowly instead of snapping all at once.

## Could be used to improve technology

The beetle study is part of an \$8 million U.S. project funded by the U.S. Air Force to explore how the biology of creatures such as mantis shrimp and bighorn sheep could help develop impact-resistant materials.

By uncovering the secrets of the beetle's shell, scientists are hoping to make better, stronger materials for engineers, who often have to rely on degradable materials.

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