

# Stick insect found to harbor antibacterial microbes in its gut

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[i]Diapherodes gigantea[/i]

(Phys.org) —Researchers at the John Innes Centre in Great Britain have discovered that the bug known as the giant lime green stick insect (*Diapherodes gigantea*) has microbes in its gut that are able to thwart bacteria that the insect has never been exposed to before. This suggests, the BBC reports, that the insect has some sort of general mechanism in its gut that allows it to stave off infections by a wide variety of bacteria.

Scientists have widened the search for natural [antibacterial agents](#) as

those currently in use by the medical community become less effective due to [bacteria](#) developing immunity to them. Most such agents in use now came from discoveries found in nature—half in fact were originally found in soil samples. Because of that, researchers continue to study [soil samples](#) around the world, hoping to find new ways to fight bacteria. They've also extended their study to include animals and insects as many have been found to either produce antibacterial chemicals or to harbor them in their guts. One recent example was the discovery that cutter [ants](#) are able to produce chemicals that kill bacteria to preserve fungus that grows on leaves they cut. In this new effort, the researchers have been focusing on the lime green [stick insect](#) (mainly found in Grenada) which eats bramble, oak, beech, hazel and especially eucalyptus leaves. The insects grow to approximately five inches in length and spend virtually their entire lives munching leaves. Anecdotal evidence had suggested for years that the bugs could eat leaves with bacteria, [fungus](#) or other toxins on them, with no ill effects, which led the team in Britain to take a closer look.

In their lab, the researchers have found that the insects remain uninfected by bacteria applied to the leaves that are being eaten, suggesting they have a means of killing the bacteria in their gut. That led to dissections and the discovery of the particular microbes that are responsible for protecting the bugs from not only bacteria, but many toxic chemicals. Because the insect demonstrates immunity to bacteria that it's never seen before, the researchers suspect there is a general mechanism involved which would be a very important finding. Microbes that are able to destroy virtually any type of bacteria could perhaps lead researchers to new agents for fighting infections in people. The team plans to continue their research to learn how it is the [microbes](#) are able to attack so many different types of bacteria.

**More information:** via [BBC](#)

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