

# BEST FROM SCIENCE JOURNALS: WHEN MOSQUITOES WERE GIVEN MALARIA

Relevant for: Science & Technology | Topic: Science and Technology- developments and their applications and effects in everyday life

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## Published in *Nature Communications*

By giving malaria-infected blood meals to mosquitoes, researchers have now identified a few compounds that can kill the disease-causing parasite (*Plasmodium falciparum*). The team studied 400 chemical compounds and were able to pinpoint a few that were able to kill the parasites circulating in the human blood and also within the mosquitoes that ate the infected blood meal.

## Published in *Science*

Many plants produce chemicals to protect themselves from being eaten. But how do they protect themselves from these chemicals? To understand this, researchers studied a chemical (diterpene glycosides) produced by wild tobacco plants. They found that these substances were stored in a non-toxic form inside the plant and when the insect feeds on it, the non-toxic molecule cleaves off and the chemical turns toxic.

## Published in *PNAS*

The beach sand on a remote island in eastern Papua New Guinea has stunned geologists. Tectonic processes usually move grains of sand from the surface of the Earth to the deep (about 120 km into the Earth) and then back to the surface. The garnet sand showed that this cycle of subduction and exhumation took place in less than about 10 million years on the island, which is an extremely short period for geologic processes.

## Published in *Nature Communications*

Our biological or circadian clock (sleep-wake cycle) is controlled by many factors including CRY-1. A new study that analysed human cancer data, saw that CRY-1 increased in late-stage prostate cancers. Ayesha Shafi, the first author of the study explains in a release: "As we looked further into the role of CRY1, we unexpectedly found that the circadian factor was altering the way that cancer cells repair DNA."

## Published in *Communications Biology*

A biodegradable expandable stent has been developed which can be used to treat pediatric laryngotracheal stenosis, a condition in children that leads to narrowing of airways. "Using commercial non-biodegradable metal or silicone-based tracheal stents has a risk of severe complications and doesn't achieve optimal clinical outcomes, even in adults," said corresponding

author of the study Prashant N. Kumta in a release. "Using advanced biomaterials could offer a less invasive, and more successful, treatment option."

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