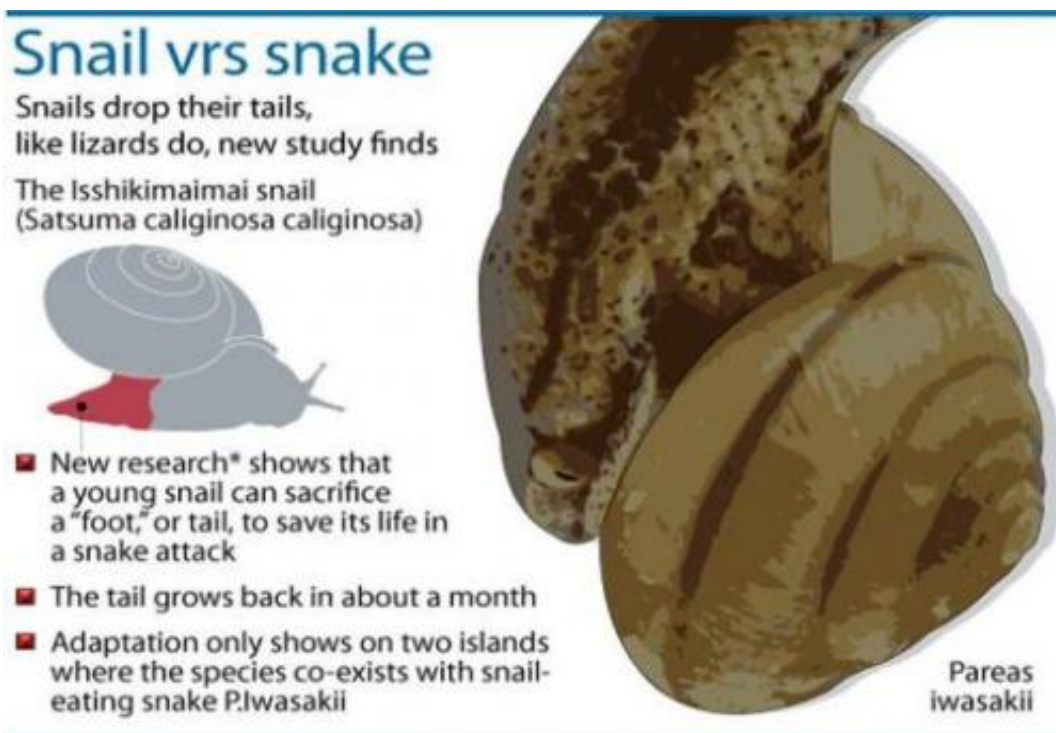


Japan snail sheds tail to escape, scientist finds

October 3 2012, by Shigemi Sato



Graphic on the discovery of a Japanese snail species that can shed its tail to escape predatory snakes, according to new research.

Snails that can shed their tails to escape much faster-moving predators and then regrow the amputated body section have been discovered living in sub-tropical Japan, a study said Wednesday.

The ability to shed body parts, similar to that found in lizards, crabs and

earthworms, has never before been seen in a snail.

Masaki Hosono, a Netherlands-based fellow with the Japan Society for the Promotion of Science, posted the findings on his website Wednesday, as his paper was published in the British science journal *Proceedings of the Royal Society B*.

Hosono experimented with "isshikimaimai" snails (*Satsuma caliginosa caliginosa*) that live on the Okinawan islands of Ishigaki and Iriomote, by feeding them to predator snakes, called *Pareas iwasakii*.

"It was found that isshikimaimai often escaped predation by detaching their own tails" before hiding themselves inside their shells, he said on his website, adding the cut-off sections were regenerated "a few weeks later".

Hosono also put the same kind of snakes together with a different type of snails from another Okinawan island, about 120 kilometres (75 miles) west of Ishigaki, where there are no snail-eating snakes.

"These snails do not cut off their tails at all and in the experiment they were easily eaten by Iwasaki's snail-eaters," he said.

"The autotomy of isshikimaimai is presumed to be a special case of adapting to counter snakes," said Hosono, a visiting researcher at the Naturalis Biodiversity Center in Leiden.

The tail shedding behaviour is frequently seen among the snails whose shell has yet to fully develop into an effective defence, the study said.

When the snails mature, the aperture of their shell becomes disfigured in a way that protects the creature when it retreats inside.

Hoso said autotomy had been observed in molluscs such as marine shellfish, octopuses, sea slugs and slugs, but this was the first time it had been proved in a land-dwelling snail.

In an email to AFP, he said he felt very pleased to be able to reveal his findings.

"I feel honoured as a naturalist to be able to introduce to many people surprising aspects of living things that do not often find a place in the sun," he wrote.

Hoso noted that while the tails of lizards are structured to be easily detached from the body trunks, no such special structure is present in the tail of *issikimaimai*.

"The mechanism of the autotomy remains to be solved," he wrote on his website.

Scientists have previously noted that Iwasaki's snail-eaters have asymmetrical jaws, with more teeth on the right side to allow for more efficient access to snail shells, which predominantly spiral clockwise.

Biologists in the US reported last month that the African spiny mouse, a desert rodent that has become an exotic pet, can shed up to 60 percent of the skin on its back and fully regrow the lost tissue.

The spiny mouse (*Acomys*) is well-known for eluding hunters by shedding its tail skin.

Understanding the trick could one day help burns victims in need of scar-free skin regeneration, scientists said.

(c) 2012 AFP

Citation: Japan snail sheds tail to escape, scientist finds (2012, October 3) retrieved 6 June 2023 from <https://phys.org/news/2012-10-japan-snail-tail-scientist.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.