

# Giant sea snail plan to rescue Barrier Reef

September 18 2017, by Martin Parry

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Coral eating starfish are seen in Australia's Great Barrier Reef, which has lost more than half its coral cover in the past 27 years due to storms, poisonous starfish and bleaching linked to climate change

A giant starfish-eating snail could be unleashed to help save the Great Barrier Reef, officials said Monday, with a trial underway to breed thousands of the rare species.

Predatory crown-of-thorns starfish, which munch coral, are naturally-occurring but have proliferated due to pollution and agricultural run-off at the struggling World Heritage-listed ecosystem.

Their impact has been profound with a major study of the 2,300-kilometre (1,400-mile) long reef's health in 2012 showing coral cover halved over the past 27 years, with 42 percent of the damage attributed to the pest.

Now Australian Institute of Marine Science (AIMS) [research](#) has shown they avoid areas where the Pacific triton sea snail—also known as the giant triton—is present.

The snails—which can grow to half a metre—have a well developed sense of smell and can hunt their prey by scent alone.

Research showed they were particularly fond of crown-of-thorns, but only eat a few each week, and with the snail almost hunted to extinction for their shells, there are not many left.

This led the Australian government to on Monday announce funding to research breeding them.

"The possibilities the triton breeding project opens up are exciting," said Queensland federal MP Warren Entsch.

## The crown-of-thorns starfish

Coral-destroying starfish has proliferated in recent years at the Great Barrier Reef



### Crown-of-thorns starfish

*Acanthaster planci*

Up to 80 cm diameter



5 cm poisonous spikes

Can grow 21 arms

Feeds on corals by spreading its stomach over them and dissolving polyps with digestive juices

- ▶ A natural predator of coral, an individual can eat 5-6 sq m a year
- ▶ Population periodically explodes to devastating effect
- ▶ One female can produce 65 million eggs per breeding season
- ▶ Present throughout Indo-Pacific

**New study suggests giant triton sea snails could help control the starfish pests: AIMS\***

Source : [Marine Geology/Deepreef.org/](http://Marine Geology/Deepreef.org/) \*Australian Institute of Marine Science



Factfile on a predatory starfish that is causing devastating damage on Australia's Great Barrier Reef.

"If successful, this research will allow scientists to closely look at the impact of giant tritons on crown-of-thorns behaviour and test their potential as a management tool to help reduce coral lost to outbreaks."

Giant tritons held at AIMS have laid numerous teardrop-shaped egg capsules, with over 100,000 swimming larvae hatching in the last month. But they are so rare, almost nothing is known about their life cycle.

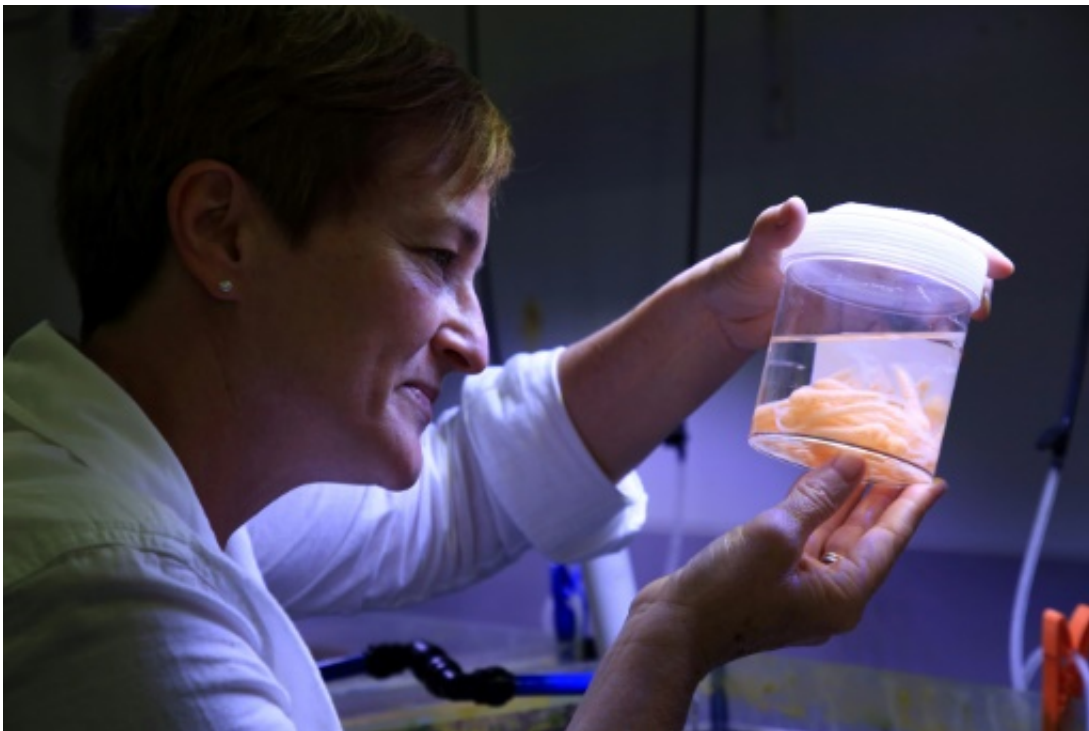
The eight snails that AIMS have took them two years to collect.

"We really don't know anything about them, what they eat, whether they're nocturnal or not, and this is the first real attempt to breed them," Cherie Motti, the marine ecologist leading the breeding program, told AFP.

## Natural predator

Her research will focus on helping the larvae transition to their juvenile and adult stages, providing valuable insights into their biology, with the ultimate aim to deploy them to prevent crown-of-thorns aggregating closely during spawning seasons.

"If we can have a [natural predator](#) doing the job for us (killing the starfish), it will be the best outcome," said Motti.



Marine chemical ecologist Dr. Cherie Motti, who is leading the breeding program of the Pacific triton sea snail, or giant triton, is seen at a research facility near Townsville in Queensland

"There is a still a long way to go. We hope to learn more this year and

within two years have babies growing happily."

Until now expensive chemicals such as bile salts have been used to try and eradicate the starfish, but they can harm other marine organisms.

In April, research showed they can be safely killed by common household vinegar, but dive teams would need to individually inject each starfish before it dies and breaks-up, making it a massive job with a estimated 10 million of them on the reef.

The Great Barrier Reef, the largest living structure on Earth, is also reeling from an unprecedented second straight year of [coral bleaching](#) due to warming sea temperatures linked to climate change.

In May, Australia hosted a summit of more than 70 of the world's leading marine experts to work on a blueprint on how best to respond to the threats facing the reef.

Options explored included developing coral nurseries, strategies to boost culling of crown-of-thorns, expanding monitoring systems and identifying priority sites for coral restoration.

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