

New weapon against the reef eaters

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Staghorn coral (*Acropora cervicornis*). Credit: Wikipedia, CC BY 2.5

James Cook University scientists in Australia have made a breakthrough in the war against a deadly enemy of the Great Barrier Reef.

The Crown of Thorns Starfish (CoTS) are breeding at [epidemic levels](#) and are one of the primary reasons for the decline in live coral.

But a new paper shows injecting the coral-eating pest with simple household vinegar kills it just as effectively as the current drug, which can be expensive and difficult to source.

Lead author Lisa Bostrom-Einarsson said vinegar had been tried unsuccessfully before, but JCU scientists refined the process which resulted in a 100% kill rate.

Ms Bostrom-Einarsson said the findings were exciting. "Currently divers use 10 or 12 ml of ox-bile to kill each CoTS. It's expensive, requires permits and has to be mixed to the right concentration. We used 20 ml of vinegar, which is half the price and can be bought off the shelf at any local supermarket."

The CoTS in the JCU trial were all dead within 48 hours of being injected.

Ms Bostrom-Einarsson said the dead CoTS were fed on by fish in the lab trials with no ill-effect, but this needed to be backed up by large-scale field trials to be sure the process is totally safe for other marine life. "There's no reason to think it won't work or it'll be dangerous, but we have to be sure," she said.

She said the findings could have big implications for developing countries without the means to acquire and use the current drugs.

Scientists say while the process may greatly help slow down the CoTS outbreak, killing the starfish individually was never going to save coral reefs by itself.

"It has been estimated there are between 4 and 12 million of the starfish on the Great Barrier Reef alone and each female produce around 65 million eggs in a single breeding season. They managed to kill around

350 000 last year with two full-time boat crews. While it would take an insane effort to cull them all that way, we know that sustained efforts can save individual reefs," Ms Bostrom-Einarsson said.

She said other researchers were working on population-level controls of the animal, but killing the [starfish](#) one-by-one was the only method available at the moment.

Sea trials of the [vinegar](#) method will begin by the end of the year.

Provided by James Cook University

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