

Save the Kele'a, kill the Alamea

by Richard Chesher

Surveys by the Marine Research Foundation have found the number of Alamea (Crown of Thorns Starfish) on Tongan reefs is already at a dangerous level and has increased drastically this year.



The reefs at Taunga Island and in the pass between Mala and 'Utungake in the Vava'u Island group have large numbers of Alamea which are killing the coral much faster than it can regrow. Villagers who depend on these reefs should take immediate action to kill the starfish, using spears, and throw them onto the rocks on land.

They should also take care to preserve the Triton shell mollusk, *Charonia tritonis*, known in Tongan as *Kele'a*, which plays a vital role in the health of the coral reefs. It eats the Alamea. (known elsewhere as Crown of Thorns Starfish *Acanthaster planci*).

Alamea is a grey and red starfish which grows to almost 60cm in diameter, has 16 to 18 short arms and is covered with long sharp poisonous spines. The starfish eats living coral and if they become too numerous they cause severe and long lasting damage to coral reefs resulting in a drastic decline in fish.

Major outbreaks of Alamea have destroyed reefs and reef fishing in American Samoa, parts of Fiji, Guam, Pohnpei, Palau, Truck, Siapan, Rarotonga, and have been a continuing problem along Australia's Great Barrier Reef. At present Australia is spending millions of dollars in an effort to understand and control the starfish. In the early 1970's the United States, spent nearly \$6 million dollars for research and control of the crown of thorns starfish in the North Pacific.

The causes of the sudden increase in numbers of Alamea are complicated and the subject of much scientific debate, but it is certain that Kele'a plays a very important role in controlling the outbreaks. Kele'a is never numerous even in natural conditions where they are not fished, but each specimen eats many starfish per day, especially when the starfish are small. This means that for every single Kele'a taken from the coral reef hundreds of starfish which would ordinarily have been eaten are left alive every year.

Kele'a feeds at night and hides during the day. The recent increase in numbers of people who go out onto the reefs at night with face masks, flippers and night lights has caused a drastic decline in the Kele'a population. Divers regularly pick up every Kele'a they find and, because they bring a high price in tourist gift shops, they then bring in even the tiny ones.

Under normal conditions Alamea is also very uncommon and the Kele'a easily keeps the starfish in check. When coral reefs are stressed, however, the starfish can become very numerous in a short time. A large settlement of the young starfish may result in thousands of Alamea appearing in a single year. At such times Kele'a is important as only a few specimens may be enough to prevent the starfish from reaching plague proportions.

The Australian government outlawed any taking or selling of Kele'a almost 20 years ago when its value to the preservation of the coral reefs was first discovered.

Although people do eat Kele'a, it is not an important food item for the Tongan people. It is taken mainly to sell to tourists and gift shops. The owners of several gift shops said Kele'a sales are not a major part of their annual business and some have voluntarily stopped buying them. Other gift shops indicate they will not be economically hurt by not buying and selling Kele'a but insist on waiting until a law is passed prohibiting such activities before they will stop. In addition, many Kele'a of all sizes are sold to tourists by individuals, especially during cruise ship days.

So many Kele'a have already been taken from the reefs that it will be very hard for them to recover their usual numbers again. Already there are so many Alamea on some of Tonga's coral reefs it may be too late to avoid the awful "plague" of Crown-of-Thorns which other Pacific Islands have experienced.

What needs to be done to prevent further damage to the coral reefs of Tonga?

- Stop breaking the live coral when fishing. Stepping on live coral kills it. Do not break the live coral with hammers, bush knives or iron poles. Broken coral attracts Alamea and especially the young starfish which swim for many weeks when they are born.
- Fishermen and village people should remove any Alamea they find from their coral reefs and throw them on land.
- You can't kill an Alamea by cutting it up. Cut it into six parts and it will grow into six Alamea. The only way to kill it is to take it out of the water and because of its poisonous spines, this must be done carefully, with a stick or spear.
- The government should consider passing a law which prohibits taking, selling or buying Kele'a.

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