

# Sucker for sea cucumbers

Whether you call them sea cucumbers, beche de mer or black teatfish, these strange reef creatures - a delicacy in Asia - are threatened. IAN FRAZER spoke to Dr Sven Uthicke about their plight

**S**EA cucumbers suck. But, unluckily for these sausage-shaped reef dwellers, that's only half the story.

Notable members of this sedate, sediment-sucking, nutrient-excreting family have been plundered for eons because of their rumoured aphrodisiac qualities.

Macassan fishermen visited the northern Australian coastline centuries before Europeans to collect species of sea cucumbers known as *holothurians*, which they cut, smoked and dried to make the delicacy known variously as beche-de-mer, hai-shen and trepang.

Merchants from southern colonies mined reefs off North Queensland for beche de mer in the 19th century.

The Green Island fishery, off Cairns was established in 1858, and Lizard Island's, north-east of Cooktown, in the 1860s.

Mary Watson, wife of beche-de-mer fisherman Captain Robert Watson, and their infant son, Thomas, died in 1881 in a beche-de-mer boiling-down tank which she used as a boat to escape an attack by Aborigines (see separate story).

Today, beche-de-mer sells for up to \$100 per kilogram in Singapore, but sea cucumbers have also gained some influential new



friends like Townsville marine biologist Dr Sven Uthicke, who value their role in reef ecology, rather than what they might become in a soup, stir-fry or toothpaste.

Dr Uthicke, an Australian Institute of Marine Science researcher, has just finished a three-year study which he says vindicates Queensland Fisheries' decision in 1999 to protect the species known as black teatfish.



LEFT: Dr Sven Uthicke with a dried sea cucumber and above, a vendor lays out his stock in a Malaysian market

Queensland Fisheries banned removal of black teatfish from the Great Barrier Reef, as the harvest sharply declined.

Dr Uthicke says he has found no evidence of any recovery in the black teatfish populations he studied around reefs off Townsville.

He said the findings of his project, funded by the Federal Fisheries Research and Development Corporation, suggested sea cucumber stocks could take decades to rebuild.

He studied two groups of animals, each comprising about 100 individuals, living around two reefs, identifying them by their DNA fingerprints when conventional tagging failed.

He estimated most of them were at least 10 years old and some perhaps 100.

"Checking them every six months their average weight stayed the same and some of the bigger animals shrunk," he said on Monday.

"The bigger animals shrunk and the smaller ones only grew very slowly."

He found no evidence of successful reproduction through annual spawning, but admitted baby sea cucumbers were usually elusive.

"It's a mystery in general, you hardly ever find any small ones," he said.

Dr Uthicke, who has studied sea cucumbers on the reef since 1993, believes the *holothuri echinoderm* family play an important part in cleaning and fertilising reef communities.

"Sea cucumbers suck up all the sediment on the seafloor," he said in a press statement on his work last month.

"They filter out what they can use to grow, such as tiny algae, then they excrete nutrients which in turn fertilise growth of algae.

"Although they eat the algae on the seafloor, they actually create a lot more algae wherever they are."

He thinks the biodiversity of the reef would suffer if robbed of their gardening habit.

"Hypothetically ... it may reduce the overall pro-

ductivity of the reef," he said on Monday.

"I don't have experimental data on the fished species, but have tested the role of other sea cucumber species in nutrient production in aquarium and field experiments."

He travelled from Hamburg University in 1993 to work as a volunteer in the Australian Museum's research station on Lizard Island, with no particular interest or expertise in sea cucumbers.

He began his postgraduate research on these humble animals, rather than whales or dugongs, at the suggestion of the station's then directors, Dr Anne Hoggett and Dr Lyle Vail and nine years on, with a doctorate behind him, has no regrets.

"If you work with something for 10 years, you get attached to it ... you find them interesting."

"I would not have minded working on whales, but I have found my niche."

He plans to continue work on echinoderms, and other commercially used invertebrates, in future, as a member of the AIMS Marine Biotechnology and Conservation group.

So-called bio-prospecting companies see some of the world's 1200 varieties of sea cucumber as a potential source of pharmaceuticals, with strong antibacterial properties.

He is now in the final stages of summarising his work for the Fisheries Research and Development Corporation, with recommendations on ways of restocking depleted reefs.

Genetic similarities in northern and southern stocks of black teatfish suggested larvae could probably be shifted between high-protection zones established by the Great Barrier Reef Marine Park Authority,

He predicts experiments in aquaculture as beche-de-mer prices climb and Asian stocks dwindle.

Meanwhile, he is taking a strong interest in the marine park authority's review of green zones where fishing and collecting are prohibited.

He advocates protection for 25 per cent of reefs, compared with 4 per cent at present, as well as continuation of the black teatfish ban, until stocks have recovered.

## Terrible tale and true

A TRAGIC relic of the North's beche-de-mer trade can be seen at the Museum of Tropical Queensland until next weekend.

A pearl fisherman found the small, iron tank in the Horwick group of islands, off Cooktown, in January, 1882.

It contained the remains of a woman and child, a loaded revolver, clothing, jewellery, canned food, a saw, hammer, saucepan, umbrella and diary.

He found the body of a Chinese man nearby.

Beche-de-mer trader Robert Watson, of Lizard Island, later identified the bodies as those of his wife, Mary, their infant son, Thomas, and servant Ah Sam.

He had left them on the island in September, 1881, to search elsewhere for beche-de-mer.

When Aborigines, who are said to have regarded the island as sacred, wounded Ah Sam and killed another servant, Ah Leong, Mrs Watson escaped in the low-sided tank, which her husband had used for boiling-down beche-de-mer.

She used two rough wooden paddles to row about 45 nautical miles to the Horwick group, carrying her son and the injured servant.

Her diary entries suggest they died of thirst about October 12.

The Cooktown pilot, DB Wiltshire, offered the tank to the Queensland Museum within a month of the victims' funerals.

Known as Mrs Watson's Tank, it was displayed for some years in the Museum of Tropical Queensland in Townsville before the museum was enlarged two years ago.

But, it can be seen again briefly until next weekend, in the museum's box gallery, before being sent to Brisbane for a new "heritage trails" section of the Queensland Museum.

## 2002 Art Show



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