

Sex on the Great Barrier Reef — live on Australian television

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ONE of the best reasons for visiting Australia is to see the Great Barrier Reef. It is truly breath-taking, one of the natural wonders of the world.

A few hours spent swimming with a mask and snorkel, or scuba-diving with the full kit, is an unforgettable experience. You drift in a fairytale environment, unlike anything you’ve ever seen, while millions of brightly coloured fish dart through the fantastic landscape of another world.

If you’ve ever promised yourself a trip out here, come sooner rather than later, because the catastrophic coral bleaching events caused by climate change are a deadly threat to the reef’s existence. If we don’t act now, there may be little left for our children and grandchildren to enjoy.

Earlier this month, the 2020 World Heritage Report to UNESCO reclassified the danger to the reef from ‘significant concern’ to ‘critical’.

Well over half of the reef’s coral cover has already been lost and what remains is subject to a wide variety of threats. Poisonous agricultural chemicals, including pesticides, herbicides and fertilisers, run off through the rivers; irresponsible discharges from Queensland Nickel and other mining companies and accidental oil spills from tankers cause further pollution; over-fishing and cyclical infestations by crown-of-thorns starfish, which prey on coral polyps, have equally devastating effects.

The warming ocean has caused major bleaching events in three of the past five years. The full extent of the damage has not yet been assessed.

It is a rare pleasure to relay some positive news for the reef, in contrast to all this doom and gloom. In 1981, a 23-year-old marine scientist, Peter Harrison, discovered that an annual mass spawning of all the coral takes place on the fourth, fifth and sixth nights after the late November Full Moon.



Mick Le Moignan
A Jerseyman in Australia

Coral polyps are animals, rather than plants, but they ripen like fruit and release their seeds and eggs all at the same time. As for many other species, synchronicity improves the prospects of successful reproduction.

Some 39 years after that momentous discovery, now-Professor Harrison of Southern Cross University is the mastermind behind a massive experiment, which featured in two unique and compelling live outside broadcasts by ABC-TV last weekend.

The presenters, some of whom were reporting in diving suits from the ocean floor, seemed even more excited than the coral polyps themselves.



■ There are over 400 different species of coral on the Great Barrier Reef

Anthropomorphic parallels were explored to the full: we were advised that ‘corals only have sex in the dark – or in red mood lighting’. So the main laboratory, the ‘Sea Simulator’ at the Australian Institute of Marine Science in Townsville, duly became a red-light area.

There are over 400 different species of coral on the reef and they all have different procreative preferences. Soft corals are the first on the dance-floor: on the fourth night after the Full Moon, they release masses of cloudy, white spawn, which drifts like fog over the reef. The next night, branching corals release their spawn packets, which float to the surface ‘like an underwater snowstorm’. Then it is the turn of the harder ‘brain corals’ to do their thing.

Corals have various strategies for survival. Branching corals and plate corals grow fast and try to occupy as much space and absorb as much sunlight as possible. Boulder corals pretend to be rocks on the ocean floor: they stay put and grow very slowly – but they can live for thousands of years.

Professor Harrison’s cunning plan is a sort of ‘IVF for corals’. From Moore reef in the north to Heron Island and One Tree Island in the south, his researchers were hard at work. First, they scooped the eggs and semen off the water. One scientist said it looked ‘as if an ant was chewing bubble-gum and it floated to the surface’.

After collection, the eggs and seeds were installed in ‘floating maternity wards’ where they would spend up to a week doing what comes naturally, safe from being eaten by fish in the process. Once the next generation was on the way, they would be released in damaged areas of the reef, to try and re-establish a resident population.

It may prove possible to develop hybrid, heat-resistant coral – but the crisis means

time is short, and that idea may be more revolutionary than evolutionary.

Harrison doesn’t believe his techniques will become a permanent feature of the reef’s life cycle.

He is simply ‘trying to buy time’ until the wider world wakes up to the many dangers of global heating and takes decisive action to slow and possibly reverse the process.

The reef is one of a kind. There are many coral reefs around the world, but none of the size and complexity of this one. Over 35 million hectares in area and 2,200 km long, it is larger than many small countries, and home to about 9,000 different, inter-dependent species. Over 200 different species of birds visit or nest on the reef; over 1,500 species of fish pass through it or spend their whole lives there. It is a complete ecosystem and we rapacious humans are a serious threat to it.

Close encounters with turtles, dolphins and whales delight the tourists, who generally prefer slightly more distant ones with the resident sharks and stingrays. The bright colours and magical beauty of this alien world are endlessly fascinating.

Today’s living reef grew in response to a 120m rise in sea levels, about 10,000 years ago. The Australian Aboriginal people and Torres Strait Islanders who live beside it have been here much longer, up to 65,000 years, so their ancestors watched it grow and they know and love it.

They have hunted and harvested here sustainably for hundreds of generations. In their mythology, the rising water was caused by a giant stingray flapping its wings. That idea is no more fantastic than the reef itself. Today, it needs another miracle to ensure its survival.