



Reef Secret

Why Fiji offers some of the world's best diving

BY SUSAN EAMES

NOT ALL TROPICAL CORAL REEFS are created equal. Some seem to burgeon with life while others look bare. There are numerous reasons why, but before we get on to the technical aspects, let's talk about reproduction.

Many reef fish reproduce by releasing eggs and sperm into open water while others lay their eggs and protect them until they hatch. Some species undergo relatively elaborate courtships - often at dusk - by chasing each other, swimming rapidly, circling or dipping amongst the corals. Some species, like the female mandarin fish, choose their mate according to size; the biggest male always wins the female.

Mating on the reef can occur in couples or groups. Open water spawning culminates when the fish rise up the water column together and simultaneously release their eggs and sperm. As the prospective parents drop back down to the safety of the reef, their spawn is carried away on the higher, faster moving current. The spawn's journey ends successfully when it sinks and finds a reef home for the eggs to settle, grow and hatch.

Whilst there is some doubt about how far spawn can travel, there is no doubt that much of Fiji's reef systems are well equipped to nurture spawn. However, since not all reefs are equally prolific, I was curious to find out why

certain reefs offer better habitats for marine life than others.

The Namena Marine Reserve has a reef system comprising some 30 kilometres of reefs surrounding the small island of Namenalala in central Fiji.

Namena's reefs offer world class diving and it's not just attributable to the fact that fishing in the reserve is prohibited. The reefs offer a bewildering variety of marine life in virtually any category you care to name - from corals, invertebrates and reef fish to sharks, turtles and mantas. Even a rare visit from a whale shark has been reported at Namena.

Other prolific reefs include the Vatu-i-ra Channel and the sea mounts known as E6 and Mount Mutiny in Bligh Water.

Like Namena, there is an enormous variety of marine life and the diving is spectacular. So what is their secret?

I spoke to Rob Barrel who has been operating the Nai'a dive live-aboard yacht in Fiji since 1993. He said that whilst we don't know everything that's going on here, some factors can be explained.

For example, it is known that nutrients are carried in the ocean's in deep currents. Fiji is well placed for the south-easterlies that bring nutrient-rich currents from the cooler waters east of New Zealand.

When these deep currents collide with sea mounts, reefs or islands, they well up bringing the nutrient-rich water to the surface. Yet more nutrients wash down from Fiji's two largest islands, Viti Levu and Vanua Levu.

As the currents funnel through the Fijian archipelago, aided by the southeast trade winds, the reefs in Bligh Water and Namena are on their route and benefit from being flushed by these fresh, rich waters.

I realised that fish and coral spawn must be channelled along similar routes. The spawn that settles on these reefs therefore finds the right conditions to flourish.

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According to Rob, another factor that makes Fiji's central reefs special is that there are enough reefs and islands to protect the area from damaging waves from cyclones.

"We seldom have giant waves. Even in tropical lows, the reefs in central Fiji don't get hammered," said Rob.

He talked about the importance of coral variety in Fiji. If a particular coral is damaged or destroyed, another similar species is needed to repopulate the area.

"Biodiversity is critical," said Rob. "Different areas in Fiji can recover from damage because there's enough biodiversity to regenerate damaged areas. It makes for a much more robust ecosystem."

Rob and his wife, Cat Holloway, want to see Vatu-i-ra in the Bligh Water protected in a similar way to Namena. They have instigated the project and now local interests along with Nai'a are working with the Pacific arm of the global Wildlife Conservation Society to form a protected seascape to be called the Vatu-i-ra Seascape.

"We should protect this reef from the things we can protect it from because it already protects itself from the things we can't protect it from, like cyclones and coral bleaching," Rob concluded.

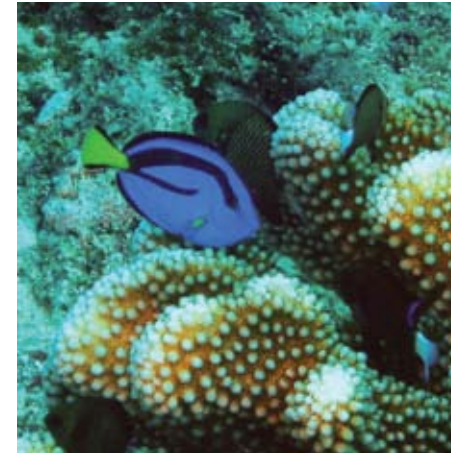
Although I had focussed on the reefs in Bligh Water and Namena, these are not the only areas to offer spectacular diving in Fiji.

I asked Helen Sykes of Marine Ecology, Fiji about the quality of the country's reefs as a whole.

She referred me to a paper written by herself and Edward Lovell from the University of the South Pacific titled: "A Cause for Optimism".

After nine years of reef monitoring, the paper discusses identification of threats and resiliency on Pacific reefs through long-term reef monitoring. The news on Fiji's reefs was good: most reefs had scored highly for factors relating to coral resiliency and climate change.

It was clear from Sykes' studies that Fiji's reefs are in good health and seem capable of remaining that way.



As a scuba diver, I can only attest that Fiji's premier reefs like Namena and those in Bligh Water offer some of the best diving in the world, but I now have a better understanding of the secrets behind their success.

And next time I see fish rising up the water column together to mate, I'll wish their spawn a safe journey. After all, it may just end with a new clutch of eggs ready to hatch on one of Fiji's fabulous reefs. ■

Fact File

The author dived with the Nai'a Liveboard. Nai'a is the only liveboard in Fiji that regularly dives Bligh Water and Namena.

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