FULL CIRCLE

Tony Woodward signs up for a Reef Check liveaboard with Biosphere Expeditions and returns to his beloved Arabian seas after a 15-year hiatus, but would he notice a difference in terms of marine life and coral growth?

Photographs by **TONY WOODWARD**

Traditional dhows provide the transport for divers

A young gorgonian grows inside a cave on the Musandam

We all appreciate the need for conservation, but what are we doing about it? Biosphere Expeditions are foremost in running a worldwide network of scientific sites, ranging from monitoring snow leopard activity in the Altai mountain range to 'Reef Check' recording in many parts of the world, such as Honduras. Using 'Reef Check' principles, their efforts now incorporate annual monitoring of the health of coral reefs in the Musandam, Oman, as well as the Maldives and an exciting new venture in Malaysia. I joined them on a liveaboard to help with - and observe - their very important work in Oman.

A little over 15 years ago, I left the Middle East to settle back in the UK. Since that time I have only made one brief trip back to the region and was taken aback by the scale of building activity underway in Dubai. Now I was back again and if that last brief trip was a surprise, this time I was truly amazed. On every piece of once-free ground, there seemed signs of activity, albeit most of it in abeyance. Dubai, like much of the world, is in the grip of a financial crisis, but theirs is more of their own making. The so-called Middle East (difficult to define exactly) seems dogged by periods of boom and depression, due sometimes to negative press and at others because of internal/political issues. Yet somehow, when you are there, everything seems serene and positive. A paradox not easily defined.

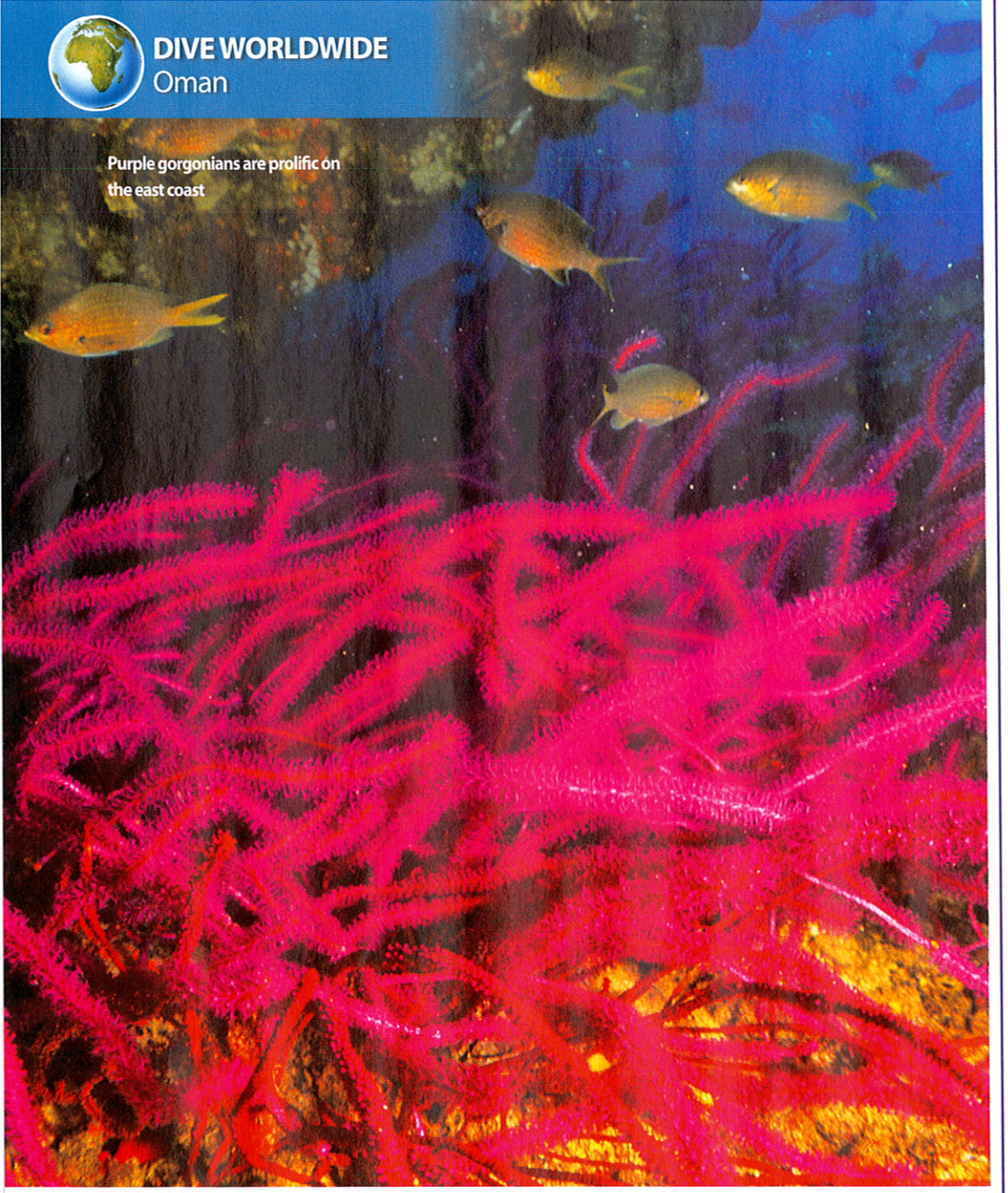
I had a couple of days in Dubai catching up with friends before joining a genuine expedition in a remote area of Oman. I sat with diving colleagues from the 1980s and 1990s taking in some information. It seemed all was not well on the east coast of the UAE, due to a recent and savage red tide. It caused devastation, and much of the vibrant marine life had been affected. This happened when a species of dynoflagelate was introduced from Malaysia in a ship's ballast tanks. I have witnessed red tides in this area before, but this one was exceptional - it would not die down. One species seemed to have disappeared (perhaps only temporarily) - the red-toothed triggerfish (Odonus niger). In common with most triggerfish, this species lives on a diet of urchins and, without its presence, urchins are proliferating. This did not seem to be the kind of news I wanted to hear.

Clownfish

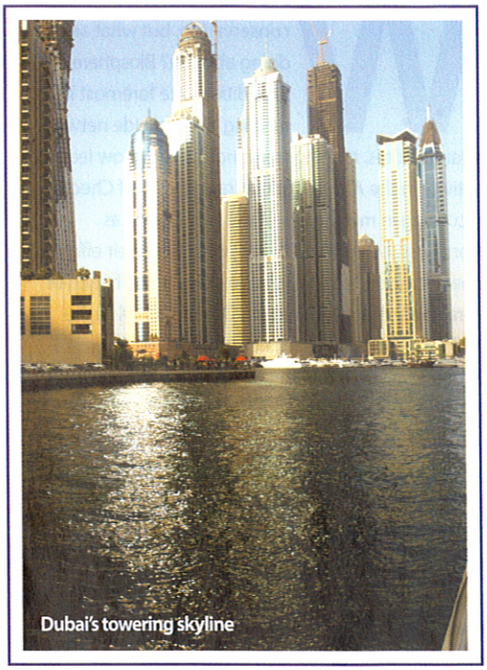
Cuttlefish

As a guest of Biosphere Expeditions, I joined their Underwater Pioneers Programme in a remote area of Oman. The Musandam Peninsula looks out onto the Straits of Hormuz and is located strategically between Iran and the rugged northern tip of the Sultanate. It is a world away from the sophistication of the Emirates, with its new Metro and shopping malls. Only the heat was similar at around 35-40 degrees C in October. I met up with our disparate travellers who would make up the expedition team in a local Jumeira hotel. Reef Check recording of fish, invertebrates and substrate follows a strict format and feeds into a worldwide database monitoring the health of reefs and making recommendations for greater protection. First introductions made it clear this would be a truly international group, with British, Italian, Portuguese, New Zealand, Omani and Finnish

"The Musandam corals are now becoming increasingly vital and could be the answer to repopulating reefs worldwide where they are in decline"



Purple gorgonians are prolific on the east coast



Dubai's towering skyline

On-bard classroom session

participants. The counts would be compared to previous years' numbers and that meant everyone would need to be able to identify a target species. Before I go on, it is worth reflecting on how Reef Check came about.

In 1996, a conference of coral experts met in a US symposium and one question was posed: 'What is the state of coral reefs worldwide?' A number of replies ensued, some saying 'Really poor in our area', another added 'really good in our region', and yet another said 'we seem to be stable'. Despite a wealth of data, there was no clear answer on a global scale. This was a defining moment and gave rise to the birth of 'Reef Check'. Biosphere Expeditions, which was already well established in conservation efforts on the ground, understood the need to contribute to this vital programme. With their scientific contacts and knowledge of complex logistics involved in land-based expeditions, they took up the cause. Their approach is based on a 'three S's' principle - Safety, Science and Satisfaction. After some intensive classroom lectures, you understand key identification features of several important reef indicator species. Species such as grouper, snapper, sweetlips, etc (think you could identify them? You might be surprised!), tell us just how healthy a reef system is. Target species are counted along transects in shallow and slightly deeper water. These are laid along several sites and compared with previous data to determine if there is a decline or improvement in a particular reef's state of health.

It was with some concern that I started to make my own observations, given what I had been told in Dubai. This was a region I knew well, having made some 350 dives there when I was a resident, and I dared hope we might find something positive to report.

Our group started to exchange the usual pleasantries and was quickly joined by our expedition leader, Rosella, and on-board

Commensal shrimp on a carpet anemone

scientist, Rita Bento, who resides in UAE. We quickly transferred to a vehicle for a five-hour road trip to the port at Khasab, the largest town in this region, where we were picking up our dhow liveaboard.

Water temperature was a more-than-pleasant 30 degrees C plus, so unless you have lizard properties, a 3mm wetsuit should more than suffice. You won't be going deep - transects of 100 metres in length are laid in a depth of around 3m, with a parallel transect in around 8m, along a section of reef. This tries to replicate the exact location of previous data collection to give a fair reflection of any changes.

I was now anxious to feel warm Arabian water around me and see what fate had befallen the rich and varied marine life I knew so well. Would the situation be as I was informed? If east coast UAE had been decimated, did the Musandam escape that red tide? Would I find those triggerfish, now so conspicuous by their absence elsewhere? I slipped below the inviting mirror-like surface and drifted down onto the reef below me. An instant burst of crackling heralded a wonderful variety of hard coral. Sunlight played around the bronze shapes of acropora, favites, platygyra, etc. Colourful wrasse and damselfish played among the pointed fronds, and small jacks patrolled in search of prey. It all looked good and we spent close to an hour acclimatising to local conditions. No triggerfish here and though one or two of the familiar blue-spotted grouper poked their heads out of fissures in the coral, there was no sign of the orange/brown spotted grouper, known as an Epaulette grouper. This latter is a key indicator species endangered due to over-fishing. Commanding prices over £15 per kilo in those awesome Dubai malls, it is hardly surprising it is under threat. Less than 20 years ago, ten-plus fish would be sold for less than £1, so you hardly need me to tell you what has happened.

As our teams honed their skills on recognising target species, so they gelled as units. No longer disparate, they were working as one. Bear in mind that a qualification here needs to cover common Indo-Pacific species (a special set of target species is being developed for the Gulf area, but was still embryonic at the time of writing), so it is well worth paying attention. Once qualified, you can take part in Reef Check expeditions in the whole Indo-Pacific region - a vast area indeed. Long hours spent in a classroom environment were paying off.

Finally, the last stage everyone wanted to see - an underwater recording dive was underway. Armed with two transects duly laid out and slates to write data on, our teams were passed fit for purpose (it should be clear that a pass is not a given - you really do need to demonstrate your knowledge). Now it would be for real. Records need to be as accurate as possible to be of any value to Reef Check headquarters. An unseasonable squall delayed the start of activities, but eventually we were off. Each reef in the Musandam has been recorded with GPS co-ordinates, so there is little room for doubt that you are on the right site. I must stress this area is remote and you are very unlikely to see another dive boat, with the possible exception of Friday, and then only around Khasab. Inevitably, in an area that sees only fishing, there was some damage caused by nets. We were to hear later that fishermen were giving up net fishing as they lose too many! A commercial activity with a happy outcome for conservation!

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Whether relative improvement in the condition of coral and its increased coverage can be put down to forsaking net fishing for a variety of alternatives is a question that will be posed in later scientific conclusions. That will not be published for some time yet, but it was clear coral growth is definitely improving. Year on year coverage is measured as a percentage of the substrate and, while results are always subjective, evidence points to the fact that coral really is proliferating. This is really good news, though on the downside, fish life has not improved. Target species such as grouper, sweetlips and butterflyfish were counted and, though not declining, are certainly not found in greater numbers than previous years.

Arabian coral reefs are very important due to their ability to thrive in high salinity and very high temperatures. Such conditions would spell disaster on other Indo-Pacific reef sites. The Musandam corals are now becoming increasingly vital and could be the answer to repopulating reefs worldwide where they are in decline. Anyone who dived in areas like the Maldives post-El Nino will understand how disastrous a slight increase is sea temperature can be. In contrast, these fast-growing, hardy corals in the Musandam thrive in waters of 32 degrees C plus. They really are an anomaly.

By now the teams were becoming really proficient and quickly laid transects before counting fish and invertebrates. The substrate team finished off and wound in the transect tapes. All activities were overseen by Rita and Rosella, and I moved around to try and find those elusive triggerfish. I was beginning to fear they had succumbed to the savagery of the red tide.

We approached the last day and I reflected on how strangers had come together and were now working as inter-reliant teams. This information gathering is vital but it is also good fun. Initial indications point to an improvement in coral health, which is expanding its coverage on most sites. Fish count remains stable and as a consequence, fishing is sustainable. Abandoning net fishing in favour of traditional traps is having a beneficial impact. The last day was spent making counts at a location called Horse Island. I dived in and was almost immediately surrounded by shoals of red-tooth triggerfish. I was almost euphoric as aggregations consisted of both adults and juveniles. Were they holding out at this last outpost, or were they coming back? I counted at least 150 examples.

After I returned to the UK, Gerhard and Doris Bingel, friends from the UAE, sent me a message to say they had just dived on Sharjah's east coast and they too had recorded red-tooth triggerfish. Hope indeed that reefs are returning to their once-excellent state.

Biosphere will be running expeditions throughout 2012, and in April there will be an opportunity to participate in Malaysia. If you want to contribute to our understanding of the health of coral reefs, you know what to do. No experience in biology is needed, but it is best if you have had a few dives. There is no age barrier either, but do check www.biosphere-expeditions.org for details. ■