

# Green

## Dive aid

You don't have to be a Jacques Cousteau to help conserve the coral reefs on Oman's Musandam peninsula - even novice divers can do their bit

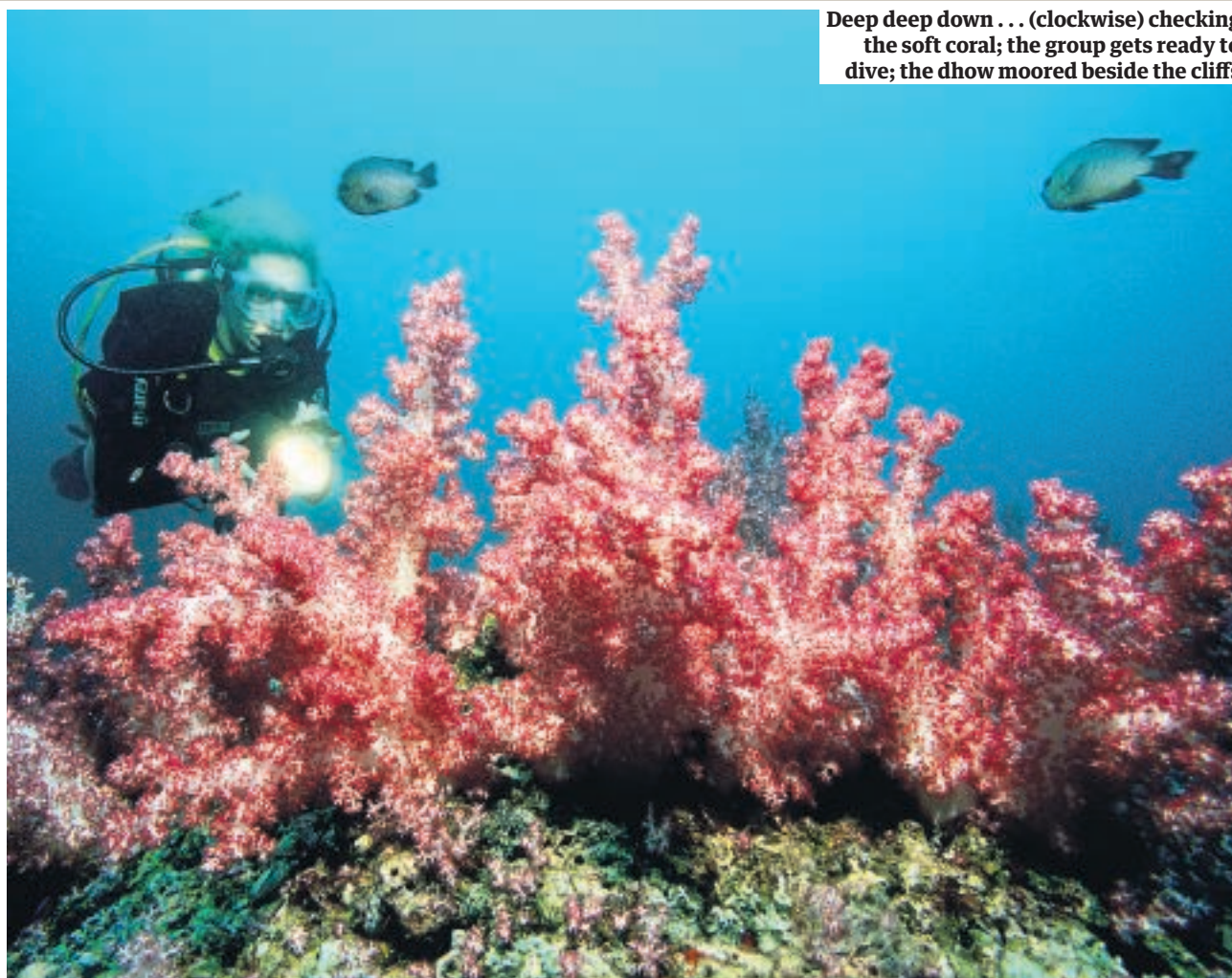
**I** was six metres under the sea when Dr Matthias Hammer tucked me firmly under his arm. I wasn't about to argue - mainly because I couldn't speak - but also he was bigger than me and a former soldier in Germany's parachute regiment. A biologist, international rower, ski instructor, wilderness medical officer and survival expert, Matthias - luckily for the world - has decided to use his powers for the good and set up Biosphere Expeditions.

I had arrived four days earlier to join a diving trip run by the organisation. A not-for-profit company, it specialises in adventurous conservation holidays that give volunteers the chance to participate in scientific surveys. My group would be assessing the state of the beautiful coral reefs that fringe the Musandam peninsula.

An enclave of Oman, Musandam is tacked on to the end of the United Arab Emirates and stretches out into the tanker-clogged Strait of Hormuz. Here, alongside diving enthusiasts from countries such as Brazil, the UAE, the US, Britain and Germany, I would be collecting data in a bid to persuade the Omani government to protect the reef.

It wasn't easy. For the first three days we breakfasted at 6.30am, and as our dhow sailed past the towering limestone mountains that plunge straight into the sea, creating the area's fjords, we had classes with Rita Bento, the expedition's marine biologist. She taught us to recognise the fish, invertebrates and sea-bed terrain, and later we took exams in these subjects. We needed to pass at least one test to qualify to start Reef Check, an international reef-monitoring scheme that allows scientists to compare the state of the eco-systems around the world. Yet the first time we sank below the sea's surface the hard work seemed worth it. The landscape above was endlessly arid and unrelieved by vegetation, but underwater everything was in glorious technicolour.

We spotted a combative lionfish displaying its stripes and psychedelic parrotfish grazing on coral. Floating past rocks studded with black, spiky urchins were Arabian angelfish, larger than dinner plates. And to my excitement, I was suddenly surrounded by a fast-moving stream of silver fusilier fish. The corals



Deep deep down... (clockwise) checking the soft coral; the group gets ready to dive; the dhow moored beside the cliffs



themselves were beautiful - intricate structures in primary colours.

Rita explained that coral reefs provide a habitat for 33% of the world's fish, and generate income for 20m people - but they are vanishing at an alarming rate. Created by delicate living organisms called polyps, they are easily killed. On the tiny propeller plane that flies between the peninsula and Oman's capital, Muscat, two women told me lurid tales of snorkelling tourists walking all over the coral.

And this is just one threat to the reef. While Musandam has no heavy industry to pollute the water, and no

**The landscape above was endlessly arid, but underwater it was all glorious technicolour**

huge fishing companies, spearfishing is a problem in the region, and a recent cyclone and algae bloom have affected the reef. Climate change also damages the coral, and our job was to track the health of the Musandam reef.

It took hours of staring at pictures, but eventually I learned to spot the differences between grouper fish (grumpy looking) and sweetlips (they pout like Angelina Jolie); urchins and sponge; hard coral and soft coral.

Sadly, when it came to diving, I was a wobbly eco-warrior. The minimum requirement for the trip is the basic open-water Padi qualification, which I have - just. But the rest of the group had decades of experience. I was a bit embarrassed when my log book showed I had completed just five dives, compared to the hundreds notched up by my companions. Luckily for me, the group was sweetly encouraging, and Coryanne, a certified dive instructor, took me in hand and offered some one-to-one tuition when I free-fell through the water, scaring off the fish.

Although the company makes it clear that volunteers shouldn't expect luxury,

the trip was definitely not a hair-shirt experience. The dhow's cabins were small but all had air conditioning, and some private bathrooms. Its two decks were covered in comfortable rugs and scatter cushions, and Polly, a wonderful Kerala cook, created food so delicious it almost sank me. Eventually, everyone gave up the cabins for sleeping on the deck under the stars.

The people the expedition attracts also made the trip a laid-back, cheerful one. Leisure time was spent swapping tales of swimming with sharks or giant squids, or, for the more adventurous, joining free-diving volunteer Adel in a scuba-less dive to depths I couldn't reach with my tank on. There was one near-mutiny when a volunteer erupted in frustration during an exam. But both Rita and Matthias made it clear that conservation had to come before customer satisfaction, and refused to risk us collecting invalid data.

After it has been turned into a scientific report by Rita, who will use it to discover what measures are needed to defend the reef, the information will be handed to local environmental

groups so they can use it to lobby the government. But before this could be done, we needed to prove to Rita we were safe to hover above the reef, swim upside down looking under rocks for invertebrates, and write on our underwater slates without touching the reef.

In the afternoons she set us underwater tasks from playing rock, paper, scissors to passing weights between us - all to assess and improve our buoyancy control. I'll admit that by this time I was so terrified of hurting the coral, I kept bobbing to the surface like a helium balloon in a wetsuit. But I was at least able to help mark out the measuring tape along the seabed that indicates the section of reef the group will be studying. Volunteers swam slowly along it in pairs, marking down the species they saw. And noting the coral damage and what had caused it: disease, litter, bleaching or predators such as the crown-of-thorns starfish.

Each expedition made three dives a day for the final three days to make sure as much of the reef as possible was looked at. It took a few attempts to learn to move slowly and carefully enough to be able to count the fish and sea creatures without disturbing them. And this was when Matthias, anxious that I shouldn't miss out on seeing the reef, and even more anxious that I shouldn't hurt it, decided to take me on a roller coaster ride above the coral.

Under his control, my face was inches from waving sea anemones, and for the first time I saw the coral flicker as the tiny creatures that build it retracted at our presence. Before I knew it I was dangled upside down to peer under rock ledges, looking for coral-banded shrimp and lobsters, and I spotted the vicious face of a moray eel. With my flailing arms finally calmed, I could swim without terrifying the snub-nosed butterfly fish, bright snappers and sulking groupers.

While it's true that my poor diving skills meant I was not the most helpful scientific volunteer, this exciting trip taught me an incredible amount about the reef. When I got back to my desk, one of the first parcels I opened contained a promotional gift of a dried starfish - and I was horrified. Naturally, they will be getting an outraged letter from this conservation convert.

● *Oman Air (0844 482 2309, omanair.com) flies direct from Heathrow to Muscat from £349.97 rtn inc tax, and to Khasab from £439.97. The Grand Hyatt in Muscat (muscat.grand.hyatt.com) has doubles from £232 per night. The next diving expeditions with Biosphere Expeditions (0870 446 0801, biosphere-expeditions.org) run 10-16 Oct and 17-23 Oct. The six-night trip costs £1,090, including training and accommodation aboard a modern dhow, but excluding flights. You need a Padi open-water qualification or equivalent to take part.*

**Homa Khaleeli**

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