



# School of Fish

As conservationists warn about the decline of coral reefs, **Gavin Haines** enrolls on a research project in Malaysia, where he gets a crash course in marine biology and surveys some previously unexplored reefs

Photographs by **GAVIN HAINES, KL KWANG, REEF CHECK AND REBECCA LOCK**









Let's make one thing clear; this trip to Pulau Tioman in Malaysia was not a holiday. It was work. That I happened to be diving at previously unexplored reefs in one of the most aesthetically pleasing islands in Southeast Asia was an occupational hazard. That I was living aboard a beautiful yacht, eating sumptuous food and hanging out with like-minded people went with the job. It was a tough gig, but someone had to do it.

Okay, so it was a bit of a holiday. But unlike most of the jollies favoured by diving nuts like ourselves, this one was giving something back to the oceans that provide us with so much pleasure; as well as leaving Malaysia with a camera full of images and a brain full of memories, I would also be leaving a legacy, having collected some valuable data on the country's coral reefs for an organisation called Reef Check.

Founded in 1996 by marine ecologist Dr Gregor Hodgson, this not-for-profit organisation was es-

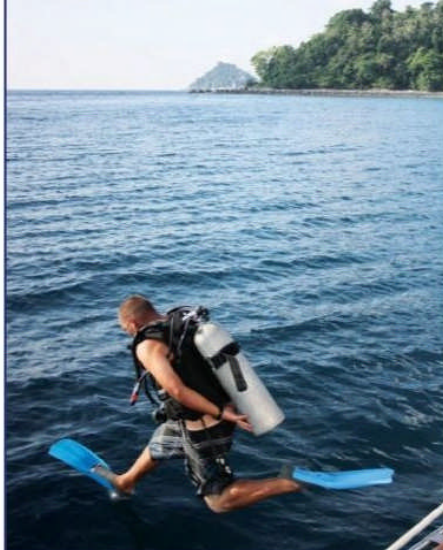
tablished to discover more about the planet's reefs. Their findings have made uncomfortable reading; their first assessment in 2002 concluded that many reefs were in poor health and subsequent studies have painted a similarly grim picture.

In a bid to improve the quality and quantity of their research, and to further identify the threats facing these fragile ecosystems, Reef Check has been recruiting diving volunteers from around the world to conduct surveys on coral reefs. As you read this now, somewhere in the world, groups of divers, armed with a newfound knowledge of marine biology, will be underwater with clipboards and pencils counting fish and identifying coral. Their findings will be compiled into reports by the real marine biologists, who will use them to lobby governments into shaping environmental policy.

#### Back to school

Reef Check's volunteer programmes (which are run with Biosphere Expeditions) are usually two-weeks

Reef Check member  
off to work



Clownfish



#### The results

The data collected from Tioman is being compiled with other research to help Reef Check paint an accurate picture of what is going on with coral reefs globally. However, Katie and Paul's initial interpretation of our findings suggested that, overall, the reefs around Tioman were doing well; they had recovered quickly from a mass bleaching event in 2010, which was caused by unusually warm waters, and there were plenty of indicator species (fish and invertebrates) present at most reefs, suggesting Tioman's conservation laws are helping protect these valuable ecosystems. But are they going far enough? The lack of big fish and the presence of fish traps suggested fishing was still an issue here, while the amount of crown of thorns spotted was a big concern; these starfish eat reefs and their abundance suggests they have a lack of natural predators in these parts. Although most reefs were healthy, a minority had been trashed by anchors and dynamite fishing.

Diver checks out a  
vibrant reef



long. But, before you're let loose underwater, there is the small matter of classroom training.

I'm not going to lie to you, it's tough. You may well have given up your time to be there and you might be paying good money to be part of the project (as a charity, Reef Check can't cover volunteers' expenses), but they certainly put you through your paces in the classroom - if you thought school was hard back in Blighty, try sitting in a classroom overlooking Tioman's palm-lined beaches. The temptation to bunk off had never been stronger.

But at the end of week one, there are exams. Fail these and I'd be unable to conduct this valuable research; while my classmates drove our understanding of marine biology further, I would have to watch from afar, hanging out with the clownfish where I belonged.

Frankly, we couldn't have had better teachers, which came in the form of English rose Kate Yewdall, a marine biologist and owner of the Tioman Dive Centre, and Paul O'Down, an Aussie bushman and expedition leader for Biosphere. Over the next couple of weeks, Paul would reveal himself to be the single-most-knowledgeable person I have met in the field of nature. Think Steve Irwin meets Crocodile Dundee.

Using Kate and Paul's encyclopaedic brains, we were given a crash course in marine biology. My classmates and I - a young married couple from Berlin, Edzard and Julie, and a physiotherapist from Burnley, Rebecca - were taught about the different types of coral reefs and how they form. We learnt about hard coral, soft coral and how to differentiate between the two (not simply a case of one being hard and the other soft).

We studied fish and learnt what the presence of certain species meant at a reef.





In the afternoon, Paul and Kate took us for dives to see if we'd been paying attention in class - the hand signals they devised to describe the different fish were genius.

Our practical lessons took us to some incredible reefs, which were a short boat ride away from Tioman's tiny capital, Tekek. There was the tiny islet, Renggis, where we discovered a beautiful reef abundant with marine life. Parrot, angel and butterflyfish moved along the coral in a kaleidoscope of colours, while schools of snapper and barracuda watched from afar. We saw our first turtle here and some of us glimpsed a reef shark, as the current swept us along for what turned into a drift dive.

There was also a strong current at Soyak, a less-vibrant reef than Renggis, but still teeming with life. Here we drifted into the path of an angry triggerfish, which attacked the poor girls ahead of us. Paul, I and Edzard steered well clear.

#### Conservation efforts

While vast swathes of mainland Malaysia's rainforests have been ripped up and replaced with palm oil plantations, the virgin forests on Tioman, which cover approximately 12,000 hectares, are a strictly enforced nature reserve. So too are Tioman's reefs, which form part of a protected marine park surrounding the island.

Technically, fishing is banned (although you'll still stumble upon the odd fish trap) and the authorities are fairly hot on it. "We were diving off the yacht the other day and the police came to see what we were up to," says Paul. "It's great to see them taking it seriously."

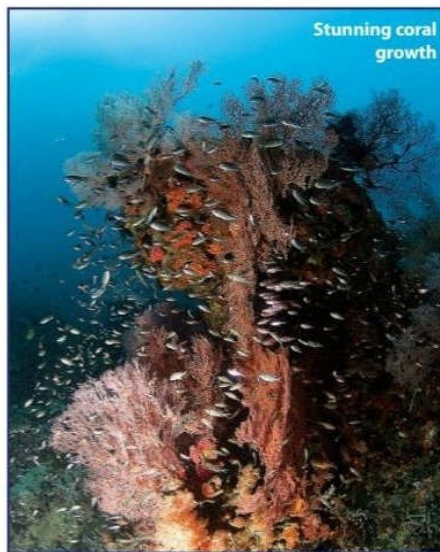
Occasionally, the authorities make an example of fishermen caught violating the laws, as we discovered at the aptly named Pirate site. Located a few hundred metres from the beach at Tekek, Pirate is the name given to the wreck of a fishing boat that was recently scuttled - once used to catch fish, it has now become an artificial reef in which they live. Not that we saw much, it was like diving in Marmite



Conducting a fish count



Lionfish



Stunning coral growth

#### What to do next

Be part of Reef Check's on-going survey of the world's reefs. There are two 12-night expeditions running on 10 March and 24 March, 2013. They cost £1,450, excluding flights but including accommodation (split between a beach resort and liveaboard yacht), food, transport, approximately 22 dives and an eco-diver certificate upon completion of the course. This qualification allows successful graduates to participate in Reef Check's other programmes around the world.  
[www.biosphere-expeditions.org](http://www.biosphere-expeditions.org)  
[www.reefcheck.org](http://www.reefcheck.org)



Moray eel

when we visited.

Diving aside, of which there was plenty, we also had our exams. There was a fish identification test, an invertebrates test (urchins, clams, crown of thorns, etc) a substrate test (coral, sponges, anemones, etc) and a test to see if we could identify coral damage and its causes.

The pass mark was high and, unfortunately, Julie and I fell slightly short. So, while everyone enjoyed their last night at our beachside lodgings at the Swiss Cottage, we hit the books.

#### Liveaboard

It was a calm and sunny afternoon aboard the yacht when Julie and I finally earned our stripes. Some 24 hours after everybody else, we'd mastered basic marine biology, so we jumped into the crystal-clear water with our long-suffering tutor Kate to celebrate, joining the rest of the gang and our skipper, Carlton, who were snorkelling and free-diving.

This would be our life for the next week. No more comfortable resort beds or evening meals cooked for us and, mercifully, no more classrooms. Instead, we'd be living aboard a beautiful yacht, sailing around Tioman, discovering remote coral reefs and listening to Paul's anecdotes.

We would complete 22 dives in total and when we weren't conducting our underwater research or sailing, we would explore remote islands on foot, have diving competitions off the boat and watch glorious sunsets.

But it was the prospect of conducting studies at previously undiscovered reefs which had brought us all to Malaysia. "Nothing will improve your buoyancy and air efficiency like these research dives," said Paul. He was right.

Conducting a research dive is simple; you find a reef, drop anchor nearby and don your scuba gear. Then two divers go down, inflate

**"We discovered incredible reefs that may well have never been dived before, but there were also a few that had been totally destroyed by anchors, dynamite fishing or crown of thorns (an all-too-familiar sight)"**



# WHAT YOU NEED TO KNOW...

## Tioman, Malaysia



### How to get there

The gateway to Peninsular Malaysia is the city of Kuala Lumpur, although Pulau Penang and Johor Bahru (JB) also have international connections. Singapore is a handy arrival/departure point, since it's just a short trip across the Causeway from JB and has more international connections.

### When to go

The best time to visit is between March and September for optimum weather

**"No more comfortable resort beds or evening meals cooked for us and, mercifully, no more classrooms"**

### Entry requirements

A valid passport with six months left to expiry.



### Currency

Malaysian ringgit (£1 = MYR4.9).



### Where to eat and meet

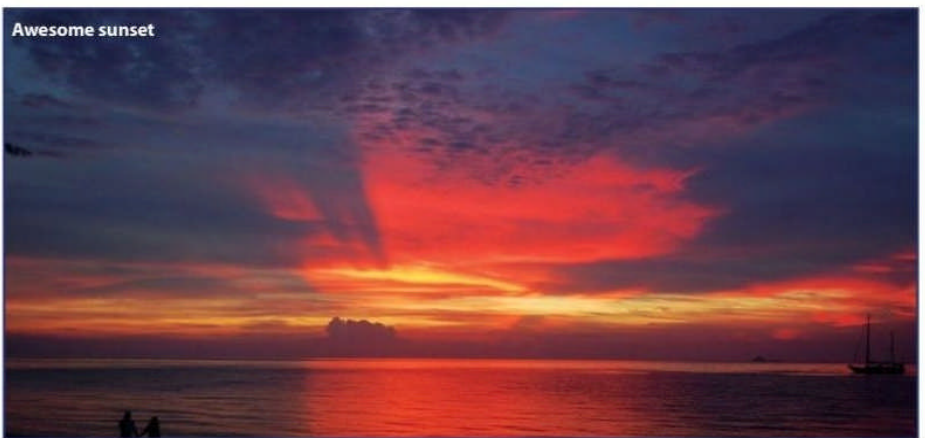
All food is included at the resort and on the yacht. At the resort you can chill out on the beach, once on the liveaboard the sundeck is a great place to relax at the end of the day's diving.



## SPORT DIVER VERDICT

The classroom portion might be hard work, but it is all worthwhile to get in the water and feel that you are really making a difference and helping to protect our delicate ocean ecosystems.

Awesome sunset



**"The protected marine zone was working; the water column was brimming with colourful fish species, including a group of bumphead parrotfish, which cruised past nonchalantly"**



Turtle



Divers busy with a fish count

an SMB, which they tie gently to the coral, before laying a 100-metre surveyor's tape over the reef.

After ten minutes, the other four divers descend; two go off to count fish, but only certain types of fish (indicator species like grouper, parrotfish and sweetlips) and only ones that swim two-and-a-half metres either side and five metres above the transect line. Behind them, the next pair record substrate findings at half-metre intervals, while the pair that laid the tape in the first place come along again to count invertebrates. All this takes just over an hour, after which everyone ascends with exciting observations and plastic slates covered in notes (pencils work best underwater). Back at the boat the data is punched into a laptop over a cup of tea or a beer - assuming that's the last dive of the day.

The variation of the diving was as unpredictable as the weather. We discovered incredible reefs that may well have never been dived before, but there were also a few that had been totally destroyed by anchors, dynamite fishing or crown of thorns (an all-too-familiar sight).

As we conducted our surveys we befriended turtles and sea snakes. "I had a sea snake slither up against me when I was snorkelling once," said Paul. "They use snorkellers as protection from sea eagles."

We found lobster the size of small children, moray eels like tree trunks and the odd triggerfish,

which we learnt to steer clear of. Occasionally, a curious shark darted past, quickly disappearing from view as we tried to get a better look.

On one survey we descended into calm waters under glorious sunshine and came back to a monsoon storm; the waves battering the yacht, making it difficult to climb aboard. There were some biblical storms that week, usually when I decided to sleep up on the deck. However, they were perfect for the film crew we met at Pemangil Island, who were shooting a low-budget horror movie.

Sadly, this trail-blazing fortnight quickly came to an end, albeit in beautiful circumstances. At Nipah Rocks, we had a fun dive over a field of iridescent staghorn coral and I have seldom seen so much life. The protected marine zone was working; the water column was brimming with colourful fish species, including a group of bumphead parrotfish, which cruised past nonchalantly.

Ascending from this unspoilt, million-year-old ecosystem I emerged above water to be greeted by another one - Tioman's virgin rainforest. As the water drained from my ears I could hear birds squawk and trees rustle. For a second, I half expected to see a dinosaur. ■

For a comprehensive list of tour operators, check out: [www.sportdiver.co.uk/operators](http://www.sportdiver.co.uk/operators)