



## A new season at eco<sub>2</sub>

At the end of October, eco<sub>2</sub> saw the return of Isobel Pring to pick up the reigns at the dive centre and bring new impetus to our science programmes. Isobel visited eco<sub>2</sub> earlier this year when she spent six weeks conducting research in the mangroves of the Mnazi Bay Ruvuma Estuary Marine Park. Returning to Newcastle University in the UK, Isobel gained a Distinction to complete her Masters in her Tropical Coastal Management.

Prior to her studies, Isobel spent two years working with a marine conservation NGO in southwest Madagascar, where she was involved in coral reef monitoring and working with local communities to develop sustainable fishing practices.

Coordinated by Isobel, eco<sub>2</sub> hopes to start a series of research and monitoring projects in 2009 in and around Mikindani Bay and the Marine Park, providing eco<sub>2</sub> divers with a greater opportunity to develop their understanding of the marine environment and to get involved in local research and conservation initiatives.

## Fish market is home to some of the region's rarities



Thorny seahorse and Harlequin ghost pipefish.  
Photo: Isobel Pring

A recent dive with staff of the Marine Park confirmed purple and white seahorses, and two of the bizarrely shaped ghost pipefish. We regularly see crocodile fish, alligator pipefish and cuttlefish here, and Frogfish have been spotted here in the past.

We've always known that the reef next to the Mtwara fish market is teeming with a host of weird and wonderful cryptic critters. That's why we named our dive site there Cryptomania. On recent dives regular sightings of Thorny seahorse, *Hippocampus histrix*, and Harlequin ghost pipefish, *Solenostomus paradoxus*, have proven that it's also home to some of the Indian Ocean's rarer creatures.

## NEWS IN BRIEF

November has been a busy month and we've had divers from the US, the UK, and Spain as well as our loyal local divers. We've managed to get out to all of our dive sites including the Marine Park.



Half way through November we were surprised to see a Humpback whale mother and calf still in the Bay. We'd heard reports that they were still in the area and on the 17<sup>th</sup> we were treated to a beautiful display as both mother and calf breached, while we were on our way to dive at Lulu Shoal. That was one big splash!



One week earlier we'd seen a Sunfish (*Mola mola*) on the way to the Monoliths. These amazing fish have an average weight of one metric ton and have been known to reach 2300kg, and all from a diet that consists mainly of jellyfish!

To look at they are round with lengthened anal and dorsal fins, but no caudal fin (tail). They normally live in deep water as far down as 700m, but can often be seen 'sunbathing' at the surface in the early mornings, which is thought to be their way of keeping warm – if their temperature drops too low they can die.



## In search of the prehistoric fish

The Marine Park played host to visiting scientists and researchers from the Max Planck Institute in Germany, at the end of November. They were in town with their deep sea diving submersible, Jago, as part of an ongoing research programme on Coelacanth.

Coelacanths, *Latimeria chalumnae*, come from one of the oldest living orders of fish. Related to lungfish and tetrapods, on average they weigh in at around 80kg, can reach up to 2m in length and are thought to live for between 80 to 100 years. They can live in water as deep as 700m, but usually come up to 90-200m at night to feed. As pre-historic lobe-finned fish, Coelacanths are one of the species that had the potential to evolve into four-legged land animals.

Until recently, Coelacanths were considered extinct since the end of the Cretaceous period (65 million years ago). However, a fish caught off the coast of South Africa in 1938, was subsequently identified as a Coelacanth and more specimens have since been caught off the coasts of Tanzania, Comores, Kenya, Mozambique and Madagascar, and a second species has been identified in Sulawesi, Indonesia.

They are considered rare today and were added to CITES lists in 1989 (Convention on International Trade in Endangered Species), which means that all trade is forbidden and even sending specimens to museums can only take place with the issuing of permits. They are categorised as a critically endangered species by the IUCN - the highest level of risk categorisation.

2003 saw the first Coelacanth caught in Tanzania and by the end of the year 22 Coelacanths had been caught by fishermen. Since then the number of Coelacanths caught as by-catch has increased dramatically. The reason so many have been caught in recent years is the introduction of light weight monofilament shark nets which can be fished in deeper water - to 200m. The target species are shark, destined for the oriental shark fin market, but the Coelacanths are caught as by catch and are not used or eaten.

Despite sighting live Coelacanth in the deep waters of the Comores in October, the Jago submersible did not manage to find living Coelacanths in dives made off the coast of the Marine Park.



*A Coelacanth caught brought into Mtwara fish market in early 2007. Trade restrictions meant the fish had to be kept until agreement was reached about what should happen to it. Photo: Emily Darling*

## PEOPLE

eco<sub>2</sub> says good-bye and good luck to Christian and Kate who became rescue divers here with us in Mikindani. For their last dives we took a day trip to the Marine Park, where an encounter with a large shoal of Trevally really made the day.

Both Kate and Christian are staying in Tanzania; Kate in Dar es Salaam, and Christian, with Annelie and Adam in Tanga. We'll miss you but we know the diving is better here and you're bound to be back.



With the goodbyes come the hellos, so we welcome some new divers too. Brit is a doctor specialising in tropical medicine and working with the German Development Service here in Mtwara, and has already joined us for a number of dives.

Meanwhile Alex, who works with the NGO Breakfast Club here in Mikindani, has completed her Open Water course just in time to head off to Zanzibar Christmas. Karibuni and we look forward to diving with you in 2009.



We also have to report that Dave Reynolds at the Mnazi Bay Ruvuma Estuary Marine is also leaving at the end of the month. But he too is staying in the area and moving just south of the border to the Quirimbas National Park in Mozambique. In our next newsletter we'll get feedback from Dave about his time here and his thoughts on our reefs.