

**I WAS WATCHING THE NATIONAL GEOGRAPHIC CHANNEL A FEW MONTHS AGO AND, AS OFTEN HAPPENS, I WAS DRAWN TO A PROGRAM WITH SOME SUBLIME UNDERWATER PHOTOGRAPHY AND SOME SERIOUS PEOPLE DOING SCIENTIFIC THINGS ON A CORAL REEF.**

**T**urning on the sound, I found the narrator was interviewing a research scientist working on the Great Barrier Reef. He was very excited about the work they were doing on the effect of ultraviolet light at depth and how that may determine what a fish sees. Humans can't see ultraviolet unaided to know what the fish does see, but the researcher was investigating the probability that fish see a completely different range of colours and textures beneath the sea because their visual senses recognise UV light, adding a whole new dimension to camouflage, defence and mating opportunities. This work was being done from the research station on Lizard Island, in the northern Queensland section of the reef. And it was only one of many ongoing projects run at the station each year. It was obvious I had to go there.

Lizard is better known for its luxurious six-star resort, where guests fly in from around the world, often rather famous people who'd prefer that nobody knows they're there. Every luxury is available at the resort and most guests will at some time experience the reef as either a snorkeller, a diver or a fisherman. Many of them also visit the research station on a morning boat trip to see what happens on the less luxurious, but very interesting, two-star side of the island.

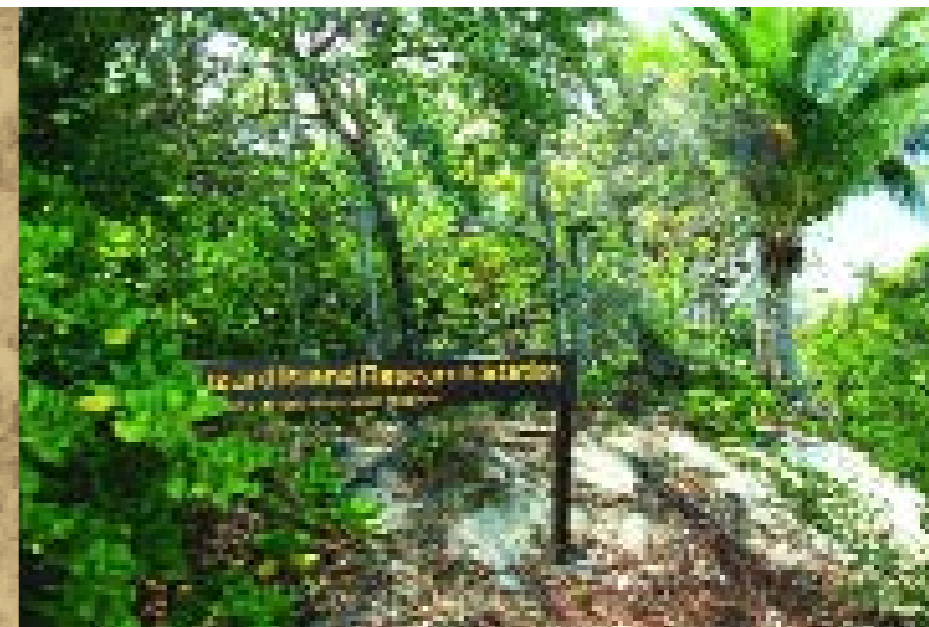
The Lizard Island Research Station, which is run by the Australian Museum, has just celebrated its 30th year and the list of recent achievements is impressive. Sitting on a sunny, sandy point on the southwest corner of the island the station is a rather inconspicuous collection of low profile buildings built into the breezy, casuarina landscape. Bright yellow research vessels bob up and down on their moorings out in the intensely blue lagoon and other dinghies lie under the trees, hauled out for maintenance or cleaning. Large monitor lizards amble through the undergrowth, completely relaxed about all



# LIZARD ISLAND RESEARCH STATION

**:: TEXT AND IMAGES BY SUE FARLEY ©**

Left: The monitor lizards that give Lizard Island its name wander freely around the island





and swimming abilities affect the distribution and site habitat of reef species like wrasse, which will be useful for determining the placing of future marine reserves in coral reef ecosystems.

A major fundraising campaign launched to coincide with the 30th anniversary includes the building of new lab space and equipment, additional aquarium space, improved computer and library facilities and better service areas. With space to accommodate up to 24 working researchers and their assistants at one time there's a need for work facilities to match the demand.

The Lizard Island station has built a reputation over the last 30 years as one of the best coral reef research facilities in the world and is becoming strategically important as similar facilities in the Caribbean and other areas are closed down. It is self-funding, receiving no government funding as such. Commercial groups must pay a full fee to visit and researchers and visiting scientists will generally receive a study grant to cover the costs of their projects. But all capital expenditure for buildings and equipment comes from the Sydney-based Lizard Island Reef Research Foundation.

Bearing in mind the global significance of the work the research station facilitates, it's a key player in providing protection for all coral reef ecosystems – not just along the Great Barrier Reef, but around the world.

Check out [www.lizardisland.net.au](http://www.lizardisland.net.au)

the activity happening on their island, and placid green turtles paddle curiously around the lagoon, oblivious to it all.

Dr Anne Hoggett has been resident co-director on the island for 13 years now with her partner Dr Lyle Vail. Her passion for her work is obvious as she moves around the station during the day. "We have roughly 70 different projects through each year," she explained, "with about 50 percent of those from overseas and the rest from within Australia. Some are one-off projects that might take just one visit for a few weeks, to larger on-going projects. The longest one has now been going for 25 years. A lot of our role is administration and coordination.

"There is a vetting procedure because of the demand for space. The grant process sorts out some applications, our equipment may not be suitable for some, and there also needs to be room available for them to visit at the appropriate time."

Coral reef ecology is a very young science, only made easy since scuba diving became popular in the 1960s. And since it opened

in 1973, the research station has provided scientists and researchers with an excellent venue to study issues relevant to its reef setting. There are other research stations around the Australian coast but because the reef is very narrow at this point Lizard Island provides the perfect opportunity to study a mid-shelf reef environment and is the only one to give access to the whole continental shelf from one residential site. It is also the northern most in Australia and therefore has the warmest waters.

At least 5,000 dives are done from the station each year and there are full dive facilities including refills. Spring and summer are the busiest times, despite the risk of cyclones, because the reef is at its most active at this time, including events like the coral spawning in November. And with coral reef fish stocks around the world becoming so depleted the research done at the station is key to maintaining those stocks on a global scale.

Reproductive strategies in needle coral, the phylogeny of nudibranchs, the orientation to underwater sound by

crustaceans and fish and the effect of stress on damselfish may not seem crucial studies on their own, but taken in the context of the reef as a whole living organism, they're all vital to understanding the ecology of the coral reef. Many of the findings are also exportable knowledge that are relevant to other coral reef ecosystems around the world.

More relevant to recreational divers using the reef are the serious studies being done on the crown-of-thorn starfish infestations, the repeated cycles of coral bleaching and its association with a rise in sea water temperature and the possible invasion by the drupella snail that has already wreaked havoc on parts of the Ningaloo Reef.

And the work goes on. Doctoral fellowships awarded last year included work to be done on the thermal adaptation and evolution of species' borders amongst reef fish, which would estimate the effect that local thermal adaptation has on the gene flow of certain species. Another investigates the extent



Left page: A holding tank at the station with some long-term study material

A worker at the research station shows visiting resort guests the crown-of-thorns starfish, which is studied intently at the station

This page: The research station runs a fleet of sturdy dinghies which are assigned to each visiting researcher or scientist

