



PHOTO: STEVE WILLIAMS

Hunting for **FAUNA TREASURES** *on* **HINCHINBROOK ISLAND**

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EVEN BEFORE the first-ever scientific expedition to the remote and rugged mountain-tops of Hinchinbrook Island got under way, there were rumours of the hidden treasures to be found there.

There had been a sighting by hikers of the rare lemuroid ringtail possum in the rainforest patches that hug the island's sharp-edged cliff faces. For many years, there have also been stories of the yarria, a large shy quoll-like animal thought to inhabit some of the more inaccessible regions of the island.

However, the party of 12 biologists was also hoping to find new or rare species of frogs, lizards, birds, other small vertebrates or plants during their three-week expedition which was supported by the Rainforest Cooperative Research Centre and James Cook University.

Hinchinbrook Island is about 150 kilometres from Townsville in northern Queensland and has towering, largely unexplored mountain-tops. The Great Barrier Reef World Heritage Area lies

offshore, and a narrow channel separates it from the Wet Tropics World Heritage Area on the mainland.

Little is known about the flora and fauna living in the rainforest pockets that surround the many streams running off the tall mountains or in the thick heathland growing on the rocky ridges. More information is needed to help managers understand what conservation measures are required to protect this fragile environment.



AN EASTERN WATER DRAGON, one of the fauna recorded by the research team in their survey of animal life in the Hinchinbrook Island mountaintops.

Lofty Mt Bowen, reaching 1121 metres on Hinchinbrook Island, is one of the highest mountains in Queensland. There is increasing demand for tourism on Hinchinbrook Island, with 2739 people walking the 32 kilometre Thorsborne Trail along the island's east coast in 1999.

Although few walkers venture into the more rugged mountain areas, pressure may increase to upgrade trails in these parts of the island.

GIVEN THE ISOLATION of Hinchinbrook's rugged mountain tops from the mainland, it is likely that genetically-different populations of animals have evolved. Such populations can be particularly vulnerable to changes in their environment.

Dr Steve Williams, a researcher with James Cook University, says that the pockets of rainforest and heathland on top of Hinchinbrook may have survived during the dry climates of the ice ages. The expedition to survey the flora and

THE RARE BLUE BANKSIA (*Banksia plagiocarpa*) was in flower when the expedition visited the island.

fauna of the island's mountains was a dream come true for him.

A helicopter ferried 10 loads of people and gear to the first camp site in the south of the island, amongst the dense heathland with Mt Diamantina towering more than 950 metres over them.

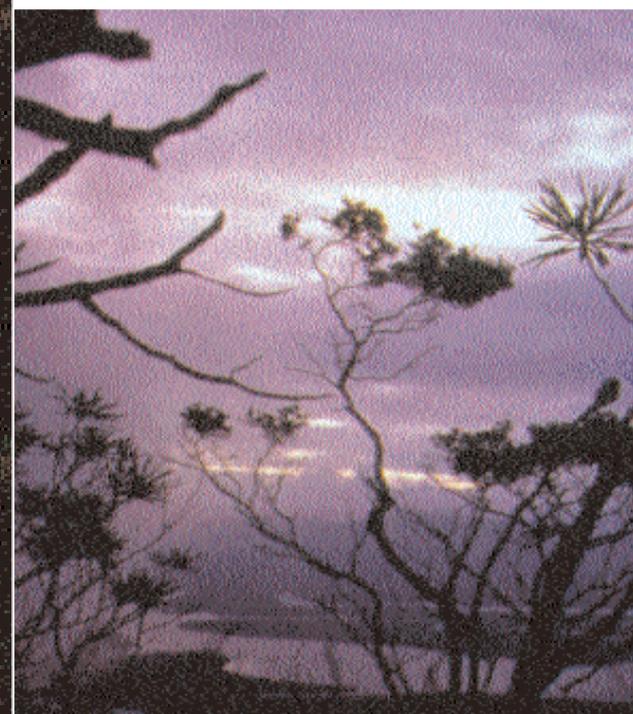
Except for distant glimpses of cane fields on the shore of the mainland, there are no signs of human impact at the campsite - no tracks, boardwalks, signs or toilets - just wilderness. Members of the expedition need to wade through dense sedges and stunted banksias, with dead branches breaking and crumbling in hands and underfoot.

Dan Fitzpatrick, Conservation Officer with the Queensland Parks and Wildlife Service, was with the expedition to ensure minimal and temporary impact from the team's activities. All human waste generated throughout the expedition was removed.

Next morning 240 traps were set up at four sites. The traps were baited with rolled oats mixed with vanilla essence and tinned sardines in oil. Vanilla gives a sweet smell and attracts the small animals, and the sardine oil helps to bind it all together. Once small animals are caught in the traps, their measurements are taken and they are released back into the wild.

Up on the ridges, myriad waterfalls stream off the towering peaks and sheer cliffs into the valleys below. During the morning as the heat built up, the white beaches and aqua waters of

LOOKING DOWN TO THE COAST (left) from Mt Bowen, showing the site of the expedition's camp, while (below) the colours of the sunset can be seen through the banksias.



Zoe Bay far below tantalised the expedition team.

Each day Jeannette Kemp, the botanist on the expedition, was one of the first to be up and about, sampling the vegetation. She had a passion for sorting out the specific patterns in the vegetation. Early on, she thought she had found a rare species of orchid, probably restricted to Hinchinbrook in high-altitude areas, and she was excited by the rare and beautiful blue banksias that were in flower in the heathland vegetation.

WET WEATHER was to dog the expedition throughout its three weeks, resulting in wet tents, sleeping bags and equipment. But this did not stop the biologists from rising at 5am each day to check the traps for animals and continue their sampling of

GUINEA FLOWER in bloom in the heath.



fauna and flora through surveys and evening spotlighting hunts.

Another group ventured up steep mountain sides to pitch camp for two days below Mt Diamantina close to where three waterfalls converge. The six team members returned excited by the scenery they had seen and the extra reptiles and birds they had found. These included a spotted python and some king parrots. Some of the team members on this side trip also climbed to the top of Mt Diamantina.

Dr Williams's project, funded by the Australian Research Council, is looking at

how populations differ with different landscapes and habitats, an important factor for conservation management of such populations. Another project, funded by the Rainforest Cooperative Research Centre, was to look for rare animal species and to check whether there are factors or patterns of factors that determine whether a species of animal is rare or not. This study is important not

EXPEDITION MEMBER, Alex Hutt, checks the low fencing leading into a pitfall trap in the rainforest. Once the measurements of the animals are taken, they are released back into the wild.





HELICOPTER FERRYING the equipment to the new campsite. Helicopters were used to minimise the damage to the environment.

only for conservation of rare species, but also for finding and identifying new or rare species.

When animals are caught, they are measured and weighed. Measurements taken include head width, length from snout to vent, length of hind leg and so on. A small DNA sample is also taken before the animal is released.

AFTER TEN DAYS in the southern highlands of Hinchinbrook, the expeditioners were relocated by helicopter to the north of the island near Mt Bowen to a beautiful site with even more dramatic views across the island. The campsite was less than 50 metres wide, perched precariously on a saddle with steep drop-offs on three sides. Two creeks flow through the rainforest, their rocky banks lined with mosses,

orchids and ferns. Hopes were high for spotting the elusive lemuroid ringtail possum and rare frogs.

It was not long before they heard, caught and sighted animals not seen at the southern site, including a small white-tailed rat. The white-tailed rat is the largest rat known in northern Australia's rainforests and can weigh up to a kilogram. It is thought to be one of the earliest mammals in Australia and is only found in northern Australia and Papua New Guinea. Researcher, Conrad Hoskin, made another exciting discovery. On a late night spotlighting expedition he found a male ornate nursery frog protecting three lots of eggs simultaneously. The ornate nursery frog belongs to the Microhylid family which, though found

ONE OF THE FROGS (*Litoria serrata*) which inhabit the island.





BIOLOGIST Samantha Fox examines a sample taken during the expedition.

worldwide, is largely restricted to the wet tropics in Australia. With this family of frogs, all tadpole development takes place in the large eggs rather than in water pools. The tiny frogs then hatch out of the eggs and move into the forest.

“There have only been a few records of male frogs protecting more than one clutch of eggs at once,” he explains. “This was a particularly exciting find, as not only were there three separate clutches below the frog, but they were at different stages of development.”

It was not long before Dr Williams thought the team had found a new species of lizard. “This small skink looks and acts differently to other similar species,” he explains. “It has a different

shaped head and different body markings to a similar *Lamphropholis* species found on the mainland.

It is possible that some of the other species of animals caught on the expedition may turn out to be new species. Even though they look like mainland species, the value of the animal treasure will only be determined when the hundreds of DNA samples collected on the expedition have been tested. ■

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RESEARCHERS WERE ABLE to enjoy the pleasures of magnificent sunsets viewed from the island.

