MITCHELL-PALMER KARST EXPEDITIONS

By Clive Kavanagh

A CENTRAL QUEENSLAND SPELEOLOGICAL SOCIETY PROJECT

The name "Mitchell-Palmer Karst Expeditions" was chosen by CQSS when applying for funding from the Australian Heritage Commission to continue the exploration of the Mitchell-Palmer karst area. The original application was for three, two-week expeditions over a three year period. Fortunately, this application was successful. Prior to this, members of Central Queensland Speleological Society Inc (CQSS) as well as various other people conducted six trips, all at the individual participant's expense. The Mitchell-Palmer campsite is 1500kms by road from Rockhampton, home base to the CQSS members. Each trip required the expeditions to be completely self-sufficient, carrying everything that may possibly be needed for every eventuality. This meant food, drinking water, fuel, medical, caving and rescue equipment for a full two-week stay had to be transported to the area. The nearest town, Chillagoe, is over one hundred and thirty kilometres to the south-east.

The Australian Heritage Commission's National Estate Grants Program of 1995 had allocated CQSS $13500 over a three year period (1995, 1996, 1997). The Grant was to locate and record sites of the vulnerable Ghost Bat (*macroderma gigas)*, as well as explore and document pristine cave systems, record fossil sites and generally document the area.

How it all started -

Our trips to the Mitchell-Palmer area are a spin-off of the Mt. Etna campaign. CQSS had decided it would have to bring the campaign to a head. In order to do this we had to raise of the importance of the Mt-Etna caves. This was achieved by giving politicians and the media first hand experiences of caving.

For years, every spare movement of our time was spent taking these people on tourist type caving trips. The same caves and the same educational talk over and over. These trips were also used as a cover for some ***not so legal activities*** onto the Mining leases. The Cement Company soon became wise to our activities and photographed our every move. Long after the campaign had ended the company continued to intimidate us, documenting our every move near the Mt. Etna area. We became very tired of this. As a consequence, some members stopped caving altogether. We needed a new area to revive our caving spirit.

At the Tropicon Conference a copy of the Mitchell- Palmer Karst book, which had been just been released by the Chillagoe Caving Club, was purchased. This whet our appetite for a new venture and in June, 1989 CQSS conducted its first expedition to the Mitchell-Palmer area. Fortunately, as it turned out, this reconnoitre of the area did not include families, as, in very sobering form, we learnt of the harshness and unforgiving nature of the area. Winter temperatures consistently sit in the mid-thirties. Frivolously imparted information, by a person "knowledgeable" of the area saw members of the group, after a full days caving, walk sixteen kilometres back to camp on a track "you can do in 10 minutes by car".

In fact, the trip by car, the 16 kilometres took, at best, minimum of 45 minutes. Despite this very timely lesson, we were so taken with what we saw that, in the following eight years we returned to the area nine times.

Tom Robinson has this to say in his introductory comments in the Mitchell-Palmer book:

"*Because of the remoteness of the area exploration will take some time, but the rewards to the adventurous speleologist will be very satisfying The area, we hope, will remain a wilderness, offering the experience and the thrill of isolation resulting from exposure to a natural and often potentially dangerous environment.*"

We have found this to be very true.

Area description

The area is situated to the north-west of Chillagoe in Far North Queensland. It stretches from fifteen kilometers north of the Palmer River to six kilometers south of the Mitchell River, some 100kms in all. The towers are spread over three leasehold properties, Palmerville, Mount Mulgrave and Bellevue and lay in a band approximately 10kms wide with a north-south orientation.

The limestone towers of the Mitchell Palmer area, together with the exposed limestone from Rookwood to Almaden are part of the Chillagoe Formation, an exhumed reef complex.
The Mitchell-Palmer karst area consists of approximately 150 towers of tropical tower karst limestone encompassed in an area of some 1000 square kilometres. These towers vary in size and composition from low to high (approx. 150mts) and from relatively solid to heavily dissected. The caves contained within the towers tend not to develop much below plain level. They generally consist of large interconnected chambers with numerous openings to the surface. Speleothems consist mainly of flowstone, stalagmites, stalactites, rimpools and oolites. As yet, only one cave found has contained helictites.

Ghost Bats

Mist netting of the Ghost Bats at Big Mac Cave resulted in some of the bats having been DNA sampled and ear tagged. From the DNA testing it was determined that the Mitchell-Palmer colony are distinct from Ghost Bats from other sites.

So far, Big Mac Cave has proven to be the largest and most consistently used Ghost Bat site. Several other significant roost sites and numerous feed sites have also been located.

These include, amongst others, Mac's Diner, Bat Mosque and Little Delight, the latter containing fourteen sites within the cave.

Feed site remnants have included Gekko tails, Sugar glider tails and Swiftlets wings. Spasmodic use of sites makes a true assessment of the population of the area very difficult, although sixty-three individuals were observed at Big Mac during one visit. Other bats frequenting the area include *Miniopterus Australis, diadema, semoni* and *Taphazous Georganus* with one cave housing approximately 200-300 of the latter making it a possible maternity site.

Swiftlets

The Northern Grey Swiftlet inhabits various caves in the Mitchell-Palmer area. Once on the wing , these birds must remain in flight, as they are unable to land anywhere except to cling to side of their nest. At one site, there are approximately 100 old nest sites. Large swiftlet guano piles are reasonably common. Their nest sites have been located deep within caves, beyond tight crawls and small entrances.

Flora

Areas on the scree slopes and saddles of the towers, as well as along the creek s of the area contain remnant rainforest vegetation. This is one of only two areas in Australia containing lemon scented iron barks. Black cymbidiums and Cooktown orchids are reasonably common.
Rubber vine tends to be quite prolific along the watercourses.

Fauna

Large native animals are reasonably uncommon at Mitchell-Palmer, seemingly restricted to the occasional kangaroo on the grassy plains, the odd dingo and snake. Rock wallabies are fairly common on the towers. Insect life, particularly in the caves is prolific. Feral animals observed to date have included pigs, cats and of course, cattle and horses.

Fossils

Fossil bearing rocks, collected from the area have been forwarded to Dr. Ralph Molner of the Queensland Museum and Mike Archer at the University of New South Wales.

The Queensland museum has acknowledged the significant contribution to the Museum collections of the samples so far deposited in so far as:

- They include large numbers of fossil bones
- They derive from a region of northern Queensland from which there are relatively few fossils in museum collections
- They represent a substantial cross-section of the terrestrial vertebrate fauna of the region at the time the deposits were laid down, and thus they;
- Have the potential of elucidating climatic and environmental changes in that region over the past several thousand years, in addition to which they also potentially;
- Can illuminate the bio-geographical relationships of the north Australian fauna to that of Papua New Guinea, which was recently (in geological terms), connected by land links to Cape York Peninsula.

Cultural sites:

Aboriginal art and occupation sites are common throughout the Mitchell-Palmer area. These consist of small numbers of prints to galleries containing hundreds of paintings and engravings. A 'spoked' wheel shaped engraving, infilled with coloured ochre was located on one of our earlier expeditions.

Several sites containing fragmented bone, shells and flaked stone tools have also been located. On our most recent trip, what we believe to be a fire stick was found lodged in a crevice at an art site. On the ground, at that particular site was found a large, clear quartz stone. As noted in the journal of the early explorer Ludwig Leichhardt, Aborigines quite often carried with them, clear quartz stones.
We speculate that paintings at Mordor man Cave, thought to be that of flying foxes, may be of Ghost Bats because of the disproportionately large ears

Cape York Peninsula Land Use Strategy (CYPLYS)

The Mitchell-Palmer limestone lays at the southern most boundary of the area being considered for its conservation value on Cape York Peninsula. CYPLUS is a joint initiative of the Queensland and Commonwealth Governments. The Mitchell-Palmer Karst and Palmer River crossing area has natural conservation significance because:

- It contains a diverse and representative tower karst system which has national geological significance;
- It contains fossil deposits and geological features important to understanding past regional climates and environments;
- It is a major habitat of nationally vulnerable Cave Swiftlet *(Collocalia spodiopygia chillagoensis)* and Ghost Bat *(Macroderma gigas)*, and roosting location of another two bats vulnerable or rare in Queensland;
- It is a major habitat of Godman's Rock Wallaby *(petrogale godmani)*, which is endemic to Cape York Peninsula;
- It supports deciduous vine thicket, which is a broad vegetation group rare on Cape York Peninsula, and nationally uncommon, and;
- The Palmer River contains the best exposures of the Palmerville Fault system, a major fault structure in North Queensland.

History of area:

The area is probably most famous for the Palmer River gold rush. Palmerville and Maytown sprang up to cater to the hoards of hopeful miners, both European and Chinese who swarmed onto the diggings. Several books have been written on the area and it's gold, showing the hardships faced by the intrepid hopefuls, not only against the elements, but also the local indigenous population. A "goat track" from Cooktown, through the notorious "Hell's Gate" pass was the original pathway to the riches of the goldfields. Officially thirteen million ounces of gold was extracted, although unofficially, the figure was most likely double this. Gold is still being extracted from the area and many relics of the bygone era remain.
Remnants of the old telegraph route still stand in various locations through out the area. Old decaying timber poles as well as perfectly preserved "Ericcson" cast iron poles, dot the landscape.

In recognition of the enduring work in the preservation of the Ghost Bat colony at Mitchell Palmer, CQSS has been nominated for a "Rolex Award for Enterprise." We received a special mention and were included in the 1996 edition of the Spirit of Enterprise for International Conservation Awards.

From this a French documentary filmmaker, Marathon Productions, approached us. Unfortunately, this led nowhere after we outlined the logistics and enormity of organising and getting to Mitchell Palmer. More recently we were mentioned in the Readers Digest / Taronga Park Zoo Environment Awards.

CQSS anticipates further expeditions to the Mitchell-Palmer, continuing to compile information and formulate a Conservation Plan for the preservation of the limestone towers and what is contained within.

Clive Kavanagh standing on a section of the Mitchell-Palmer Karst

One of Mitchell-Palmer Limestone Towers