

SOUTH WALES CAVING CLUB

BELIZE 2001

REPORT OF THE EXPEDITION TO THE
TOLEDO DISTRICT OF BELIZE, CENTRAL
AMERICA. EASTER 2001



BELIZE 2001

EXPEDITION AIMS

- To take a small party to discover new caves, by completing work started by previous expeditions and by visiting new areas.
- To reconnaissance these areas and assess their potential for a future larger expedition.
- To establish links with the local communities that will support these future trips.

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ABSTRACT

This report is the result of a three-person expedition to Belize, for three weeks during Easter 2001.

Belize, formerly British Honduras, lies on the Caribbean coast, south of Mexico, being a former colony the small population comes from a wide spectrum of racial backgrounds. It is one of the safer and more stable countries in the region. That along with the fact that English is the official language and they are very keen to develop a tourist economy, make it an ideal destination for an expedition.

With a high annual rainfall, falling mainly during the UK's summer months, and limestone covering most of the country make it an area with exceptional potential, it already contains the largest chamber in the western hemisphere.

Belize has undergone systematic exploration, by cavers from many nationalities, American cavers have been visiting since the 1950's, but there is still plenty of potential.

To avoid repeating exploration we concentrated on the southern district of Toledo, which required far more travelling to reach, than some of the other limestone areas.

During the expedition we stayed with the local Mayan Indians, also using their knowledge of the local jungle to find holes.

Many small caves were located, and several hundred metres of cave were surveyed, at least five sumps were located and towards the end a massive system was entered. This later proved to have been already explored, though not to conclusion. The contacts we made, leads left unexplored and information about further caves will support a larger future expedition.

FOREWORD

It was during a trip down Ogof Daren Cilau in South Wales that this expedition was conceived. Whilst negotiating this series of tight wet and cold passages a yearning for something better caused the suggestion of Belize, the thought of warm and massive caving made the rest of the crawl almost bearable. Once inside we lunched on our demolished, wet and gritty pasties then escape from this horror became a priority.

BELIZE THE COUNTRY AND ITS CAVES

Belize, until 1974 known as British Honduras, is a small country about 280km long and 110km wide it is a similar size to Wales. Lying on the Caribbean coast of Central America, with Mexico to the north and Guatemala to the south and west.

Belize is a relatively low-lying country with a coastline of small cayes and the second largest coral reef in the world. To the north the country is flat as it extends to join the Yucatan of Mexico.

In the centre of the country lies a granite massif, Victoria peak being the highest point at 1120m, formed before the surrounding Cretaceous limestone. Then being responsible for the surrounding uplift, which has formed the Mayan Mountains where the main cave development is located. This mass of limestone along with the large rainfall, which occurs during the wet season, allows for a huge potential for cave development. Unlike the Yucatan peninsula that has received attention in recent years, the landscape leaves potential for dry cave development. In fact it already contains the largest cave chamber in the Western Hemisphere Belize Chamber, in Chiquibal Cave.

Prior exploration;

With geology like this it is well known as a caving destination, the Americans have been active there since the '50's and there have been several UK expeditions. Including two by Queen Mary College in '88 and '89 and one by Mendip caving Group in '94.

I had also visited the country in '97, with the view to a future-caving trip.

MAPS



 NATIONAL GEOGRAPHIC 
XPEDITIONS
www.nationalgeographic.com/xpeditions

PLANNING AND PREPARATION

From the previous trip to Belize I was aware that the dry season ran through the winter in the UK until late April, so a trip to coincide with Easter seemed best. Due to having to fit with holidays from work and college, it could only be three weeks in duration.

For ease of planning and due to their greater efficiency a party size of about six was desirable, allowing two teams for safety. It was not difficult to find members.

With 9 months to prepare, we started our research, initially on the Internet, where we came across details of Queen Mary's College expeditions of '88 and '89. Later acquiring a copy their expedition report 'Below Belize' as well as the Mendip Caving Group report of '94.

Contact with Nick Williams, leader of the QMC proved very helpful, with advice and information as well as gaining us access to the information in the Wessex CC library, the maps here proved invaluable in our planning.

He advised us to contact the Belize dept of Archaeology, who control access to the countries caves, due to their previous Mayan usage, and whose permission is necessary to undertake any cave exploration within the country.

Phone contact led to requests in writing, which were sent by letter, fax and email but with no responses as the months ticked by.

During this period time was being spent trying to find details of more recent expeditions, the best that we had being 5 years past. Very little was forthcoming, the Internet only giving details of tourist excursions or archaeological digs, little by cavers.

Expedition area;

From our research, it became apparent that many groups had focused their attention around the Vaca Plateau, where the greatest systems had been found. This basin in the surrounding Mountains was an obvious choice, but to avoid repeating work we decided to travel further south into the Toledo district which, having poorer links to the rest of the country would have received less exploration.

It was thanks to Dudley Thorpe, of Dragon Caving Gear, who had heard of the recent return of an Irish caving team and arranged contact.

This proved extremely fruitful, having returned from a similar lightweight expedition, where several caves had been located and explored, but having no SRT equipment shafts had to be left unexplored.

Within a couple of emails, we had an area of cave to visit, containing going leads, local guides, accommodation and a fixer to represent us to the Dept. of Archaeology, just in time for the grant applications.

Though unfortunately the foot and mouth crisis, forced three members of the team to withdraw and at this stage it was impossible to find replacements. On the 9th of April 2001, three cavers set out from Heathrow, to Miami on the first leg of the journey to Belize.

FIELD AREA 1, SAN JOSE.

Toledo district is in the south of Belize, connected by the Southern highway from Belmopan to Punta Gorda (PG) the district town, on the coast. The highway passed through some awesome Karst features between Belmopan and Dangriga Cave branch area. After Dangriga we left the “made” highway though there is a large road-building project underway to connect Toledo to the rest of the country.

San Jose is a small village, surrounded by several smaller satellite settlements, based around a river, though the community has recently been equipped with hand pumps. Consisting of several churches and a primary school, the only concrete buildings, the rest being wooden huts roofed with palm leaves.



The inhabitants were Mayan Indians, with their own language, but also fluent in English and many in Spanish as well. Agriculture was the basis of the economy, with families using small fields in the jungle to grow beans and maize, the staple foods, with Cacao being grown as a cash crop. Tourism is also being seen as a new source of income and many are seeking work as guides.

EXPEDITION LOG

10th April day 0

Travelling

Extremely hot dash to cold air-con Bank , unable to buy detailed maps of the south in the land registry here, instead bought large-scale maps, eventually, then waited ten minutes while computer produced receipt.

Travelled down country, by bus, awesome cave scenery, did best to buy maps during brief stop in Belmopan, though computerisation made missing the next leg of the journey likely, so this was abandoned.

Arrived in PG after a long day where the conductor directed us to nice seaside hotel, a good rest was enjoyed until wind stopped and mossies appeared.

11th April day 1

Acclimatisation

We met our guide, Alfredo Sho, in the busy market in PG, before boarding a very popular market bus, to get our bones shaken for several more hours, to San Jose.

Here we set our base up in a hut owned by Alfredo, during the afternoon we went on a short walk to some local waterfalls to help us acclimatise, where small caves were observed and swimming to cool off was undertaken.

12th April day 2

Gibnut Cave

Left the village at 7am, guided by Alfredo, extremely hot, the four-hour walk took one and a half, carrying personal kit, one SRT kit and 24m rope.

A team of Irish cavers had previously explored the cave, but lacking their survey, it was re-surveyed to a large chamber where two pitches were located as well as large quantities of Mayan pottery. Photographs were taken as we exited the cave to collect the rope.

AB attempted to descend the first pitch, which proved very muddy and too long for the rope, even with every bit of sling tied onto the rope, could only see large passage going into distance.

Length 420m

The second pitch proved shorter and was descended by AB as well as PW, the SRT kit being hauled back up the rope between times.

Another large passage had been entered, approximately 15m wide, this led to a loose looking climb and in the other direction a pitch as well as a lot of mud.

Depth 20m

PW ascended first leaving AB to contemplate future as when SRT kit was lowered it became caught on ledge well out reach.

Exited cave eventually and returned to village shortly before dusk.

13th April day 3
(Friday)

Gibnut Cave

Returned, again guided by Alfredo, now with 46m of rope and SRT kits.

Investigated some small crags seen on the previous day. Though obvious lead, 'Tourist cave' proved only an overhang, other small holes were explored.

Once in Gibnut PF, PW and AB dropped the first shaft, 40m deep. A large chamber was entered. One dry inlet was surveyed for some distance containing fine formations; another small opening was inaccessible.

Opposite this, a pool was encountered, which AB went through, very pleasant, with about 5cm air space to gain more dry passage that terminated, but the sound of running water was audible, though there was no flow in the shallow pool.

Length 180m Depth 40m

14th April day 4

Rest day, though in the afternoon, we again visited the waterfalls, pursuing small leads that soon terminated, in this small exposed rock band. Encountered limestone pavement of a massive scale, though no cave was apparent, only large freshwater crabs.

Many small stream resurgences totalling 10m

15th April day 5

Gibnut Cave

Further investigation of crags over Gibnut cave, no cave or sign of openings seen from inside were found.

AB and PW re-descended the second pitch, surveyed up to large brittle climb that was passed on the LHS and was surveyed to conclusion up large well-formed passage. A large chamber filled with bats and really thick mud was surveyed and the short pitch leaving this descended to muddy conclusion.

Length 260m Depth 5m

PF had been off with Alfredo to look at other sites, further into the jungle including Big Sink a large shake-hole, with sides from 50 to 200ft in depth. This we did not fully explore due to the probability of it being choked with debris.

Other holes had been found in the bottom of the valley, approx. SSW of Gibnut were investigated; though soon terminated by flood debris.

Acton Baby was entered, by way of an awkward boulder squeeze in a small Swallet, leading to a large bedding chamber, no way on was found.

Length 70m

All equipment was carried back to San Jose.

SUMMARY OF FIELD AREA 1

Our time in San Jose proved successful, with previous expedition's work being followed up and Gibnut cave being extended by nearly 900m with pitches totalling 65m. New caves were entered and explored, though it proved impossible, due to the jungle, to get any GPS location.

Our time in this area was shortened by the unexpected expense, the charges made by Alfredo having trebled since he guided the Irish and a large portion of the budget went on these few days.

It was also apparent that he had no interest in becoming a caver as we had been led to believe, though we believe his interests lay more in profit.

This limited us, as we couldn't afford to travel further into the jungle to other sites, as he would not take us without an assistant.

By staying in his hut, it made it difficult not to be guided by him, even when not necessary and did not allow us to take on other guides from the village who knew of caves.

There is still plenty of potential in the area for future trips, including many interesting outcrops that we saw. The shopkeeper spoke of particularly interesting caves containing 2m high pottery, a days walk into the jungle.



FIELD AREA 2 SAN PEDRO, COLUMBIA.

San Pedro still lies on the Columbia River within the Toledo district, much closer to Punta Gorda.

Here the inhabitants seem less reliant on agriculture, with more small shops and bars as well as a mixture of concrete and wooden houses. Water was available from taps on every plot and there were more trucks and cars, though most families still had some farmland and many still hunt.

16th April day 6 Relocation

After leaving San Jose, once relieved of our dollars by Alfredo, on the 5am bus (only one a day.) We were in PG for breakfast to try to relocate, our contact, Phillip Miller being less than helpful with this problem. After studying maps we identified a line of sinks and resurgence in the hills behind San Pedro.

With nothing to lose AB and PW caught the next bus going in the direction, having left more equipment at the guesthouse in PG where Pete was staying on.

After only 45mins on the bus and hitching we had arrived, using previous experience of shopkeepers having all local knowledge we asked one for a guesthouse, within minutes we were staying in his house.

Attempted to follow the river to its source, though dense jungle forced us away from the banks and across farmland.

17th April day 7 Source of the Columbia

After speaking to the Choco family we discovered a better route to the cave and were accompanied by one of the sons, who was extremely interested in the caves, having only heard legends.

The source of the Columbia proved to be a series of resurgences, the main one we gained access to by a hole in an air-bell, but this led to an immediate sump.

We continued up the dry riverbed, seeking dry resurgences, but the large boulders made location difficult and eventually the heat forced us to retreat after an hour, up two dry branches.



18th April day 8

Rest Day

Visited the local Mayan ruins at Lubaantum, not impressive on the scale of Tikal or other large sites but a nice location (also the place that a crystal skull was found.) Due to the close links between the Maya and caves we thought it might provide other leads.

The curator knew of local myths of a cave on the site but nothing definite, instead warning us about the gorillas that guard the holy caves deep in the jungle. Particularly of the female who will occasionally drag men back to these caves to become her mate, possibly our best chance of discovering cave.



19th April day 9

Jungle day

Travelled into the jungle with Ansalmo, a relative of our host and also a hunter, he guided us out to an area he regularly hunts to look at several locations.

Cave 1, Phil was almost attacked by a giant Gibnut, a large harmless rodent; unfortunately our hunter couldn't get hold of it, so no meat for dinner. No leads to pursue.

Length 45m Depth 7m

Cave 2, Tight phreatic tube, containing two very large hairy spiders that didn't move when approached; as they didn't retreat we had to, leaving the cave for braver explorers.

Length 4m (till spiders)

Cave 3, 15m passage straight into hillside before closing down

Length 15m

As well as several smaller sites and rock shelters

Cave 4, 'Man that a big hole, that make my leg tremble,' the guides words on showing us a huge shaft in the jungle, unable to see down but rocks taking 4 to 5 seconds to reach the bottom.

Returned to village needing a rope, the guide still thought there was another shaft that he had been unable to find that day.

Depth unknown

20th April day 10

Jungle shaft

Returned to the shaft, route finding not too difficult, not deep in the jungle but a lot of farmland lying fallow to cross, where we managed to get a GPS position, approx. three hours from the village.

A great sense of dread, as we rigged off several handy trees, ignoring rub points, then both descended the 50m shaft, similar to Jangling pot in the Dales, but more Iguanas at the bottom.

As we followed the cave down there was evidence of massive flooding, past some fine flowstone, to a hole with water beneath. A further 5m abseil led to a dark ominous sump with no dry routes, surveyed out, some possible passage high up the shaft, but a huge distance to traverse to access.

Long, hot walk home.

Length 50m+ Depth 70m



21st April day 11

Rest day

22nd April day 12

San Miguel

Speaking to locals, heard of Tiger cave, described as being huge, decided to investigate. Walked to the next village of San Pedro where we followed the Rio Grande up. At one point losing the river and crossing to a different valley, though still excellent cave landscape.

Once back on track we passed a small **resurgence**, on the right bank of the river, it obviously had a massive flow during wet season, but at this stage looked like it would go some distance to dry cavers.

Continuing got us to paradise, a blue lagoon, where the Rio Grande appeared in huge quantities. On the opposite side to the resurgences was a large dry cave **Bat cave**, a multi-layered cavern with several deep pools. This was explored and an attempt was made to traverse a deep pool, though this was abandoned as climbing became dangerous. We exited, intending to return to the pool.

With this still not fitting the description of Tiger cave we continued up the dry riverbed of the Rio Grande, into a canyon, several small caves were entered high on the right cliff.

AB continued for about half a km through excellent cave landscape, before turning back, a narrow gorge on the left side led to a huge entrance, Tiger cave.

Dumping rucksacks we set off along passage 30m across and 70m high, occasionally passing under huge windows to the jungle above, it was clearly well known by locals, but we could not be sure whether it had received attention by cavers.

Areas within the cave appeared to have had steps carved into it, particularly the entrance and later on a wide bridge across the passage, on which we found small quantities of pottery.

The initial exploration was brought to a sudden halt as, under a skylight, Phil nearly stood on a large black snake. Our attempt to drive it off with stones failed to get a response so we edged past it, continuing along further massive passages.

Turning back in time to return to the village before night, we were unhappy to find the nearly dead snake had relocated, in the very bouldery section of passage. Now unseen with several poorly aimed stones probably not improving its mood after falling down a cave, we were extremely nervous, Phil made me go first.

An encounter with a Cougar on the trail made us very glad to get back to the hut with its horde of children.

23rd April day 13

Tiger Cave

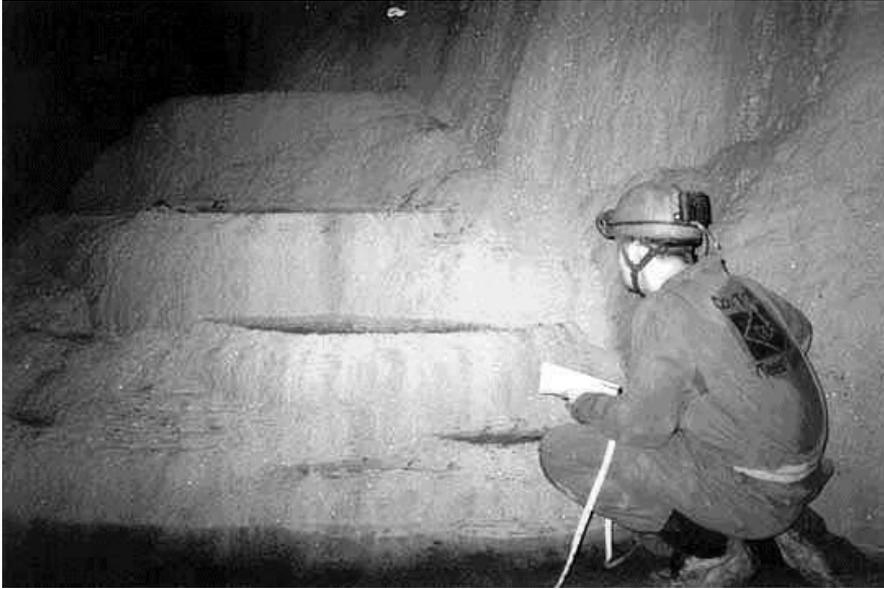
It had been decided that if we were to survey this system we had best locate there, so saving 4-5 hours of walking a day, and the large dry passage looked very inviting.

A GPS position was obtained by standing in the middle of the lagoon with the device held high, very carefully as it was on loan.

The cave was re-entered and surveyed from the camp, established in the entrance, next to piles of broken Mayan pottery. The winding mechanism on our tape measure soon broke, but as each leg was using the full extent this was not a serious problem only occasional spaghetti situations. An extensive lake series was found on the right, but was not entered. The snake, back to its original location was carefully negotiated.

Attempts to use the GPS by some of the other jungle entrances failed.

The surveying continued along colossal passage until in a smaller section a rope was encountered; it had been explored before, no markings on the rope to indicate the owners.



This was used to ascend an awkward climb, though we stopped surveying here, we continued on into more large passage containing Gibnut footprints, indicating more entrances?
Returned to camp after 6 hours, past the snake hiding in ambush again, to see a scorpion run out of Phil's trousers.

Enjoying the peace of no children, we were disturbed as we found ourselves on the main bat flight-path, which due to sleeping upside down dump unwanted material on takeoff or before landing. Forced to get into sleeping bags, which despite being too hot, prevented a total covering.



24th April day 14

Tiger Cave

Fairly unwell, due either to the bat wee bombardment or the quantities of dried fruit eaten, decided not to swim lakes. Instead returned to the rope, to continue our survey, which went down not such massive passage but nicely decorated, until an area apparently more prone to flooding. Here we found a sump that contained a blind white catfish, indicating an extensive underwater section. Our exploration though not completed had to be ended here to allow return to the village.

In all we estimate we spent about 20 hours of caving and surveyed about 2.5 km of passage here.

Summary of Field area 2

Our time in this area was very successful; we formed good links with the community who we found to be very friendly and accommodating. Though being involved in the family life of the large extended families did become tiring, but the river was a fine place to escape and cool off.

Being with the family did prove to be an excellent source of information and local contacts.

With regards to caving, the area produced some excellent finds, though disappointingly many turned out to be diving projects, but need further investigation. Bat cave only received a brief investigation and was left incomplete. Tiger cave, though evidently well known to locals, had been visited by cavers in the past, though we continued, surveying all we possibly could in the time available, leaving a lot of potential for extension.

Speaking to the locals bigger caves, containing rivers, were described further into the jungle and the family we stayed with spoke of a cave by their farm which produced a cold breeze in the evening. They also told us of a remote area further south, where they have family, which contains more deep shafts and caves.

The San Pedro area will support many future trips, including diving trips, with possible reconnaissance trips to the south. Access to some of the river caves visited would be aided by the use of canoes that could be obtained in the villages and paddled up, particularly useful to those requiring heavy equipment.

On our return, we were contacted, by Peter Bosted and Bernie Szukalski, from the US, who had been heavily involved with the exploration of Tiger cave and others caves in the area during the mid 80's.

It will be their surveys that we will include, hampered by high water levels there are still many areas of these caves visited by neither party.

They have also told us of other local sites of speleological interest, but we do not have all the details of these yet.

ADMINISTRATION AND LOGISTICS

Research

For general information the backpacker guides, Rough Guide, Lonely Planet, etc proved adequate. For caving information we started on caving WebPages, which led us to Nick Williams of QMC '88 and '89 as well as members of the '95 MCG expedition. The reports of these trips and in particular assistance from Nick were invaluable.

The Wessex CC gave us access to their library to view detailed maps, aiding our planning, though it proved impossible to obtain these maps, ourselves, until actually in Belize.

PERMISSION

No visas are required for Belize, but due to the Mayan use of the caves the Dept of Archaeology controls access. As advised by Nick we first made contact nine months before leaving, though received no response to many attempts at communication. Eventually when we made contacts in the field they said they would arrange the necessary permission, though shortly before the trip they responded saying none was necessary. We are now unsure whether we were represented at all, though had we made archaeological discoveries we would not have informed the guides before the Dept. In future we plan to write and follow this up with an in person meeting with the archaeologists on arrival.

Fund-raising

We applied to both Ghar Parau and the Welsh Sport Council, though with a large number of English expeditions taking place that year we eventually withdrew our Ghar Parau application, receiving a substantial grant from the WSC.

Finances

The individuals funded the expedition in the field, with the grant being held in an account to meet any large unplanned expenses. This was then distributed to the members on return.

Travel

Flights to Belize proved surprisingly cheap, though the cost went up due to our Easter visit and having to fly via Miami, they did also book up very early. With 50kg of luggage plus huge amounts of hand luggage permitted per person, there was no need to arrange shipping; we used less than one person's allowance between two.

Once in the country there is an excellent network of buses, mainly old American school buses, which will transport you very cheaply. These though are in position to serve the locals, so the only bus will often leave remote villages before dawn to reach markets.

Hitching is a good alternative, though in some of the poorer and remote communities we saw no private vehicles.

Car hire is available, but the roads looked very difficult.

Insurance

BCRA insurance was purchased, though much of this cost was for cave rescue, which we were unsure as to its usefulness in our locations.

Medical

Details of necessary jabs were obtained from GP's, the cost varying from surgery to surgery; the largest expense was to cover for Rabies and required a month to work.

Anti-malarial drugs were obtained from chemists and were surprisingly cheap.

In the field there were minor stomach complaints, many mossaie bites, some sunburn and some unpleasant chaffing, afflicting Phil.

The terrain though not extreme, proved very wearing alongside the heat, and necessitated more rest days than predicted. It also led to the early retirement of our photographer, who felt he could not safely continue.

Rescue

We have been advised to contact Ian Anderson at Jungle Lodge Tours, as a caver he is best prepared to arrange a rescue, though he is a commercial tour operator, he will keep an eye on local situations.

Equipment caving

Hardware; we took SRT kits, as our reading indicated that many caves in the area had some vertical elements, as well as three ropes 2 of 25m and one of 50m. We had a bolting kit, but due to the heat and plentiful naturals this was not used, rub points were tolerated.

Light; due to the remote nature of the destination, we decided against electric lights, we were unable to arrange a source of Carbide from the UK. So all used LED systems, 7 central with one as backup, these proved excellent both in the caves and also at our camps, with plentiful life in the 4.5v batteries. We did find them lacking in big passage where we used a 'Q' divers light to investigate distant openings.

Personal; cotton overalls were used, but still proved very hot.

Survey; was carried out using compass and clinometer both from Suunto, recorded in waterproof notebooks, particularly useful with the sweat. An exercise book was used in Tiger cave owing to the large quantities of data to record and its dry nature.

Equipment Field

GPS proved troublesome with the canopy, and we had to get positions whenever possible and estimate the position of the entrance about this.

We had basic camping equipment, though this was not necessary in our village accommodation, our lightweight sleeping bags were far too warm and BA blankets, borrowed on the flight over were far more suitable. We had heard that Coleman fuel was available, but it was only in liquid form, no good for our gas burner.

Photography

Expedition photographs were taken using a Nikon SLR with 35-70mm 70-210mm and 28mm lenses. For underground work the 28mm lens was used and the camera transported in a waterproof container. Off the camera, bulb flashguns were used with each photo being bracketed for correct exposure. Photography and surveying were undertaken alongside each other

Accommodation and Food

Initially in San Jose we were staying in a guest hut for 15bz pp in addition to this food was available at 6bz. Initially thinking this was per day, it later became apparent that it was per meal, a lot in Belize, especially for tortillas with beans or an egg.

In San Pedro we stayed in a house share scheme, 10bz, meals here were 4bz, we only took an evening meal, buying breakfast and lunch from the store, for 1bz and allowing, more independence.

The house share was cheaper, but we had to share our accommodation with the family's children and animals, up to a dozen, so the quality of sleep was not so good, particularly as the host bought a TV and the hut. Became a busy community centre.

Guiding

With many of the locals farming or hunting, there is a vast pool of information available. We had little difficulty arranging this, and it gave us the freedom to follow the most promising sounding leads rather than the organised guide's normal itinerary. From our experience this also worked out cheaper.

CONCLUSION

SUMMARY

In all the expedition can be considered a success 14 sites were located and explored over 14 days by 2 to 3 cavers, hundreds of metres of new cave passage were surveyed.

We also have gained important experience in organising expeditions and demonstrated how effective a small team could be.

The contacts that we have established will prove invaluable in supporting future years work.

FUTURE WORK

There is a huge amount of potential in both of the areas we visited, many locals knew of bigger, better caves, or holes that breezes blew out of, both in these areas and in completely new areas.

Of our own finds, we did not complete the exploration of Bat cave or Tiger cave was also left incomplete by the '80's American team. There are at least five sites of enormous potential, which require the attention of divers.

Having proven the effectiveness of a small party, we are planning to return over Easter 2002, with a slightly larger team, to allow a safety, backup element and also enable more rest days. Though this team will still be limited in size so that we could still be supported and aided by the local communities.

ACKNOWLEDGEMENTS

Nick Williams, for a lot of advice and information allowing us to get started.

Julie Hesketh, for information concerning the '94 expedition

Gary Evans, for proof reading and correcting a lot of the drivel I have written.

Dudley Thorpe, for providing advice and contacts.

Patrick O'Donnell, for providing advice and information about the current situation in Belize and allowing us to continue their work.

For the financial assistance received through the **Welsh Sport Council** with the assistance of the **Ghar Parau** Foundation.

The Choco family, San Pedro. For accommodating us, advising and allowing Phil's snoring to interrupt their TV viewing

Also to **Bernard Szukalski, Peter Bosted** and **Percy Docherty** for providing information regarding the explorations undertaken around Tiger cave, by their US teams and allowing us to use their material.

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Large scale local maps
Military Survey UK, MoD
Series E755 (dos 4499) Sheet 38 San Pedro
Series E755 (dos 4499) Sheet 37 San Jose

Sources; Belize given in addresses,
UK, Edward Stamford ltd of London
OS Southampton

GLOSSARY

Caye: low-lying coral island

Gibnut: a rodent about the size of a cat, commonly shelters in caves, popular for its meat, so many hunters know the location of cave and many caves are known as Gibnut hole/cave etc.

Karst: a geological term for areas of limestone containing caves.

PG Punta Gorda, the main town in the southern Toledo district.

Phreatic: cave passage caused by water under pressure, often circular.

Pitch: vertical section of cave normally requiring ladders or abseils.

Resurgence: place where water reappears from a cave system onto the surface.

Shake hole: a surface depression formed by the collapse of cave chambers below.

Sink: place where water leaves the surface and enters a cave system.

Speleology: the study of caves and caving.

SRT: single rope techniques, the means by ascending or descending using a single piece of rope and jamming devices.

Sump: an area of cave passage that is completely filled with water.

Swallet: same as sink.

ADDITIONAL INFORMATION

Currency; Bz Belizean dollars, linked to the US dollar 2bz=1US for the purpose of the expedition we worked on 3bz=£1

Capital; Belmopan, though Belize City is still far larger and the site of the international airport, Belmopan is the location of the government and its agencies.

Climate; Wet and dry seasons, though not reliable, it is generally dry from February till April, but this is less likely in the highlands.

Temperatures can vary from a high of over 40degC to 10degC in a day.

Communications; Most villages are equipped with a phone, where it is possible to make national calls, longer distance calls could be made from main towns, many offering email.