

WARNING

**The information contained therein is
outdated as per year 2009**

**This makes good reading material however do
not rely on it for orientation purposes**

Contents

SUMMARY	4
INTRODUCTION & ACKNOWLEDGEMENTS	5
1. Bukit Teraja to Rampayoh waterfall	6
General	6
Route description	6
Bukit Teraja - Sungai Rampayoh	6
Sungai Rampayoh - Bukit Teraja	7
2. The Marudi Log Walk	8
General	8
Route Description	8
Timing	11
Transport in Marudi	11
Accommodation in Marudi	11
Marudi Highlights	12
Clothing	12
Other Things to Take	13
The "Health Warning"	13
List of Waypoints	14
3. Ulu Belait to Mulu	15
Introduction	15
Route Description	15
List Of Way Points	17
General	18
Safety and Security	19
Postscript	19
4. Ascent of Gunung Mulu	20
Introduction	20
Route Description	20
List of Waypoints	21
General	22
5. The Kubaan Trail	24
General	24
Route Description	24
List of Waypoints (join at waypoint 4 if starting from Limbang)	27
Equipment	28
Planning the Trip	28
Jungle Driving	29
Permits	29
Around Bario	30
6. Bario- Murud- Bakelalan and Gunung Murud	31
General	31
Route description	32
Bario-Murud-Bakelalan	32
Bario-Murud-Bario	34
The varied mountain terrain	35
7. The Ascent of Batu Lawi	37
Introduction	37
Route Description	37
List of Waypoints	41
Planning the Trip	43
Permits	43
Climbing the Main Peak	43

Geology	44
Access from the Logging Concessions / Kubaan Trail	44
8. Ascent of Gunung Trusmadi	45
Introduction	45
Route Description	45
Equipment	46
Guides/Porters	47
Photography	47
General	47
List of Waypoints	48
9. Mount Kinabalu Summit Trail	49
General	49
Route Description	49
Accommodation on the Mountain	51
Clothing	51
Other Things to Remember	51
10. Jungle Driving; 4WD Trips along the logging roads of Sarawak	52
Introduction	52
The Logging Roads	52
Route Descriptions (refer to the "pace notes" attached)	53
Limbang to Long Seridan and Mulu or Sungai Baram	53
Limbang to the Kubaan Trail (Trekking Route to Bario)	54
Miri to Long San, Sungai Baram Bridge & the Dulit Mountains	55
The Route Around Brunei	55
Jungle Driving	56
How to Ford a River	56
Dealing with Mud and Slippery Roads	57
Deeply Eroded or Rocky Sections	58
Equipment	58
The Loggers	59
Permits	59
Equipment List for 4WD Jungle Expeditions	60
Pace Notes	62
Further Reading	66
Useful Addresses	67
Appendix 1 Equipment List for jungle trips	68

SUMMARY

1. **Bukit Teraja to Rampayoh waterfall**

A more serious day walk in the Labi area. This is probably one of the easiest ways of experiencing the jungle in Brunei without moving too far from civilisation.

2. **Marudi Log walk**

These notes are intended to assist anyone making the Labi/Marudi/Asam Paya/Rasau round trip for the first time. They not only contain details of the walk but also information on transport and accommodation booking.

3. **Ulu Belait to Mulu**

A three day journey from Kg Sungai Mau on the Labi Road to Mulu National Park. It comprises a river journey to the Ingai Hot Springs, on a tributary of the Belait, followed by a two day walk through virgin rain forest in the far south of Brunei to cross the border escarpment into Sarawak. This was a completely self contained expedition.

4. **Ascent of Gunung Mulu**

A tough three to four day trek via the tourist trail. The round trip is some 45 kilometres with a total ascent of 2500 meters. Overnight accommodation is in simple wooden shelters.

5. **The Kubaan Trail**

Logging roads now link Limbang with one of the traditional overland trading routes into the isolated Kelabit Highlands and Bario. These notes provide detailed directions along the logging roads and then describe the 22 kilometre walk, following Sungai Kubaan and its tributaries, into Bario. The walk is strenuous but, with an early start, may just be completed in a single long day. Alternatively, camp out and spend more time enjoying the unspoilt jungle along this beautiful isolated river valley.

6. **Bario-Murud-Bakelalan**

One of the best jungle trekking tours in the Kelabit Highlands. From Bareo up to Mount Murud and on towards Bakelalan. Gunung Murud, 2,423 m, the highest mountain in Sarawak.. The summit ridge is superficially similar to that of other high Borneo mountains such as Trusmadi and Mulu. However, on Murud the mountain flora is particularly impressive. There is a tremendous profusion of orchids, pitcher plants, mosses and other plants. This display is at a peak during the orchid flowering season around September.

7. **Ascent of Batu Lawi**

Batu Lawi is one of the most distinctive mountains in Borneo. For centuries it has been of religious significance to the Kelabit people and, more recently, it became the site of Tom Harrison's memorial to those lost in Borneo during the Second World War. The ascent from Bario involves a 45km, four day, round trip through pristine jungle, sleeping in huts or shelters.

8. **Ascent of Gunung Trusmadi**

A two day round trip to climb Sabah, and Malaysia's, second highest peak. Logging road access now makes this a relatively easy trek with a total distance of only some twelve kilometres walking and an ascent of just over 1000 meters. The overnight camp on the summit offers spectacular dusk and dawn views of Kinabalu. Our group was guided by a KK travel agency, however, a subsequent party has used these notes to locate porters and make an independent trip at a fraction of the cost.

9. **Kinabalu Summit Trail**

Some basic information for those making the popular weekend trip to climb Gunung Kinabalu via the Tourist Trail.

10. **Jungle Driving**

Logging in the interior of Sarawak has opened up vast areas for four wheel driving expeditions. These notes give general advice on off road driving and contain detailed directions for over 1000 kilometres of trips, including Limbang to Mulu and Miri to Ulu Baram and the Dulit Mountains.

INTRODUCTION & ACKNOWLEDGEMENTS

The first trail notes were written following the walk from Ulu Belait to Mulu. This was, to our knowledge, the first time that anyone had made such a trip and we wanted to make a record so that we or others could repeat the journey at a later date. A few months after this, a group of us were climbing Gunung Mulu when the need trail notes, even for this established tourist route, became apparent. We had no idea of the distance between camps or the type of terrain ahead. Our guides and porters (obviously hoping for an earlier return home) almost persuaded one of our party to turn back when the most difficult part of the ascent had been completed and two people did not even attempt the climb to the summit the following day. They were misled by incorrect distance markers into believing that a six kilometre hike lay ahead whilst the remainder of us completed this last scramble in an hour and a half.

Following the two Mulu trips, notes were written for all the jungle expeditions to help as many people as possible enjoy the fantastic scenery that still exists in this part of Borneo. We now have a unique opportunity to experience the jungle while road and air access to the interior is improving but before large scale tourism or industrial development change the character of the land and it's people. A flight over the jungle can, however, be very depressing as it highlights that only a few unspoilt areas remain. A combination of greedy logging companies and ill-conceived government projects is putting increasing pressure on areas that have supported wildlife and native peoples for thousands of years. It will only be by pressure from people who have experienced the beauty of the interior, and who therefore know what is at stake, that improvements may be made.

Whilst many of the notes have been used and validated on subsequent trips several have not. Jungle trails and logging roads frequently change and advice should always be sought from local people or those who have made the journeys most recently. Please help us to keep these notes up to date by passing any corrections or suggestions for improvements to the Panaga Natural History Society who will take care of any amendments here in Brunei. I would also be grateful to hear any feedback via Shell international E mail (I will be based in Oman with effect from March 1996).

I am very grateful to all those who have read draft copies of these trail notes and provided valuable input. These include Seamus Breeze and Steve & Jackie Allinson who accompanied me on many of the trips. A special mention should also be given to Wouter van den Brink for his help with the Jungle Driving section. It was Wouter who introduced me to off road driving and took the first pace notes for the logging roads South of Limbang that now lead to Mulu and the Kubaan trail. Finally a huge thank you to Nick Kirby who has spent many evenings and weekends preparing a set of very professional maps and, together with Jack Verouden, gave lots of advice when Edwin Punselie and I were planning the walk to Mulu.

Graham Henley, February 1996

This is a first version of "jungle trips in and around Brunei". The PNHS has taken Graham Henley notes as a base work and is adjusting and adding information as things change with time and as more information becomes available. Additional material has been written by Peter Thomas, Julian Masters, Samson Palabalaba, Jacqueline Henrot, and Peter Engbers. The A4 Maps in this booklet are adapted by Nick Kirby from his original A3 colour maps. Please help us to make these notes more complete and to keep these notes up to date by passing any additions or corrections to the Panaga Natural History Society.

Note that most of these trips are more serious and require serious preparation and knowledge of orientation and jungle survival, certainly when done without local guides. A few of the trips require the use of local guides as it is either obligatory (Mulu, Kinabalu) or as it would be very difficult to find your own way (Batu Lawi, Murud). We hope that you will have a lot of exciting time exploring the remaining jungle in and around Brunei.

Peter Engbers & Hans Dols, 1997.

1. Bukit Teraja to Rampayoh waterfall

General

A more serious day walk in the Labi area. This is probably one of the easiest ways of experiencing the jungle in Brunei without moving too far from civilisation. It starts with the normal Bukit Teraja walk. From the top, a small path follows the principal ridge system with nice views in places and interesting vegetation leading finally to the Rampayoh waterfalls. It is generally easy walking which lasts for several hours. Note, however, that this stretch of the walk does require some more serious preparation and knowledge of orientation. There is no route marking nor are there always obvious paths. There are some side paths which lead deep into the Belait basin jungle. A proper choice of path is hence crucial. Some Panaga parties are known to have been lost there until deep in the night by taking one wrong turn! The final part (after a refreshing dip in Sungai Rampayoh) is from the Rampayoh waterfall back to the Labi road.

Route description

Bukit Teraja - Sungai Rampayoh

Road -> Bukit Teraja -> Sungai Rampayoh -> road took 8 hours at an easy pace including stops, lunch etc.. We skipped the 2 x 20 minutes diversion to the falls at Rampayoh, and headed for home instead.

1. Walk up Bukit Teraja 1367ft. The walk starts 6 km along the unsealed section of the Labi road and is clearly marked by an official metal sign on the left (east) side of the road. The path rises steeply through primary rain forest, with steps cut in the slope in places, flattening out a little after 20 minutes. The path breasts a narrow ridge after 40 minutes - turn right, and descend into an open clearing where some of the best views are to be had. Just beyond the far end of the clearing there is a wooden shelter with roof, tables, seats and graffiti. The path continues upward from this, to the summit at map reference 918752, easily reached within 2 hours. [See Brunei Darussalam, A Guide, page 118.]

2. Follow the principal ridge system (nice views in places, generally easy walking), prior to a rapid but easy descent to Sungai Rampayoh. Nearly all ridges have "paths", perhaps frequented by animals if not humans. With careful use of map and compass, you should always know where you are. Track your progress by noting each "peak" along the ridge system (if you can see a high on the map, then you will not miss it in reality), checking by compass the orientation of the ridges in between. Often these ridges are steep-sided. Despite the jungle cover, the orientation of the ridge is rarely, if ever, in doubt. A useful general remark to make is that if in doubt while following the ridge sections after leaving Bukit Teraja, keep left - but don't leave the ridge.

- a) Approx NE along the ridge, carry on past the point you arrived at on the way up, to a helicopter clearing at 923758. There is a small army camp here, usually unoccupied.
- b) Approx NE to the saddle at 933765, then to another helicopter clearing on a "peak" at 935768.
- c) Leave this clearing on its far right corner (from your entry point) and arrive on the next "peak" 936772. A good path continues down off its NW corner.

[It's possible using good judgement, about 50 metres back from steep descent of the good path, to find a poorer path heading down to NE. This is the direct route via lower ridges to Rampayoh Falls at 963789. See below for suggested route from main waterfall to Bukit Teraja.]

- d) Ridge to NNW, turns and gently descends to NE. It takes perhaps longer than you think to reach "peak" at 942784.
- e) Keep left and note the ridge very soon turning to NW, and then again turning round to NE, to reach the "peak" at 941788.

- f) Keep following the ridge gently downwards in NE direction, through a section where the path is hard to find or non-existent. Keep going to NE on the highest ground. The ridge and path become well defined again, and the single contour on the map at 948793 is actually an unmistakable “peak”. It has a nice little (natural) clearing at its top, with paths descending to both NE and approx SE.
- g) Take the path descending to SE, which after some distance (and descent) veers to the E. It continues its descent to the well-worn Sungai Rampayoh path at 955789 where that path crosses a small tributary stream by a “bridge” consisting of log and wooden handrail.

3. **EITHER** turn right crossing the bridge and follow the main Sungai Rampayoh path upstream, reaching the Gurkha camp and main waterfall in approx 15-20 minutes. Falls at 963789 at a bend in the river.

OR turn left at the bridge (i.e. don't cross it) to follow the main Sungai Rampayoh path downstream to the road (1.5 hours). After 45 minutes you come to a delightful small waterfall next to the path. You arrive on the road at approx 943817, i.e. just a few hundred metres from the end of the sealed Labi road.

Sungai Rampayoh - Bukit Teraja

The waterfall is linked to the main ridge system by a lower ridge system leading direct from falls to peak at 936772 (see 2c above).

1. Go to Rampayoh waterfall.

[Note on the Rampayoh waterfalls walk]

This is a 10km hike from approx 943817 on the Labi road - but note the sign marking the start is missing. All that remains is a white post, shortly after a driveway on the left (east) side of the road. The path heads through trees and is very soon obvious, running approx ESE, just above the Rampayoh river. It then heads upstream with small bridges over tributaries, eventually arriving at the Gurkha camp. The main waterfall is one minute's walk beyond the camp. See Brunei Darussalam, A Guide, page 116.]

2. Up the ridge SW to a tree with Leech Memorial plaque (after 20 minutes).
3. More or less SW via 950782, 948778 and 940775 to “peak” at 936772. Here you join the main ridge system with its relatively good paths (see 2c above). Turn left (south) and follow description above in reverse to reach Bukit Teraja. Total time 6-7 HOURS.

2. The Marudi Log Walk

A very pleasant and easy weekend round trip through varied terrain between Labi, Marudi, Asam Paya and Rasau. The first day comprises of several hours walking on slippery logs through beautiful swamp forest. A lot of fun seeing your mates slipping of and falling in the wet swamp. Recommended! But note the "health warning".

General

This is a beautiful and relatively easy walk which allows an overnight stay in Marudi - an old colonial trading post on the Baram river, Sarawak, which is not yet accessible by road. The first day comprises a six hour walk from Labi through the full spectrum of lowland jungle from primary rainforest, swamp, secondary jungle and finally long houses and rice padi fields in Sarawak.

After a night in Marudi, the usual return journey is by express boat to the Asam Paya long house where an old smugglers trail leads through the jungle and emerges about 3 km from the bridge over the Belait, on the new Rasau road.

Route Description

Labi to Marudi

(Italic text indicate updated text by recent walking parties)

- The walk begins from Rumah (long house) Panjang Teraja at the very end of the Labi road. Most people hire a Jasra minibus for the journey from Kuala Belait (approximately B\$ 100) which takes about two hours.

On the way down Labi road it is important to collect bamboo or other wooden poles (at least two meters long, try and keep the pole light) which you will need to steady yourself on the slippery logs through the swamp. Most of the suitable poles have already been collected from the start of the walk so begin searching in advance. Note that freshly cut bamboo has sharp hairs around each joint which can easily penetrate the skin and cause irritation - take some gloves or clean up the bamboo after it has been cut.

- Cross the small stream at the end of the Labi road to begin the walk (it is usually too wide to jump but don't bother searching for a crossing point as your feet will soon be wet in the swamp!). *There is currently a tree lying over the stream, so you can keep your feet dry at this point. It makes for an interesting start to the walk and is worth trying to go over that way. Once you have crossed on the tree, turn left and head up to the ridge. You will not miss the start of the trail even though Graham reckons:-* The start of the trail on the opposite bank is quite obscure and begins just to the left of a large tree. Within a few meters the path opens out and is well trodden and distinct - if you are on a narrow trail or pushing through jungle you are probably wrong and should retrace your steps.
- The path follows ridges through primary rain forest for about 20 minutes before descending to the log walk at the start of the swamp.
- Local people have felled trees and placed a good amount of cut timber to build the path which essentially links two long houses on either side of the Brunei Sarawak border. Depending on recent rainfall, these logs may be either completely dry or in some places submerged under several inches (sometimes feet!) of water. This is where your pole comes in useful to probe in the water for solid footing - especially when the water has been disturbed by the person in front and the logs are not visible.
- After about one hour on the logs you reach the first ridge. This marks only the half way point in the swamp but the end of the really wet section. It is a good resting point and there is often evidence of places where local people have made camp (this is probably a popular hunting area).
- The continuation of the path is very clear, descending back into the swamp and progressing for about a further hour, over three more ridges, until it emerges at a wide stream (Sungai Ridan). The third ridge marks the Brunei/Sarawak border and evidence of logging soon becomes visible such as the more open, secondary jungle and the several old logging railways which cross the path

(No logging roads seem to have been built in the area, probably because it is too swampy. Logs would have been taken to the Baram via a rough narrow gauge railway. When logging in the area has been completed the metal rails are collected and re used leaving only the sleepers behind).

- The stream marks the end of the difficult walking as the path on the other side, which continues to Marudi, can be negotiated by moped. Depending on the water level, the stream may be crossed with relatively dry feet or it may be necessary to wade across (in August 1995, a log bridge had been improvised 100 - 150 meters downstream). In any event the crossing is not hazardous and affords the opportunity to cool off and clean some of the swamp from your boots and legs.
- On the other side of the stream turn right and continue along the path which follows close to the left bank (downstream) for the remainder of the journey. The jungle along the first section of this path may be an overgrown abandoned rubber plantation as it is often possible to spot trees along the path where the local people are tapping off small amounts of sap using a sharp "V" shaped piece of metal and an old food tin.
- After about ten minutes walk from the stream crossing, the route passes alongside a large long house (Rumah Ridan). The people here are very friendly but unless you have never visited a long house before it is probably not worth stopping. Visitors from Brunei make this journey most weekends and you are certainly not a novelty to be invited in for a party. Furthermore, the long house has easy access to Marudi (everyone seems to have a moped!) and you will see little evidence of the traditional lifestyle that can be experienced in Ulu Belait or in the interior of Sarawak.
- After the long house the path continues alongside Sungai Ridan, past padi fields and several rice harvesting huts. It is a long walk - between 90 and 120 minutes to the pick up point. In some places there is not much cover and protection from the sun is advisable.
- At about two thirds distance the route is crossed by a logging railway (February 1995) and some time later a rough wooden bridge carries the path over a small tributary. In the majority of cases the path from the long house is completely dry but after heavy rain the stream will burst it's banks at several points (particularly downstream, towards Marudi). *I reckon that the stream has burst its banks permanently now. Having been down the trail both after a dry spell and a wet spell on both occasions the path was under water from around the logging railway bridge down.* It then becomes necessary to wade through water several inches deep. In a number of stretches the path follows a plank walk over low lying, swampy ground.
- A few hundred meters before the end of the path the stream veers away to the right. Small boats are often tied up here ready to carry goods for the journey back to the long house. The path then enters secondary jungle before rising steeply up a sandy escarpment. About one hundred meters further is the sandy track which, in dry weather, marks the furthest point from Marudi which may be reached by car.
- If your pick up arrangements have gone according to plan (see later), the driver should meet you at this point. If not, or very wet weather has made the sand road impassable, it will be necessary to walk about five hundred meters further to the junction with the main road to Marudi where there are also houses with telephones. If you are expecting a lift, it is probably best to wait here as the walk to Marudi is at least another five kilometres in the open sun.

Asam Paya to Rasau

- The return journey begins with a two hour express boat ride towards Kota Baram. Express boats leave the main jetty at frequent intervals in early morning and approximately every two hours during the rest of the day. Although there is normally a 3.00 p.m. boat, it is probably not advisable to delay your departure beyond lunch time to be sure of returning to Brunei before nightfall (the 10.30 am boat allows you to begin walking from Asam Paya around 12.30 p.m. and to return to Brunei sometime after 2.00 p.m.). Make sure to take every opportunity to remind the crew that you want to get off at Asam Paya (they will guess why!).
- The journey down the Baram is quite interesting, especially if you are making the trip for the first time. A number of long houses and logging camps are passed on the way and during the last part of the journey towards Kota Baram huge stockpiles of logs litter the river bank. Some of the

timber has clearly been there some time and is beginning to be reclaimed by the jungle. The best views are from the roof of the express boat (the interior is over air conditioned and shows non stop kung fu movies!).

- The express boat should either drop you off in front of the old Asam Paya long house or at a rough landing area about 100 meters further downstream. From here you need to make your way to the start of the log walk which is located in a low lying, swampy area directly behind the new long house. This building was under construction (February 1995) about 250 meters inland behind the old building.
- *The walk from Asam Paya is now rather overgrown - a parang at this point whilst not essential would have been useful in clearing back the ferns. A number of the logs are rotting down.*
- *About 500 meters further downstream on the Baram is a properly strengthened stretch of river bank which marks the start of the track to the Malaysian well Asam Paya I. A sand road is believed to run to the well, located very close to the Brunei/Sarawak border which is itself only two to three hundred meters from the Rasau road. This may be an interesting alternative return route - mostly good walking with a push through the jungle at the end. I have, however, never spoken to anyone who has attempted it (information comes from helicopter pilots) and some research using maps/aerial photos would be advisable before it is attempted.*
- The area around the Asam Paya long house has changed considerably over the past few years and finding the start of the return trail is sometimes difficult. Most recently, a logging railway had been built along the first fifteen minutes of the trail behind the new long house. *The railway track starts near the left hand end of the long house (as you approach from the river) and runs underneath the house. This railway, I believe was laid in order to get wood out of the jungle for the new longhouse. It is quite definitely not being used now and the track is rapidly being overgrown with ferns and other scrubby bush.* The most important point to remember is that the path follows a bearing of 20° for almost the whole way to Brunei (varying only between 10° and 40°). If you are off this bearing, on an overgrown trail then you are almost certainly wrong and should return to the long house to ask directions. In February 1995, the return trail beyond the logging railway was marked with red/white plastic tape, some was still left six months later.
- After some twenty minutes from the long house, the trail forks with paths at 50° and 315° - take the more distinct path on 315° (i.e. left) as the other stops a few hundred meters further. *The railway track continues right, but is very quickly overgrown and impassable. This is as good a clue as you can get that the other path is the trail.* The trail soon resumes the 20° bearing but shortly after appears to stop at a small clearing. The path continues just beyond a large log, almost due north at the other side of the clearing, this is the start of the short, "log walk" section of the return journey.
- The walk through to the Rasau road can be done in under one hour but normally takes about 90 minutes. Most of the route follows a log walk similar to the previous day except that the ground is much drier and the surrounding jungle floor is muddy rather than deep swamp.
- At about half distance, there is an area where a lightning strike some five years ago caused a fire which burnt out an area a few hundred meters across. The jungle is now re establishing itself with bracken and thick undergrowth returning (in fact people who have made the trip most recently report that little evidence of the fire remains). *The path continues to the right just before the clearing and goes around the clearing. If you go into the centre of the clearing you have gone too far. Retrace your steps keeping your eyes open for a notched log going down to a fallen tree.* The path at this point follows fallen trees and can be difficult to follow - at one point people have cut arrows in a fallen tree to indicate a particularly obscure left turn. The most important points to remember are that the path continues on a 20° bearing and that it is a well trodden trail (possibly still marked with red/white tape). If in doubt retrace your steps to the start of the burnt out section and try again (It was at this point in 1993 that two Dutch from BSP became disorientated and did not reach Brunei until 10.00 p.m.!).
- Just before you cross the border (which is not marked) the log walk gives way to a normal jungle trail and several logging railways cross the path. A few hundred meters later you will emerge on

the Rasau road through a rough swampy area which has been cleared of trees. *At this point having kept yourself basically dry and clean for the rest of the walk, you get wet and smelly!*

- A number of options then exist:
 1. Turn right and walk back over the new bridge, then on to the KBBC via an old track along - side the Belait (about 90 minutes).
 2. Walk to the new bridge where you left a car two days earlier (30 minutes).
 3. Use your mobile phone to call a friend to pick you up.
 4. Hope to hitch a lift from passing traffic (a good option a few years ago when the road was used almost exclusively by BSP vehicles, but difficult/risky now that the road is virtually open to the public).
 5. *Turn left and head towards the Rasau oil field. When you reach the sandy track on the right follow it through to the end. This takes you through the oil field to Kampong Rasau. At the end of the sandy track follow the metalled road down to the ferry. We then used a phone in the SMR terminal to organise a pick up*
 6. *If you are running a little behind schedule you may be lucky and able to catch a bus running from the border (Sungai Tujoh) to KB, which comes past the KBBC. A good point to get out and enjoy a refreshing orange juice!*

Timing

The road journey from the KBBC (a useful place to meet and leave cars, close to the return trail) to the end of Labi road will take approximately two hours. The log walk itself can be completed in under four hours in dry conditions or up to six if it is wet or you spend time at the long house. This would mean that for an 8.00 am departure from KBBC you will start walking at 10.00 am and reach the end of the trail sometime after 2.00 p.m.. It is important to make a reasonable estimate of your arrival time to ensure that you do not have to wait for transport at the Marudi end (see below).

The return journey through Asam Paya takes around 90 minutes after a two hour express boat ride from Marudi.

Transport in Marudi

After you emerge from the jungle close to Marudi it is still at least another five kilometre walk to the town centre in the open sun. Fortunately a local Chinese man operates an unofficial taxi service around the neighbourhood in a Toyota mini van. When you telephone to book your hotel, tell the receptionist that you will be arriving from Brunei, give your best estimated arrival time and ask them to arrange transport for you. The man is very reliable (he has been known borrow a truck when his van broke down and to walk up the trail searching for you if you are late!) and will charge only M\$ 2 per person for the journey to town.

If you ask in advance via the hotel he will have cold drinks ready for your party at his house near the end of the trail (own account of course) and most recently cold beers were available. I take full credit for these latest developments!

Note that the hotel is normally very helpful in making arrangements but may give you the driver's telephone number and suggest you call him yourself. This is not a good idea, however, as his English is very limited.

Accommodation in Marudi

There are basically two options:

Mayland Hotel (085-755106/7 or 755089 or 755043, Fax 755333)

This is very cheap (M\$25 - 35) and basic although all rooms have air conditioning and en suite shower/toilet. This is a very friendly hotel who once telephoned me in Brunei on a Friday night to

warn that convicts had escaped from the local jail and that there would be many police along the trail to the border. This was good of them especially as I was not planning to make a trip that weekend!

Victoria Hotel (085-756071 or 756067 or 756064, fax 756864)

A more upmarket hotel (M\$55) of the same standard as some of the small Chinese hotels in Miri. This hotel is favoured by bachelor trips as they tend to show "educational" videos on the house movie channel throughout the night!

Grand Hotel

This is a new hotel, opened in 1996. The rooms are clean and fitted with aircon. Each room has a shower en suite along with a T.V. Price May 1997 was M\$38 (up from M\$35 in 1996). Friendly staff - the manager also owns the Victoria, but is very pleased with the Grand.

Marudi Highlights

Food: **Boon Kee** Chinese Restaurant (Lot 947 Marudi Bazaar)
Phone 085-756352, Yap Mui Mooi Manageress. Fantastic Chinese food (easily as good as Apollo or Maxims in Miri) located at the back of town about 400 meters from the Baram, next to the Volcano (see below). Try the local wild boar, deer meat and river fish. They also offer western breakfast to order but this is not in the same league as the local food.

Riverview Restaurant *this is a Chinese restaurant on the water front serving all the regular Chinese dishes - and a Chinese breakfast. We found it very pleasant, sitting out on the riverside watching the sun go down over the Baram. sipping a cool beer from chilled glasses and the boats still ploughing their way up and down the river.*

Night life **Volcano** - Seedy disco which is OK when it gets busy on a Saturday night, otherwise quite depressing with three or four locals dancing with themselves in front of a mirror (next to Boon Kee).

Karaoke is very big in Marudi. There are several karaoke bars around town most of which are packed and love to see expats making fools of themselves (try Queens Square Karaoke).

Snooker - *there is also a snooker bar on the square, which is quite entertaining. Don't be tempted to play the locals unless you have been particularly abstemious earlier in the evening and you are naturally a reasonable player.*

Shopping **Local crafts** such as blowpipes and wood carvings are considerably cheaper than in Miri. The best shop is in the same block as the Victoria Hotel, although his stocks are sometimes low. The owner will give you a sketch map of the Ulu showing where he has traded for the various goods.

Carbide lamps, parangs, fishing nets, shotgun cartridges and other hunting gear (if you are into that sort of thing) can be purchased cheaply in many hardware stores around the central square.

Clothing

Clothing for the log walk is dependant on personal preference - the only certainty is that you are going to get wet. Most people elect for long trousers/leggings, and a t shirt. Don't wear your best white kangaroo skin aerobics shoes! Canvass boots are best as they will not hold water and dry out easily, but old training shoes are also adequate providing they will afford some grip on the slippery logs.

It is also worth bearing in mind that the trail is occasionally prone to leeches (depending on the weather and time of year). If you do wear long trousers tuck them in or wear tights underneath for protection (leeches will penetrate woollen socks but not tights, leggings or tightly woven cotton socks). Alternatively wear shorts and try to spot the leeches before they take hold.

Your change of clothes and shoes for the evening should be packed in waterproof bags in case it rains or you take an early bath in the swamp or at one of the river crossings.

Other Things to Take

- Small rucksack
- Sandwiches for the first day
- Snacks for the return journey
- Water bottle
- Compass
- Parang (to cut poles, unless you do this in advance)
- First aid kit (include Sudocream against chaffing and Alka Seltzer!)
- Insect repellent (against mosquitoes and leeches)
- Torch and matches/lighter (just in case!)
- Malaysian Ringgits
- Hat/sunglasses
- Sunscreen (especially for protection on the roof of the express boat)
- Camera.

Don't bother with waterproofs (too hot and get in the way) but consider taking a small string hammock (about B\$10 in KB). This is useful to rest in whilst you wait for the stragglers at the end of the trail but will also double as a stretcher should anyone injure themselves on the logs (you will be reluctant to call out the "official" services!).

The "Health Warning"

This is of course an illegal trip as you will be crossing the border without authority. The laws of both countries probably call for stiff fines and prison sentences for offenders (not to mention trouble with the company).

Having said this I have only heard of two groups getting into difficulties. One found themselves staying in the same hotel as the Malaysian district police chief who happened to be on a visit to Marudi. He realised where they came from (expats rarely stay overnight in Marudi these days) but was unconcerned providing they return to Brunei the next day and were not intending to continue upriver to Mulu.

The second ran into a group of soldiers (probably Malaysian) when they made the trip mid week and were returning to Brunei via the Marudi log walk. These had to pay a "fine" to the soldiers and were allowed to proceed on their way with a warning.

It is a good idea to carry passports or other Brunei IC with you in case you have problems and to take any steps necessary to try to ensure that the matter is not taken further.

List of Waypoints**Outward**

Waypoint	Description	Co-ordinates (Timbali)
1	End of Labi Road <i>Rumah Panjang Teraja</i>	N 04° 17' 04.4" E 114° 24' 54.6"
2	First Ridge <i>Middle of the Swamp</i>	N 04° 16' 04.5" E 114° 24' 35.2"
3	Third Ridge	N 04° 15' 33.1" E 114° 24' 19.7"
4	Fourth Ridge	N 04° 15' 18.3" E 114° 24' 19.0"
5	River Crossing <i>Upstream Rumah Ridan</i>	N 04° 15' 01.7" E 114° 24' 11.4"
6	Path Alongside Sungai Ridan	N 04° 14' 21.6" E 114° 22' 42.6"
7	Path Alongside Sungai Ridan	N 04° 14' 13.2" E 114° 22' 21.6"
8	Pick up Point - End of Walk	N 04° 12' 26.0" E 114° 20' 58.6"

Return

9	Asam Paya <i>Drop off Point on Sungai Baram. 100 meters downstream of the Longhouse</i>	N 04° 32' 11.1" E 114° 10' 19.5"
10	Rasau Road (decimal minute coordinates) <i>End of the Path</i>	N 04° 33.152' E 115° 11.400'

3. Ulu Belait to Mulu

An Account of the Trek Between Ingai Hot Springs, Brunei and Mulu National Park, Sarawak. And a boat trip over the Belait river upto the source.

Introduction

Early in 1994, Edwin Punselie and I were studying the satellite photograph of Brunei and Sarawak. We had both made the Marudi log walk several times and wanted to devise a more unusual round trip between Brunei and Sarawak. Some month earlier, I had made a weekend trip to the Ingai Hot Springs in Ulu Belait and we were surprised to see how close these were to the border and Mulu National Park. We also felt confident that once over the border, the many logging tracks shown on the photograph would make walking very easy (just the same as walking from Kuala Belait to Anduki we told ourselves!).

Some time later, I was out of the country when Edwin managed to organise a boat for a few days and set of up river with Bob Tucker. Whilst their boatmen waited at Sungai Ingai and fished, Edwin and Bob followed old army/hunters trails for a day and a half until these ran out and then continued across country. Running short of water and with no idea how far they had penetrated, they then turned back to Sungai Ingai to be sure of meeting the boatmen before they headed back to Kuala Belait on the morning of the fourth day. They had marked their trail with toilet paper on the way out and were careful to replace this with red/white plastic tape on the return.

In October 1994, with Edwin's departure for Oman imminent, we decided to make another attempt - this time with a global positioning system (GPS) to be able to more accurately measure our progress. Having borrowed a Magellan from someone who we assured that we were "just going up river for a few days" and spending an afternoon studying maps and photographs with Jack Verouden and Nick Kirby in BSP topo department, we set of again. Unfortunately we were without Bob Tucker who was stuck in Miri with a combination of business, passport and hangover problems.

This time we were successful, with the most serious difficulties coming only after we had reached Mulu when Eric Merral's brother in law tried to take us down river to Long Terawan in time to catch the 6.30 am express boat to Marudi. Setting off at 4.30 am, in pitch darkness, after a night's celebration, the rapids along the Tutoh river proved too difficult for us to make fast progress and we returned to Mulu after missing the boat. We were then fortunate to be able to catch the flight to Miri and see most of our route again from the air.

Most of the credit for our success was due to Edwin, with his superb camp craft and jungle knowledge gained during more than ten years in Brunei and Sarawak. I was only useful to operate and carry the GPS (not an inconsiderable task since the old Magellan has the size and weight of a house brick!). Our route is described on the following pages.

Route Description

Day One

Travel by boat from Kampong Sungai Mau on the Labi Road to the confluence of Sungai Belait and Sungai Ingai. The journey time is approximately 5 hours, passing Kampongs Apak Apak, Sukan and finally Melilas on the way.

An old army camp site lies about 100 meters upstream on the left bank of Sungai Ingai. This is the base camp for your boatman and the drop off point for the trek if the water level in Sungai Ingai is too low to permit the boat to travel further upstream.

After one hours boat ride, or two hours walk along a path which runs close to the left bank, you reach the furthest navigable point on Sungai Ingai. This is at the confluence of Sungai Ingai and a small tributary (joining from the left hand side) with a half meter high waterfall just upstream on the Ingai. The drop off point is at the left hand edge of the waterfall where the ground rises steeply and a well trodden path (normal route to Ingai Hot Springs) continues up the ridge.

Continue along the path up the ridge towards the hot springs. Possible camp sites lie all along the route - our camp 1 was about 150 meters from the drop off point (*way point 1*).

Day Two

A well trodden path, marked by occasional aluminium posts, leads to the hot springs, approximately 30 minutes walk from the drop off point. At one point it is necessary to scramble in and out of a small stream gully as the log bridge has rotten away.

At the hot springs, follow the path past both springs and turn left over some swampy ground, about 3 meters wide. Take the (partly overgrown) path uphill to an old, fern covered helicopter landing area. Continue across the landing area and proceed uphill to a large, abandoned army campsite about 300 meters away on the ridge.

The path from the campsite is in good condition and leaves from the far left hand side of the clearing (*don't try to follow the river towards the waterfalls as there is a large U bend - you will loose time and may find yourselves back at the campsite after half an hour as we did!*). Look out for occasional aluminium path markers. The trail follows high ground towards the Ingai waterfalls and is cut by several small streams - old log bridges have long since rotten away.

The waterfalls are reached after about 45 minutes walk from the army campsite. The path does not lead directly to the waterfalls which can be heard about 100 meters away, below the ridge to the right (*way point 2*). Go down the ridge for a swim - it's a beautiful spot!

Note: The trail between the waterfalls and the river (see later) was marked in March 1994 with red/white plastic tape, the majority of which was still in place in October.

Continue along the path in a generally South Easterly direction, slowly climbing towards a steep (limestone?) escarpment which cuts the path approximately two hours walk from the waterfalls (*way point 3*).

BSP geologists who were involved in the Land Acreage Review study have cast doubt as to whether there could be a limestone outcrop at this point, asserting that the closest outcrops to Brunei are next to the airstrip in Mulu NP. Edwin Punselie, however, remains convinced, adding that he saw evidence of a small cave close to the top of the escarpment during his March 1994 reeve. Final resolution of this point awaits the next group to make the trek who should bring back a rock sample!

The steep escarpment runs generally SW - NE and, at the point where the path meets it, is too steep to descend. It is necessary to turn left (NE) and continue for approximately 150 meters along the ridge, towards the sound of running water, before a very small stream running down the escarpment allows you to make the decent. Make the decent and cross the stream before resuming your Southerly heading.

From the escarpment follow less distinct old hunters trails, on low ground, in a generally Southerly direction for about 90 minutes until you reach a large stream (~ 4 meters wide). Sounds of a small waterfall can be heard for a few minutes before the stream is reached (the stream is a tributary of Sungai Ingai). *Red/white tape stops at this point.*

Turn left and follow the stream upstream for about 300 meters to a small, low lying, clearing (the only one in the area) The undergrowth has been cleared but the canopy is still intact - signs of our camp 2 may still be visible. *Way point 4* is about 100 meters away on a ridge behind the camp.

Day Three

The river crossing point is about 50 meters further upstream. The river narrows and an outcrop of harder rock on the river bed provides a shallow crossing point (fill up with water here). Traces of the March 1994 campsite may be visible by the bank at the crossing point.

On the other side of the stream, the ground begins to rise immediately. The path is initially indistinct although it eventually becomes a good ridge path. It is important that you find this ridge as it offers the easiest rout towards the escarpment.

In March 1994, Edwin and Bob went further upstream before crossing using a fallen tree. They then followed rough trails but were unable to find any heading Southerly or South Easterly and with water running scarce they turned back for Ingai.

The ground rises steadily with the sides of the ridge often becoming steep drops to the right and left. The path veers between SE and SW but always follows the main ridge. The trail is generally clear and fast progress can be made.

After 45 - 60 minutes walk from the river crossing, the ridge rises to a high point with a number of fallen trees across the path (*Way point 5*). The path continues to follow the ridge, descending slightly, initially South East but eventually swinging Northerly before ending abruptly at a steep drop.

Turn right and make a decent of the ridge, following a rough continuation of the ridge path. Resume a South Easterly track to cross the valley of a small stream. The steep decent and ascent of this valley follows indistinct hunters trails. It is necessary to look out for signs of erosion, damaged exposed tree roots and cut saplings to follow the trail, which eventually climbs onto a ridge on the opposite side of the valley.

Note that it may be possible to avoid the descent into the small stream valley by following an alternative path from Way point 5. There was a second, less distinct, path from this point which headed to the right (i.e. South West). This path may allow a steady climb around the source of the stream and on to the ridge that we eventually joined on the way to the border. This, however, is pure speculation!

Follow the ridge South East for about 45 minutes along a path which is generally good, but occasionally less distinct, to the border.

The border is marked by an abandoned logging road (*way point 6*,. at the crossing point, is marked by plastic tape). Turn left and join a second logging road which follows the ridge until a logging road joining from the right provides the means of descending the escarpment.

When way point 6 was plotted onto a map by BSP topographical department it indicated that this location was at least 300 meters inside Brunei, an error that could not be explained by the normal civilian GPS position uncertainty. Local people in Mulu NP and a number of expats have spoken of an incident in the late 1980's when a local logging company was found to have been illegally logging on Brunei territory. Gurkabs (probably from the Brunei rather than the British garrison) are said to have been dispatched to stop the operation and arrest the loggers. Perhaps this was the spot as we could see little evidence of other logging trails elsewhere on the top of the border escarpment as we flew over on the return journey to Miri. We are certain, however, that the way point marked the watershed at the top of the escarpment which was probably the feature originally intended to mark the border.

Follow the logging trail downhill, past areas where it has been washed away or has become overgrown, until the bottom of the escarpment where the road ends in a swampy clearing. A good quality (though seldom used) sand road leads out of this clearing to the right hand side.

After about 1 km, this road joins the main logging road which runs NE - SW along the base of the escarpment *Way point 7*. This road is clearly still in use.

Bear right, following the road in a South Westerly direction for about 1.5 km until you reach a left turn which is the junction for Mulu National Park. The turn off is very distinct as most traffic obviously travels in this direction after having come from the other end of the logging road where it originates from the logging camp at the Tutoh river (probably the last navigable point for heavy goods). This is a good place from which to hitch the remaining 5-8 km to the Melinau river and the National Park since the road is still heavily used by logging traffic.

List Of Way Points

Way Point	Description	Co-ordinates	Day/Time
-----------	-------------	--------------	----------

Departed K Sungai Mau, Labi Road, 09.00 hrs (Two hour delay on the way to S. Ingai)

1	S. Ingai Drop Off Point (Camp 1) 150 meters along ridge path on the North bank, upstream of furthest navigable point	04 ^O 08' 00" N 114 ^O 44' 03" E	Day 1 17.30 hrs
----------	--	---	--------------------

Departed Camp 1 at 07.30 hrs (lost 30 minutes on the way to the waterfalls)

2	S. Ingai Waterfalls On ridge path 100 meters North	04 ^O 07' 43" N 114 ^O 44' 23" E	Day 2 08.46 hrs
3	Big Ridge/Escarpment Top of escarpment at the end of the path from the waterfalls	4 ^O 07' 35" N 114 ^O 45' 12" E	Day 2 10.25 hr
4	River (Camp 2) 100 meters up the ridge North of the river/campsite	04 ^O 07' 16" N 114 ^O 45' 09" E	Day 2 12.30 hrs

Departed Camp 2 at 07.40 hrs

5	High Point on Ridge South of Camp 2 Reached here and left water on Day 2 pm	04 ^O 06' 10" N 114 ^O 44' 51" E	Day 3 08.35 hrs
6	Brunei/Sarawak Border Crossing Abandoned logging road marks the border	04 ^O 05' 55" N 114 ^O 45' 13" E	Day 3 10.20 hrs
7	Junction with Main Logging Road Fix taken 200 meters SW along the road	04 ^O 05' 19" N 114 ^O 45' 39" E	Day 3 11.45 hrs

Hitched lift at 12.45 hrs, resumed walking 13.00 hrs, arrived Sungai Melinau, Mulu N.P. 13.30 hrs

General

The Brunei side contains beautiful primary jungle with rivers, waterfalls, steep escarpments and good ridge walks. There is abundant wildlife - we saw red leaf monkeys, a small civet (?) and heard gibbons, hornbills and wild boar. With patience and more time there would certainly be more to see. The Brunei/Sarawak border is marked by an abandoned logging road and most of the area South of Mulu has been logged out several years ago. There are nevertheless good stretches of secondary jungle and spectacular views of G. Mulu, G. Api and the Melinau valley from the top of the border escarpment.

The walk from Sungai Ingai could, in theory be carried out in a single day, however, this would not allow for any errors in finding the correct paths and would inevitably result in an arrival on the main Sarawak logging roads late in the afternoon/evening when the chances of hitching a lift are small. It should be noted that the trail does not pass any running water on the Sarawak side of the border and there are few suitable locations to sling a hammock and make camp.

It is therefore recommended to break the journey at camp 2, which should be reached by early afternoon, and spend the rest of the day finding the correct path up the ridge for the following day. It is also a good idea to carry water up the ridge to minimise the load to be carried next morning (we left a water dump at Way Point 5)

Safety and Security

Your boatman should wait at the Sungai Ingai base camp for at least three days to ensure that you can return safely should you become lost or one of your party is injured. If an emergency arises beyond camp 2, and you are still on the paths heading SE/SW, it is probably better to press on to the border since the logging roads will enable you to reach civilisation very quickly. It is also important that somebody back in Kuala Belait has details of your plans and has instructions on what actions to take if you become overdue. He should know that if you do become lost this is 99% certain to be on the Brunei side since good paths/viewpoints make orientation on the Mulu side very easy.

We used a GPS to take position fixes and found this invaluable in planning the correct route. We also laid toilet paper to mark the trail, thus enabling us to easily retrace our steps or be found in case of emergency.

Note that, in theory, permits are required to visit Ulu Belait, Mulu National Park and to travel in Sarawak anywhere beyond Marudi. It is also an offence to cross the border without permission/passports. Officials at longhouses on the Belait will prevent you from proceeding beyond Kampong Melilas if they are aware of the purpose of your journey.

Postscript

At the end of 1995, a group from BSP made the weekend round trip from Kuala Belait to Sungai Ingai. While camping at the old army site at the mouth of the Ingai, they were surprised to hear the sound of chain saws. Local people that they met in the area (which is at least one and a half hours by boat from the nearest Kampong) told them that they were felling trees to build a rest house. Whilst anything which allows access to this remote and beautiful area must be a good thing, it is worrying evidence of the creep of civilisation into one of the last unspoilt places in Brunei.

The contrast between the virgin jungle of Brunei and the logged out tangle of vegetation a few kilometres away over the border could not be more striking. I hope that I will never return to this beautiful area, where we saw absolutely no recent evidence of man, to find a golf course!

4. Ascent of Gunung Mulu

An Account of the Trek Made in Mulu National Park Sarawak.

Introduction

The first ascent of Mulu was made in 1932 by Edward Shackleton as a jaunt at the end of the 1932 Oxford University expedition to Borneo. The mountain had, before then, defied several attempts to climb it by various European explorers and members of Brooke's administration. Mulu is surrounded on all sides by steep escarpments and limestone cliffs which proved impassable to these early adventurers.

The route through the cliffs was discovered by chance by a rhinoceros hunter who tracked an animal along the course of the Sungai Melinau Paku river and up onto the ridge below the summit. Shortly afterwards, he guided Shackleton along this route which is still used by the tourist trail.

Mulu is one of the toughest mountain treks in North Borneo that is regularly made by tourists. The difficulty comes from the length of the trail (a round trip of some forty five kilometres) and the fact that the ascent to 2,376 meters (7,795 feet) begins close to sea level. Nevertheless it is well within the capabilities of a reasonably fit person and only lightweight packs need be carried since there are permanent wooden shelters at each of the overnight camp sites.

Route Description

Day One

- Depart National Park Headquarters (*Waypoint 1*) for the 5.6 km walk to Camp 1. The trail follows a plank walk for the first 500 meters before descending to the jungle floor. Just after the plank walk the path passes over some limestone outcrops and it is necessary to watch carefully for the red/white trail markers.
- After 200 meters the path becomes distinct and wide, passing through generally low lying muddy ground with numerous log bridges over small streams. People who have made the trek in very wet conditions report that this section of the trail is prone to flooding.
- After about one hours walk the trail crosses Sungai Melinau Paku (*Waypoint 2*). Spectacular limestone cliffs can be seen either side of the trail at this point. This is a good rest spot as it is about half way to Camp 1 and the shingle on the river bank is relatively free from leeches.
- For the next 2 - 3 km the trail continues through low lying primary rain forest, past the turn off to the Sarawak Chamber and slowly ascends to Camp 1 at approximately 150 meters (*Waypoint 3*). 500 meters before Camp 1 the path crosses a fast moving stream. There are (slippery) stepping stones but it will be necessary to wade unless the water level is very low (*if you have managed to keep your boots dry up to this point take them off and carry them as you should then be able to continue for most of the next dry with dry feet*).
- The total journey time to Camp 1 is approximately 2 hours including a short stop at *Waypoint 2*.
- Camp 1 is a partially enclosed hut with a raised sleeping area which should accommodate 12 people comfortably. There are separate toilets and a good spot for bathing and filling water bottles at a stream 20 meters away. Food is cooked over an open fire just outside the hut.

Day Two

- The trail from Camp 1 ascends gradually at first towards Camp 2 at the 7.5 km marker. This is not a permanent camp but a small clearing on the right hand side of the path by a small stream and is the last guaranteed water source before Camp 3 at 11.8 km. If you have left Camp 1 with 2 - 3 litres it will probably not be worth filling up here.
- After Camp 2 the trail becomes increasingly steep with sections between the 10 km marker and Camp 3 requiring the use of hands to pull yourself up through tree roots and small saplings. Immediately before Camp 3 the path levels through a boggy area where a number of planks have been placed across the trail. This area is frequently cloud covered and moss covers most of the trees.

- Camp 3, at approximately 1300 meters (*Waypoint 5*) marks the halfway point on day two. It is reached after just over three hours walk and is a good lunch stop. There is a hut of similar (but more recent) construction to Camp 1, with toilets and water available from rainwater tanks.
- After Camp 3 there is a very steep 2 km ascent up Bukit Tantau to the ridge which leads to Camp 4 and the summit. At a number of points ropes have been placed to assist where the trail is steepest and hand/foot holds most difficult to find. Erosion along the path indicates that it would form a small stream in heavy rain.
- The 14 km point, at approximately 1500 meters (*Waypoint 6*), marks the end of the main ascent and the start of the ridge. From here to Camp 4 the path is relatively level with only gradual ascents/descents as the trail climbs slowly for almost 5 km towards Camp 4 at 1800 meters. There is now a distinctively different vegetation with the low level primary rain forest having given way to small stunted trees and bushes. Large pitcher plants are also in abundance. At several places along the ridge there are good view points across the Mulu mountain range.
- Camp 4 at 18.8 km (*Waypoint 8*) is a very simple raised hut with four corrugated iron walls and roof. The eaves are open to let out the smoke from the fire which is used for cooking and for warmth. The helipad which was used to ferry in building materials is 50 meters further down the trail and affords good views of the next day's ascent to the summit.

Day Three

- The ascent to the summit from Camp 4 takes approximately 1.5 hours. This means that the signpost at Park Headquarters, which indicates the total distance of the summit trail as 24 km, must be wrong. The last trail marker outside Camp 4 shows 19.5 km from where we estimated that it was no more than 2.5 km to the summit.
- Three distinct peaks of increasing height can be seen from the Camp 4 helipad. These are actually only points where the trail climbs less steeply and there seem to be no distinct "valleys" between each peak.
- The trail is very steep in places with almost vertical stretches where it is necessary to make use of fixed ropes. The vegetation has also changed to the "mossy forest" or "cloud forest" with all the stunted trees covered in a thick layer of moss. The slopes here are frequently covered in cloud and everything is wet for the majority of the time.
- After the first steep ascent, where the trail levels at the first "peak" (*Waypoint 9*), there is a very good view back along the previous day's trail. Bukit Tantau, the ridge from the 14 km marker to Camp 4 and the helipad can be clearly seen.
- The main summit is large and relatively flat with two distinct high points. The first one reached (*Waypoint 10*) is about 50 meters lower than the second (*Waypoint 11*), 150 meters away, where there is a trig. point and an abandoned weather station.
- There then follows the long descent to Camp 1 which will take approximately 7 hours, including short meal breaks at Camps 4 & 3.

Day Four

- Following a night at Camp 1, return to Park Headquarters.

List of Waypoints

Waypoint	Description	Co-ordinates	Arrival Time on Ascent	Arrival Time on Descent
1	Park HQ	N 04° 02' 33.1" E 114° 48' 38.7"	Departed 13.20 hrs	
2	S Melinau Paku River Crossing	N 04° 02' 53.3" E 114° 50' 00.9"	14.20 hrs	

3	Camp I (Helipad)	N 04° 03' 06.9" E 114° 51' 10.4"	15.20 hrs Departed 07.20 hrs	14.45-15.45 hrs
4	10 km Marker	N 04° 02' 20.3" E 114° 52' 36.2"	09.15 hrs	
5	Camp 3 Helipad	N 04° 02' 19.5" E 114° 53' 06.5"	10.30 hrs	
6	14 km Marker	N 04° 01' 58.6" E 114° 53' 26.6"	12.20 hrs	
7	17 km Marker	N 04° 02' 28.3" E 114° 54' 10.8"	13.45 hrs	
8	Camp 4	N 04° 02' 41.7" E 114° 54' 39.9"	14.20-15.50 hrs Departed 06.40 hrs	09.40 hrs
9	First "Peak" on the Summit Ascent	N 04° 02' 51.4" E 114° 55' 06.4"	07.30 hrs	
10	Mulu Summit - First High Point	N 04° 02' 45.0" E 114° 55' 29.5"	08.10 hrs	
11	Mulu Summit - Trig. Point	N 04° 02' 47.1" E 114° 55' 37.2"	08.20 hrs	Departed 08.40 hrs

General

Timing

Our trip lasted four days/three nights with two overnight stops at Camp and one at Camp 4. The disadvantage of this is that whilst days 1 & 4 are short 2 hour walks to/from Park HQ, days 2 & 3 are very long slogs. With a reasonably early start, it would certainly be possible to reach Camp 3 on day 1 which would then reduce the following day's ascent to Camp 4. This would also open up the possibility of reaching the summit on day 2, leaving the option of descending either to Camp 1 or to Park HQ on day 3.

This alternative itinerary may, however, not be popular with the guides who seem to use the short day 1 to assess their customers' fitness. It would also mean that the first day's provisions would need to be portered further up the mountain to Camp 3 rather than to Camp 1. It should also be noted that Camp 3 will be cold at night whilst Camp 1 is comfortably warm.

Several weeks after our trip, two other groups tried this alternative itinerary. One group, who arrived in the park the previous evening, made an early start and reached camp 3 in late afternoon. The following day they were able to make a round trip to the summit with only light packs (waterproofs, lunch etc.), returning to camp 3 by early evening. The second group, however, flew into Mulu in the morning, attempted to reach camp 3 the same day but were forced to turn back to camp 1 when it became clear that they would not reach camp 3 by nightfall.

Equipment

The equipment list is attached in appendix 1 - each persons rucksack weighed just over 10 kg, including water. The most important things to note are that overnight accommodation is in huts so no camping equipment is required and that cooking/eating equipment is provided by the guides. Camp 4 is very cold at night and a lightweight sleeping bag and an extra layer of warm clothes are indispensable. A black plastic bin liner was also useful to cover the end of the sleeping bag and preserve warmth. Essentials for this trip is insect repellent and salt to remove leeches.

Food

Food provided by the guides is basic but adequate. Rice, "maggie mee", eggs and tinned meat/fish feature in most meals. The only food that you will need to take are luxuries such as biscuits, nuts, crisps and muselie bars. Two tips that were useful on our trip were:

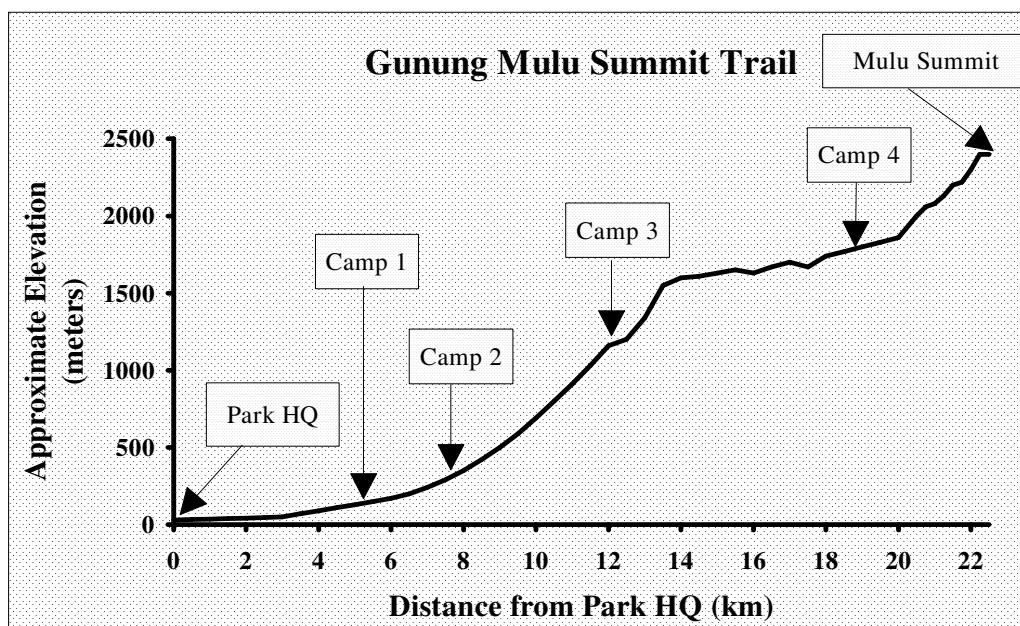
- Buy fruit flavoured glucose powder (available from any supermarket) and add it to drinking water, possibly with a little salt. This takes away the taste of the Puritabs that you will have added, provides energy and helps guard against mineral loss from dehydration.
- Take Alpen or other high energy muselie in a plastic screw top jar together with some milk powder. This is light and, with water added, can be used to supplement breakfast or lunch.

Guides

Our trip of seven persons was accompanied by three "guides":

- The National Park ranger whose presence is mandatory although he was of little use. He was, however, the only one of the three to make it all the way to the summit.
- A Punan porter who carried the park ranger's gear and about half the food. He made the complete ascent to Camp 4 barefoot!
- The Tropical Adventure "tour guide" who carried much of the food and cooked all the meals. Although he was pleasant and helpful, he had never made it to the summit before (his other trips had all turned back) and he had little information to offer on the local flora, fauna or geography. *Remember that the guides get paid whether you make it to the summit or not.* Mulu guides are notorious for spreading gloom and despondency or setting a crippling pace in the hope that you will turn back and they may get home a night early. *Keep your own pace.*

Also do not rely on the guides to stick with the back marker, in spite of the fact that there are many places to slip and fall. It is inevitable that members of the party will not all keep the same pace but do try to keep in groups of two or three.



5. The Kubaan Trail

A drive along logging roads south of Limbang followed by a walk to the Bario Plateau via one of the traditional Kelabit trading routes.

General

The Bario Plateau lies to the south east of Brunei in Sarawak, just Northwest of the border with Indonesian Kalimantan. It is an isolated area surrounded on three sides by mountain ranges which rise to more than six thousand feet. On the Southern side, rivers drain from the plateau through deep gorges and eventually form the Baram (it is at least three day's ridge walk south from Bario to the first navigable point). Whilst there is now a scheduled air service between Bario and Miri, the inhabitants of the plateau relied for centuries on a handful of overland trading routes. One of these routes passes westward from Bario over the Tamu Abu mountain range and on to Long Lelang via the Punan settlement at Pa Tik. The walk to Long Lelang would take around five days after which it would be possible to proceed by small boat along a river system which eventually joins the Baram.

A logging road now cuts this route between Pa Tik and Bario at a point where the trail follows the Sungai Kubaan valley. This opens up the possibility of a relatively easy overland route to Bario with one days driving on logging roads from Limbang followed by a walk of some 22 km. The walk can just be completed in one day although there are several suitable camping spots along the way (if you don't mind leeches!).

This route description draws partly on a number of driving trips made in 1993/94 and on an unsuccessful attempt to climb Batu Lawi in October 1995 when bad weather caused flight cancellations and forced us to find an alternative route into Bario.

Route Description

Day One - Logging roads in Ulu Limbang

- From Limbang drive to the WTK base camp at way point 7. This should take approximately six hours following the pace notes attached. The route follows the main logging road which links the WTK timber concession and the log ponds on the Limbang river at Medamit. It is a good quality sand road which is regularly maintained to allow passage of heavy logging trucks.

Note that if you have set off straight from Brunei after work and do not wish to spend the night in Limbang, a possible camp site (no water!) is located approximately 62 km after the check point on the way into the logging concession at N 04° 03' 49.8" E 115° 07' 15.3" (i.e. some 2.5 km before way point 4). There is a large flat area on the right hand side of the road which offers fantastic views over Mulu and Api to the west. The site is high on a hill side and the mist rising from the valley below in early morning is very beautiful.

- Just before WTK camp there is a left hand turning with a fork in the road about one hundred meters later. Take the right hand fork which leads on to WTK Jelita camp. The scenery now becomes very spectacular as the road climbs over Bukit Batu Iran (way point 9) at over five thousand feet. At the highest points the primary rain forest can be seen to have given way to smaller stunted trees and ferns. Some exposed sandstone has the distinctive bleached white appearance which is characteristic of Batu Lawi.
- Jelita camp (way point 10) is reached after about one hour's drive from WTK base camp. If it is becoming late, it is possible to stay in one of the huts on the camp to save making camp. Take care, however, not to make our mistake of accepting an invitation from one of the loggers without first paying your respects to the camp boss.
- As an alternative to staying in the logging huts, suitable camp sites can be found either about forty minutes out of Jelita where the road crosses the wide Sungai Kubaan (way point 12) or, if you have even more time you could consider walking and making camp along the Kubaan trail. The first good spot is some 20 minutes walk along the trail where there are some old hunting huts next to the river. It is uncertain as to whether these huts can be opened or even whether their floors could still support any weight. Nevertheless it would be possible to sleep sheltered underneath them (they are some two meters off the ground) thus avoiding the need to carry tents.

In making this journey in October 1995 we did not set off from Limbang but from Marudi where we had become stranded following cancellation of all flights to Bario. We then needed to travel by express boat upriver to Long Temala (two hours thirty minutes), hire two Toyota pickups and drive eastward, passing close to Long Atip, Mulu and Long Seridan before emerging on the logging roads south of Limbang about half way to WTK camp (close to way point 4). This is much longer than driving from Limbang (we took express boats at 9.00 am but did not reach Jelita until after dark) and would only be interesting if your journey originated from Miri. Further details of the logging roads in the area south of Mulu can be found in the pace notes for the journey from Limbang to Mulu National Park.

Day Two - The Kubaan Trail

- The logging road cuts the trail at way point 13, on the brow of a hill a few hundred meters beyond the bridge over Sungai Kubaan. In October 1995, this point was quite distinct with a small shelter having been built by Punans gathering special hard timber used for making long house foundation poles. Note that the air map is incorrect at this point as it places the trail some 800 meters north of Sungai Kubaan whereas comparison of way points 12 and 13 show it to be clearly south of the river.
- The trail on the right (western) side of the road leads to the (abandoned) long house at Kubaan and the Punan settlement at Pa Tik. Judging from the distance shown on the map and the type of terrain, Pa Tik should be able to be reached after about half a days walk, offering an alternative to Bario for those who wanted to make a shorter trip.

The path to Bario begins on the left (eastern) side of the road. After about twenty meters there is a sharp right turn as the trail leaves the area cleared by the Punan hunters. We started walking at 8.15 am.

- After twenty minutes (8.35 am) the trail emerges into a small clearing next to the river (probably still Sungai Kubaan) where two hunting shelters have been built. Do not take the path to the river but continue past the huts with the river some ten meters away on your left hand side. The Kubaan trail continues at the other side of the clearing.
- A further twenty minutes later (8.55 am) the path forks at a small stream which must be a tributary to Sungai Kubaan. Take the left (more distinct) path and ford the stream. Although not very visible before you cross, the path on the other side is wide and obvious.
- There is another stream crossing twenty minutes later (9.15 am), this time using a large fallen tree. The trail in this area seemed to be generally following a north easterly direction, contrary to the air map which shows a steady south easterly path. This suggests that the distance walked is considerably longer than the straight line between way points 13 and 16 (which are some 16.5 km apart).

Although the path is wide and easy as it covers level ground, there are several sections where it follows the sides of steep river valleys. Here, although there is little danger of falling any distance, it can be slippery and difficult to find firm footholds.

- Eventually, after a further thirty five minutes (9.50 am) the trail descends to Sungai Kubaan. It is now necessary to ford the river from the right hand to left hand banks (facing upstream). The river is some twenty meters wide and waist deep in places, in October 1995, a steel cable had been fixed across the river to allow it to be crossed safely. After heavy rain the river level will rise considerably (as could be seen from the surrounding banks, trees and boulders) - crossing would then be very difficult.

The trail continues on the other side of the river, slowly climbing up the step valley.

- One hour after the river crossing (10.50 am) a log bridge crosses a deep stream gully. As an alternative to crossing the slippery log, it is possible to go to the left and scramble up and down each bank.
- Fifteen minutes later (11.05 am) it is necessary to ford another wide river (way point 14). This place may be Long Semirang - an old settlement which is marked on a number of maps but is no longer permanently inhabited. The location of this way point on the air map, and the fact that the river is carrying significantly less water than at the earlier crossing, suggests that this is not

Sungai Kubaan but it's main tributary, which the trail now follows all the way to the watershed at the edge of the plateau. On the other side of the river there is a cross-roads with paths to the left and right leading to small huts or hunting shelters. Continue straight ahead.

- After forty five minutes (11.50 am) it is necessary to scramble in and out of a deep gully where a log bridge had collapsed. We needed to push through thick rattan, indicating that whilst some sections of the trail are still used by hunters (we saw footprints in several places) the whole length of the path is seldom used. It is only the fact that the trail is in the shade of the forest canopy that prevents it from being slowly overgrown.
- The trail descends back towards the river and after ten minutes (12.00 pm) there is a small clearing next to the river with a very old hunting shelter. There are several trails leaving this point and this gave us our greatest uncertainty during the trip.

Standing in the clearing with the river in front of you (flowing right to left) and the shelter on your left, there is one path that continues to your right up the river bank. This leads, after about fifty meters, to a clearing containing a number of old Punan shelters - it is not the correct path. To find the continuation of the trail, cross the river and follow the opposite bank upstream for some twenty meters. Once you reach it the path is wide and distinct although it is not readily visible from the river (do not make the mistake of continuing on the small track which goes steeply uphill directly opposite the hunting shelter).

We stopped here for lunch, sitting on boulders in the water to protect ourselves from the leeches which infested the area. From our position in the river (which was at that time only about thirty centimetres deep) we could see debris in tree branches at least one meter above us. After heavy rainfall it may be necessary to wait here for the water level to fall.

- After the lunch stop, the trail swings more definitely south east and begins to climb up to the plateau. The three hour climb (the first of our group arrived on the watershed at around 3.45 pm) is gradual at first becoming steeper in the final sections.

The trail follows the stream to it's source, crossing it at least ten times on the way. During our trip the water level was fairly low and the stream could easily be forded. In many places, however, there were rough log bridges above the stream indicating that the water levels are frequently much higher.

- The trail under the forest canopy is very distinct although in several places fallen trees block the path and it is necessary to make detours to search for the correct continuation. The lack of well worn routes around these obstacles is further evidence that the trail is seldom used today.
- At two points, approximately half way to the watershed, the trail follows the bed of the stream for short distances. The first begins just before a sharp left hand bend in the stream where there are deep pools and a steep left hand bank. The path, which must once have followed close to the bank, has been washed away but resumes straight ahead on the opposite bank, on the other side of a fallen tree, and then follows the right hand bank upstream.

The second is a longer stretch of more than a hundred meters, higher up the escarpment, where the stream is much smaller. Here the trail follows the bed of the stream before emerging on the right hand bank. Along both of these sections, however, the sides of the stream are steep and it would be difficult to loose the correct trail. Furthermore the continuation of the path a few meters away from the bank is very distinct - we were confident that we were on the correct trail without the assistance of our guide who was by then at least one hour behind us (we left toilet paper to mark our route and prevent the group from becoming split up).

- In the upper section of the trail there are several beautiful waterfalls and the tall trees of the primary rain forest begin to give way stunted, moss covered, species and giant ferns. The altitude at the pass over the Tamu Abu range is approximately 5,500 feet (tree cover prevented us from obtaining a proper fix). At this height, whilst the rain forest does begin to change, there is little evidence of the true "mossy forest" which can be found on the upper slopes of Mulu (7,800 feet), Trusmadi (8,700 feet) or even a few kilometres away at the other pass through the Tamu Abu cliffs on the way to Batu Lawi.
- The last hundred meters to the pass follows a dry stream bed. There was no view point at the top although it would be possible to climb higher on either side of the trail (we didn't feel like it!). In

any event we missed the "shattering views out over the whole interior" promised by Harrison in his book (see later).

- The first part of the descent into Bario follows the valley of a small river and is very similar to the climb on the other side of the pass, although perhaps with more mossy forest. The trail remains steep and slippery with many tree root for tired legs to trip over. This lasts for some forty five minutes (4.30 pm) until the trail begins to widen and the log bridges over small streams are constructed from sawn timber - evidence that civilisation is approaching.

At this point the trail passes a small dam in the river which provides a reservoir for the drinking water supply to the surrounding villages. The water pipe follows close to the path for the remainder of the route.

- At the base of the escarpment the trail enters pasture used to graze water buffaloes. The village of Arur Dalan (way point 15) comes into view shortly after (5.00 pm).

The villagers were very friendly and gave us directions for the remainder of the journey to Bario (ask for the airport, Tarawe's lodging house is one hundred meters from the control tower). There is basically only one path which passes alongside the long house and then continues through paddy fields, past the local school and on to Bario five kilometres or forty five minutes later (our first group reached Bario at 17.45 pm, the last - including our Kelabit guide, some two hours later after being ferried from Arur Dalan by moped!).

List of Waypoints (join at waypoint 4 if starting from Limbang)

Waypoint	Description	Co-ordinates (Timbali)	Time
1	Long Temala <i>Logging concession roadhead on Baram River</i>	N 03° 49' 38.2" E 114° 27' 55.0"	12.30 hrs
2	Logging Road <i>West of Long Atip</i>	N 03° 48' 09.3" E 114° 56' 13.2"	
3	Logging Road <i>Area South of Gunung Mulu</i>	N 03° 57' 30.9" E 115° 02' 36.5"	
4	Logging Road <i>Just after joining North - South logging road from Limbang through WTK concession</i>	N 04° 01' 57.9" E 115° 07' 15.4"	
5	Logging Road <i>Heading South through WTK concession.</i>	N 03° 59' 28.0" E 115° 08' 19.3"	
6	Logging Road <i>Heading South through WTK concession</i>	N 03° 57' 39.8" E 115° 10' 06.7"	
7	WTK Base Camp <i>Turn left just before the camp and then take the right hand fork</i>	N 03° 55' 59.1" E 115° 11' 16.8"	
8	Logging Road <i>Continuing towards Jelita Camp.</i>	N 03° 52' 13.8" E 115° 15' 10.5"	
9	Pass over Bukit Batu Iran	N 03° 50' 28.3"	

	<i>On the logging road to Jelita Camp</i>	E 115° 15' 48.8"	
10	WTK Jelita Camp <i>Overnight stop</i>	N 03° 50' 00.4" E 115° 18' 41.5"	Arrive 18.30 hrs Depart 07.30 hrs
11	Logging Road <i>Continue straight on, left hand turning continues to a high point which may offer a view of Batu Lawi</i>	N 03° 48' 47.0" E 115° 19' 20.8"	
12	Bridge over Sungai Kubaan	N 03° 47' 28.5" E 115° 19' 31.7"	08.10 hrs

13	Start of Trail <i>Logging Road crosses Kubaan Trail which links Bario to Pa Tik</i>	N 03° 47' 16.2" E 115° 19' 36.8"	08.15 hrs
14	River Crossing <i>Trail crosses (tributary of?) Sungai Kubaan Old hunting shelter - possibly Long Semirang</i>	N 03° 47' 14.9" E 115° 22' 43.5"	11.05 hrs
15	Arur Dalan <i>First Kampong on the Bario Plateau</i>	N 03° 45' 30.2" E 115° 26' 25.0"	17.00 hrs to 18.45 hrs
16	Bario <i>Way point taken next to old airfield at Tarawe's lodging house</i>	N 03° 44' 28.7" E 115° 27' 42.8"	17.45 hrs to 19.45 hrs

Equipment

Equipment lists for the drive through the logging concession and the walk to Bario are in the appendix. The exact details will depend on whether you are intending to make camp in the jungle or stay overnight at Jelita camp and push through to Bario in one day.

Planning the Trip

This largely depends on how you reach the start of the trail and whether you need to return to pick up cars. I would certainly not recommend leaving cars unattended next to the start of the trail for any length of time unless you can find someone who would sleep next to them for a few dollars per day. If you are intending to make a return trip then either leave your cars at Jelita camp and hitch a lift to the trail or leave some of the less energetic members of your party behind to relax and camp for a few days exploring the logging concession by car. If you do not intend to return the same way then an option would be to hire transport in Limbang for a one way trip to the start of trail (Try Samson Bala if you need to arrange this - he has several relatives working in the area. His phone number is given later).

In theory, it would be possible to make a three day round trip i.e.:

- First evening: Kuala Belait to Limbang
- Day 1: Drive Limbang to Jelita or camp at S. Kubaan
- Day 2: 9 - 11 hour walk to Bario
- Day 3: 11.00 am flight to Miri via Marudi then KB by taxi

This, however, would leave no time to make excursions in Bario and the surrounding area, nor allow contingency for flight delays etc. Furthermore if your objective is to enjoy the Kubaan trail then why not take several days, perhaps making a detour to visit Kubaan or Pa Tik.

It is worth remembering that whilst we took up to eleven hours to walk the trail, we were hampered by each carrying up to 40lbs of equipment for our planned Batu Lawi climb (even four day's provisions that our guide had intended to give to porters and luxuries like beer and whiskey that we would have left at base camp to await our return). Either carry the minimum and make the journey in a single day or take full camping equipment and make more leisurely progress.

As an alternative to flying out from Bario, it would be possible to return the same way if you have transport waiting or to carry on overland to Bakalalan, some three days walk from Bario, where flights to the coast are said to be less weather dependent.

Jungle Driving

The route from Limbang to the start of the Kubaan trail follows the main logging highway through the concession. It is regularly maintained for use by heavy traffic and is navigable in any four wheel drive vehicle. Detailed advice on jungle driving is contained in a separate guide which includes "pace notes" for trips both from Miri and Limbang.

The most important point to remember is that not only do logging vehicles have the right of way (obviously) but that they also drive on either side of the road! This is not as chaotic as it sounds, but is a system to ensure that long, heavily laden trucks leaving the concession do not have to negotiate the outside of bends with dangerous drop offs. At any blind corner or when approaching the brow of a hill, look out for a small sign with a red arrow. This directs you to the correct side of the road at that particular point. Hopefully there will be a similar sign on the other side pointing oncoming traffic in the opposite direction!

In general be courteous to logging vehicles, pulling over to let them pass whenever necessary.

Permits

The type of permits that are required depend on where you start your trip and whether you will be using your own transport. The system of issuing permits to restrict access to the Ulu (interior) was first introduced by Brooke in the last century to discourage missionaries and other European settlers who may ferment trouble amongst the inhabitants. The procedure is maintained today largely due to sensitivities surrounding logging activities and their effects on the indigenous people and wildlife. Rules are strictly enforced during periods of protest by Ulu inhabitants - as happened in 1993/94 when Punans blockaded logging roads Southeast of Long San and when residents of Long Terawan protested about the confiscation of their traditional lands around Mulu for the planned construction of a golf course and luxury resort.

Permits to visit Bario - are officially required for anyone not arriving by scheduled flight. These can be obtained from the Residents Office in either Miri, Marudi or Limbang. The standard procedure (which is sometimes waived, but don't count on it!) is to first visit the police station with two copies of your passport in order to gain clearance for the trip. You will be required to complete a form with your profession, other personal details and the purpose of your trip (ecologists, journalists, members of Greenpeace etc. are automatically excluded at this stage!). The police inspector endorses the form which you then take to the Residents Office where you complete yet another form to enable your permit to be issued.

Permits to enter the Logging Concession i.e. to pass the logging company checkpoint 20 km past Medamit are required for anyone using their own transport. These can be obtained from Limbang Trading Company whose offices are in a marble fronted building opposite Limbang market. Latest reports (October 1995) are that vehicles without this permit were being turned back at the checkpoint.

Limbang Trading and the police check point do not seem to be asking to see any permits from the Residents Office at the moment, however, these are advisable if you intend to walk anywhere. Note that the same procedure applies if your ultimate destination is not Bario but Pa Tik, Long Seridan or Mulu. The Residents Office will issue the relevant permit.

Around Bario

Most tourists who visit Bario do so as part of a major trip, such as the climb up Batu Lawi or Murud, or at one end of a long trek to or from Long Lelang or Bakalalan. Few people come to just spend time in Bario or one of the outlying villages on the Plains of Bah. This reflects the fact that there are almost no tourist facilities in the area nor well known places of interest to justify a specific journey to the highlands. Nevertheless it is worthwhile allowing time to experience the outstanding hospitality offered by the Kelabit people and, as a minimum, to see the unique wet paddy fields and their ancient irrigation system. If you are spending more time in Bario, either through choice or because of the notoriously unreliable air service, then there are a number of possibilities:

Rafting on the Baram - The main tributary of the Baram river rises on Mount Murud and flows south across the Bario Plateau. In this area it is slow moving and easily navigable by bamboo raft. During an earlier visit, ours was built by people from Pa Umor, a village about six kilometres north of Bario. Ask Samson Bala or his father (who still lives in the village) to arrange this.

Carved Monolith - There are several stone carvings in the Bario highlands which provide a link with the pre Christian traditional beliefs of the Kelabit people. One of the most accessible is on Samson's family land about fifteen minutes walk from Pa Umor. It is a large boulder about three meters in diameter which lies at the edge of a paddy field. The weathered carving on the upper side depicts a Kelabit man complete with extended earlobes, parang and collection of heads. It is said to be a memorial to a local warrior.

Pa Umor Salt Lick - Salt was an important commodity for the Kelabit people and was traded extensively during the last centuries. Today, one of the old salt springs at Pa Umor is occasionally used by families to gather their own supplies. The site is quite disappointing comprising only a brick lined well and an adjacent shelter where the brine is boiled for twenty-four hours to yield raw salt. We were told that the complete operation to chop firewood and boil sufficient brine to provide a family with a year's supply of salt would take about one week. The trip to the salt lick is worthwhile for the chance to see some of the wet paddy fields and water buffalo pastures typical of the Kelabit highlands. The path takes you along lanes which are more reminiscent of the European countryside than Borneo (they can be very muddy - take your boots!).

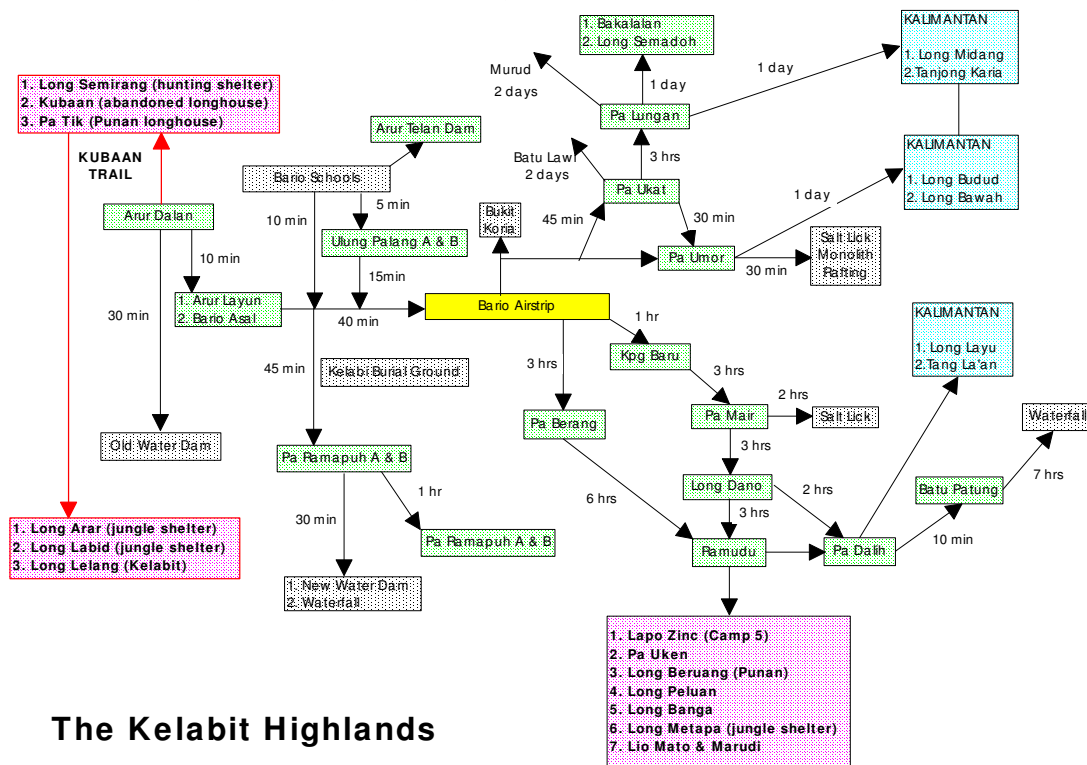


Figure 1 A schematic map with approximate walking times around Bario

6. Bario- Murud- Bakelalan and Gunung Murud

“...The ultimate jungle trekking and adventure tour”. This beautiful five day trek in the Kelabit highlands goes from Bareo up to Mount Murud (Sarawak's highest point) and on towards the valley of Bakelalan.

General

Gunung Murud, 2,423 m (7,946 ft), is the highest mountain in Sarawak. Murud is located in the mountain chain surrounding the Kelabit Highlands in north-east Sarawak. It is very close to the Indonesian border. In fact, on one side of the mountain, the lower end runs into Kalimantan. The mountain has a massive appearance from afar. In some places it has very precipitous sides. Almost vertical rockfaces block direct access from the south.

The conventional route up the mountain is a turn-off from the main Bareo to Ba Kelalan track. This trail starts from the south and curves up the side of the mountain, finally approaching the summit from the north-east. This is essentially the same as Mjoberg's route in 1922.

Starting from Bareo, a journey to the summit of Murud takes 3-4 days. After an initial long walk along the main Bareo-Bakelalan track, the trail goes through a flat area of multiple river crossings and then up the side of Murud onto a long summit ridge. Continuation to Bakelalan takes 1-2 days. Bario-Murud- Bakelalan can be done in 5 days.

Guides can be obtained via Samson Palabalaba (see Useful addresses) or from the Pa Lungan longhouse, 5-6 hours walk from Bareo. To reach Pa Lungan, follow the main path east out of Bares. The path reaches Pa Ukat longhouse in one hour. It passes around the right side of the longhouse and then north to Pa Lungan. There is a for about 30 minutes beyond Pa Ukat, in a pineapple patch: take the right fork (if in doubt, always take the main path). About 30 minutes from Pa Lungan, an abandoned airstrip is reached. The whole of Murud mountain can be seen clearly from here. The trail continues along the left side of the airstrip.

The whole trail to Pa Lungan from Bareo to Pa Lungan is an interesting nature walk. At the right time of year, there are masses of flowering rhododendrons with red, orange and white flowers. There are quite a lot of pitcher plants (the pitchers of *Nepenthes stenophylla* are particularly striking) and common orchids. There are masses of lush *Dipteris* ferns. The terrain is quite open. Some of it is under cultivation particularly near the two longhouses, and much of it was cultivated some time in the past. Because of the altitude, the air is cool and not humid like the lowlands.

Pa Lungan is a 28 'door' longhouse, with up to 300 people. Guides for Murud can be obtained from the Ketua Kampung. Guides should be requested in advance-by writing to the Ketua Kampung (preferably in Malay). If you turn up without warning, guides may not be immediately available and a wait of days may be necessary.

Gunung Murud is not suitable for the casual tourist. It is essential to come properly equipped. Provided you do not actually camp on the summit, you can sleep on a wooden platform under a plastic or nylon-tent sheet. You must bring the tent sheet with you and bring ponchos for the guides. The summit of Murud is likely to be cold, windy and wet. An enclosed tent is highly desirable if you plan to camp on the top. Do not forget tents for your guides.

The summit ridge is superficially similar to that of other high Borneo mountains such as Trusmadi and Mulu. However, on Murud the mountain flora is particularly impressive. There is a tremendous profusion of orchids, pitcher plants, mosses and other plants. This display is at a peak during the orchid flowering season around September. This period is a good time to climb Murud, although there is risk of considerable rain.

Route description**Bario-Murud-Bakelalan**

Description of a tour done by Marten Ubbink, Jacqueline Henrot, and Peter Engbers, organised via Samson Bala Palaba in September 1996

September 07th (Saturday)

0815 hrs Touring Party (TP) converges at Miri Airport.

0900 hrs ETD Miri on MH 3622 on transit in Marudi. ETA New Bareo Airport @ 0945 hrs. Once cleared from the airport, the TP will 'prance around' Bario. Late afternoon, depart for the village of Pa' Umor (Sampson's village). A 1.1/4 hour walk on laterite clay path in open country. Accommodation provided by Sampson's family. A stroll in Pa' Umor + a dip in the river. Overnight Pa' Umor

September 08th (Sunday)

0750 hrs Everyone should be packed, had breakfast and ready to move. ETD Pa' Umor for the Camp Long Rabpun @ 0800 hrs. Trekking in open country to the village of Pa' Ukat and from there on to another village, Pa' Lungan. This sector will take between 3.1/2 - 4 hrs and the TP will break off for lunch at Pa' Lungan. This is an interesting nature walk. At the right time of the year, there are masses of flowering rhododendrons with red, orange, and white flowers. There are quite a lot of pitcher plants and common orchids. There are also masses of dipteris ferns.

1200 hrs ETA Pa' Lungan & break off for lunch. ETD Pa' Lungan @ 1330 hrs. Jungle trekking from Pa' Lungan is on fairly flat ground and in leech country. It can be very muddy during rainy season. After about 1.1/2 hours the trail then goes steeply over a ridge and drops down to Long Rabpun. Apart from varied flora and fauna and a Rafflesia nest located at point 40 mins to arriving at Long Rabpun, there is nothing interesting to note on this trail.

1730 hrs ETA Long Rabpun. This is the site of a former long house burnt by a patrol of defeated Indonesian army - and is on the bank of the Pa' Dabpur river. There is a shelter - bamboo roof, sawn timber for floorings and semi-walled - mainly use by hunters and travellers, and is surrounded by hundreds of big bamboos. It is quite scenic and beautiful. A cool and refreshing bath in the river will do you a lot of good. Overnight camp Long Rabpun.

NOTE The state of the river at Long Rabpun will determine progress-. There are 6 crossings to make (after Long Rabpun) - 2 of which are very tricky & considered 'dangerous' and if the water level is exceptionally high, all attempts to proceed to Camp-1/2 Way-Up on this day should be abandoned. Decision: Proceed on to Pa' Rupai in Kalimantan or wait until the river subsides.

September 09th (Monday)

0750 hrs Everyone should be packed, had breakfast and ready to move.

ETD Camp Long Rabpun @ 0800 hrs. In ideal conditions, allow 6-7 hours for this section as actual time depend very much on the state of the rivers - See also NOTE. Trekking on flat ground and there will be six river crossings. The river can be forded when the water is waist deep or up to the thighs. The last crossing is at the base of the ridge that leads to Gunung Murud, where it forks to accommodate the base of the ridge. Further on is a strategic and convenient site to rest for lunch. A good camping site when going into Bario from the Bakelalan or vice-versa

1300 hrs Depart for Camp-Half-Way-Up-Murud. Gradual climbing for an hour before it rise steeply to a mere flat level at an altitude of 5,770 feet where the camp site is. It takes about 2 - 3 hours to get here from the east river crossing.

1530 hrs ETA Camp Site. This site is known as Camp-Half-way-Up Murud. It is only a 'basic Boy scout camp site', where tents will have to rebuilt. It can be uncomfortable when it rains. A small

creek provides the source of fresh water, where one can also clean and splash bath - with difficulty. Definitely not as luxurious as Camp Long Rabpun Overnight Camp.

September 10th (Tuesday)

0750 hrs Everyone should be packed, had breakfast and ready to move. ETD Camp Site @ 0800 hrs. It is ascending as soon as you set foot and it will be a strenuous morning. After about an hour's ascend, the trail goes steeply uphill and then emerges out of the tall forest on to the steep open side of Gunung Murud providing a view of the vast Pa' Dapbur plain. One must scramble up steeply through the moss to emerge on the summit ridge. The summit ridge is very broken with vertical sections and the odd drops and is covered with bushes, mossy forest and small trees. The vegetation is thick and often coarse requiring a lot of ducking and scrambling during trekking. As many as 7 varieties of pitcher plants and a lot of mountain orchids can be found on this stretch. The trail rises towards the summit at the S-W end of the mountain.

1330 hrs ETA Summit at 7,946 feet. On a clear day one can see as far as Bareo Airport, Gunung Mulu, the nearby Batu Lawi and the Kalimantan border. If visibility is good, the haunting silhouette of Gunung Kinabalu can be seen in the far distant. The summit is often immersed or surrounded in thick mist and cloud, thus frustrating your visibility; and, it can be quite cold, but on a hot sunny day, a pail of sun block will be very useful indeed !!

1430 hrs ETD Summit for the Church Camp. The trail gradually descends through the open ground towards the North into the Garden of Rocks. This area is beautified by lots of wild mountain orchids, heathers, sparsely distributed stunted trees and rocks of all sizes and shapes. The crossing of a stream (crystal clear water) after 60 minutes marks the end of the open ground and the rest of the trail is under forest canopy and mossy ground until you get to the Church Camp at 6000 feet.

1730 hrs ETA Church Camp. The Church Camp has a cluster of about 80 shacks (each with it's own fire place) and there is a common bathing area and a latrine ! In 1989, a Church (with a seating capacity of 1000) was built here. The shacks - with aluminium zinc roof, walled by sawn timbers, were built to accommodate worshippers on pilgrimage here annually. The whole compound is considered ' Holy Ground ' and people are advised not to Smoke and Drink Alcohol; and to keep it the area clean. Overnight Church Camp

September 11 (Wednesday)

0745hrs Everyone should be packed, had breakfast and ready to move. ETD Church Camp @ 0800 hrs. The first 40 minutes is a steep climb to the summit ridge at an altitude of 6,800 feet. This is followed by an hour and a 1/2 ridge walk before the trail descends steeply and converges with a timber track leading towards the main timber track in the direction of Bakelalan. Some amount of time will be spent trekking on timber track before another descend into a stream - Pa' Rabata - where the TP will break for lunch. The trekking here is messy, made miserable and unpleasant by the sight of logged forest and muddy waters. After lunch, there is an hour's ascend, on timber track, to the 'blockade' point before turning right into the jungle. The last 2.1/2 hours is under forest canopy, including the final descend into the vast Kelalan Valley.

17.30hrs ETA Bakelalan. The TP will be accommodated at a private 'lodge': complete with satellite dish, TV and is quite comfy. After a hearty refreshment, it is cleaning up time ! The rest of the afternoon is at leisure. Bakelalan has about about 7 villages, all within walking distance from Buduk Nur' - the centre point. It is a beautiful place.

September 12 (Thursday)

0900 hrs Everyone should still be in bed. Absolutely No rush 11

0930 hrs Breakfast

1000 hrs Check-in at Bakelalan Airport

1050 hrs	ETD Bakelalan for Lawas on MH 3604
1120 hrs	ETA Lawas. Hire a cab into Lawas town.....
1345 hrs	ETD Lawas for Miri
1430 hrs	ETA Miri

CLASSIFICATION OF TOUR

Strenuous throughout and it is not for casual tourists. Every day involves almost a full day of trekking (averaging 8 hours). There will be hills and mountains to climb. Cost (when arranged with Sampson) are as follows:

02 Pax (Minimum)	: RM 1,400.00
04 Pax	: RM 1,100.00
05 - 09 Pax	: RM 900.00
10- 14 Pax	: RM 750.00

Cost is Ex-and -Return Miri Airport and is inclusive of airfare, accommodation, all meals (food), 2 full-time porters - to carry rations, and with Sampson (or his personal nominee) guiding.

Exclude: Fee of personal portage- Going rate now is RM 60.00 per day + 2 days for return trip from Bakelalan cost of alcohol & liquor; and, food/drinks taken outside the package.

Bario-Murud-Bario

A suitable plan for a 6-day return trek to the summit from Bareo is as follows:

Day 1: Bareo to Pa Lungan. Assuming you arrive by air at Bareo before noon, you can reach Pa Lungan the same day.

Day 2: Pa Lungan to Long Rapung

Day 3: Long Rapung to Half-Way-Up-Murud

Day 4: Return scramble to Murud summit from Half-Way-Up-Murud

Day 5: Half-Way-Up-Murud to Long Rapung

Day 6: Long Rapung to Bareo

If there is heavy rain, the rivers may be in flood and difficult to cross. You may have to wait 24 hours for the water to subside. Although you may be able and willing to cross flooded water, your guides may not. A long rope for river crossing would be useful in wet weather.

Pa Lungan to Long Rapun

Allow 5 hours for this section. This is the main track to Ba Kelalan. Once on the track, the way is obvious. The track is flat at first and then goes steeply up over a ridge and drops down to Long Rapung.

Long Rapung is on the bank of the Rapung river. There is a shelter built by Indonesian hunters, surrounded by very large bamboo. The shelter is heavily infested with insects attracted by scraps of animal meat discarded by the hunters. A very smokey fire or a lot of insect repellent is needed to avoid continuous insect bites. A tent sheet may be needed as the roof may be in bad condition. Long Rapung is the site of a former longhouse with 70 people. However, it was attacked by Indonesian forces during the Confrontation War and abandoned. It then became the site of a helicopter landing pad for some years. Near Long Rapung the main trail continues to Long Rupai in Indonesian territory and then onto Ba Kelalan (back in Sarawak). Another trail, now disused, goes around Indonesian territory to reach Ba Kelalan by a longer route.

Long Rapung to Half-Way-Up-Murud

Allow 7-8 hours for this section. The time depends on the state of the rivers.

First, the Rapung river must be crossed. This can be forded easily: the water is only waist deep. However, in rainy conditions it may be necessary to cross over on a makeshift bridge of fallen or cut down bamboo. After about an hour, there is a left turn off the main trail towards Murud. This turn-off is in a small, dark valley and is not obvious. The main trail continues to Kalimantan, as described earlier. The land is quite flat and there are at least four main river crossings. The first one is just after another Indonesian-built hunting shelter at Pat Liuk. The final one is at the base of Murud. The main river crossed is the Dapur (called the Ulu Dapur upstream) which may be crossed three times. Near the base of Murud is an old platform built by the Survey Department. This could be a convenient campsite. There is a steep trek up the side of Murud for 12-2 hours to a campsite at about 1,750 m (5,770 ft). This site is known as Half-Way-Up-Murud. The site is in tall and quite dark mossy forest. There are a lot of orchids. There is a stream about 10 minutes down from the campsite.

Half-Way-Up-Murud to The Summit

It is a long and strenuous day from the campsite up to the summit of Murud and back down again. It is important to take ponchos to guard against heavy rain. Also take a torch to help find your way back in the late afternoon. If you intend to camp at the summit itself, take water for the overnight camp.

This is an established hunting route so the trail is actually marked with parang cuts while the forest is tall. The trail goes steeply uphill and then emerges out of the tall forest onto the steep open side of Murud. One must scramble up steeply through moss to emerge on the summit ridge.

In clear conditions there are good views south from the summit ridge. The disused airstrip at Pa Lungan can be seen as a brown patch in jungle on a bearing of 160°.

The summit ridge is very broken. At some places, vertical sections must be climbed using small tree roots for foot and hand holds. Often there are long vertical drops by the side of the trail, right down the mountain side and down bare rock. The ridge top is quite rocky. Care must be taken not to fall into deep holes, obscured by vegetation. The summit ridge is covered with bushes and small trees. The trees bent and twisted. The vegetation is thick and often coarse. There is a lot of moss and lichens. The trail rises towards the summit at the south-west end of the mountain. The summit itself is a broad flattish area, crater-like in shape. The vegetation has been cleared from part of the summit and several other areas on the summit ridge. These areas make suitable campsites. In dry periods there may be no water. The summit ridge is often immersed in thick mist and cloud and buffeted by driving rain and wind. It can be quite cold. The Author recorded a temperature of 11°C at 6.00 p.m. Minimum night temperatures are commonly 6°C. On a clear night one can see the lights of the oil installations off the Brunei coast. In daytime, the view from the summit is often obscured by cloud. However, on a clear morning, the twin peaks of Batu Lawi can be seen on a bearing of 250°. If you are returning to the campsite at Half-Way-Up-Murud for the night, it is important to leave the summit by 3.00 p.m. at the latest. If you delay past this time, there is a real risk of being caught out on the summit ridge at dusk.

Return to Bareo

Starting from Half-Way-Up-Murud, Long Rapung can easily be reached one day. The next day, Bareo can be reached by late afternoon (this includes a lunch stop at Pa Lungan).

The varied mountain terrain

A trek or climb to the summit of a jungle mountain takes one through varied terrain. The route often starts on cultivated land, which is easy to cross. It then goes through secondary jungle or belukar. This is land that was cleared and perhaps cultivated in the past and then abandoned. Moving through belukar can be very unpleasant: it fits most people's conception of jungle as a 'green hell'. The vegetation is short, but very dense and hot. Visibility is often zero except along a path. Belukar gives way to primary jungle. This is undisturbed jungle, essentially unchanged for millions of years, and it is a very different world. The trees are very large and tall shooting straight up to form a dense canopy

of interlocking branches over 50 m above the ground. The canopy screens out most sunlight, so the ground is very gloomy with speckles of bright light that come down through small gaps in the foliage. The trees are often supported by huge buttresses of roots that snake out along the ground. This terrain is easy to walk through: there is little green vegetation between the trees. However visibility is only about 100 metres, there are no landmarks and it looks the same in all directions. It is very humid with a very constant temperature and the absence of any breeze can make one hot and uncomfortable.

Montane forests begin to be recognisable around 800 metres above sea level. There is no sudden transformation from the mixed dipterocarp forest but a gradual change in character. The appearance of tree ferns amongst the high stature trees is the first indication of the transition. As the altitude increases, the climate becomes cooler, wetter and tree height and diameter decrease. At the higher altitudes, trees are merely 1.5 metres tall.

Up mountain ridges, the trees become shorter. There are occasional views out over the forest below. Pine trees may appear, with their characteristic cones. At around 1,200 m, the trees change to a forest: on the ground one finds huge acorn nuts that have fallen from the canopy above.

The forest has a unique atmosphere created by the drift of clouds and the profusion of hanging mosses, liverworts, orchids, and ferns that cover the trunks and branches of the trees. At higher elevations, even the ground is covered with epiphytes, plants that normally grow high in the trees at lower elevations.

Species from families associated with the temperate regions of the world are common, e.g., *Quercus* and *Lithocarpus* from the oak family, *Rhododendrum* and *Vaccinium* from the heath family.

Many plants have small thick leaves which decompose slowly when dead, especially at these lower temperatures. As a result, the organic litter accumulates, releasing little of its nutrients, and plant growth is slow. Pitcher plants are well adapted to these conditions and abound on the forest floor, on shrubs, or even in the crown of trees.

At about 1,500 m - though this may be much higher -one enters mossy forest. Clumps of moss hang from the branches of stunted trees, cover their trunks and sit foot-deep around their base. The ground is everywhere covered with patches of bright moss and lichens-green, red, yellow and every shade of brown. Sometimes the moss is so dense that you can find yourself walking through tunnels of the stuff.

Many pitcher plants are found in mossy forests. Clumps of squat ground pitchers sit nestled on beds of moss, and elongated aerial pitch hang from vines high up. At higher altitudes, above 2,000 m, the vegetation becomes thick shrub a few metres high. Its leaves are small, thick and tough to resist solar radiation and prevent loss of water. They contrast with the large thin leaves of the lowlands. The trees are now very short and stunted. Rhododendrons, with their red, orange, yellow or white flowers are now very prominent. At lower altitudes, the flowers are high up in the tree-tops. Now they are at head height. Temperatures now vary enormously during the day. On the summits of at about 2,600 m, night temperatures usually plunge below 5°C. Daytime rain are cold and unbearable without a rain cape.

Mossy forest is swept by low clouds and immersed in mist. It is wet and can feel very cold. Mossy forest is an ideal place for epiphytes that grow on other plants and tree trunks above the ground. Their roots are in the air, not the earth and absorb moisture from mist and rain. Mossy forest contains many epiphytic orchids that grow on tree branches and clefts in tree trunks. One of the most beautiful displays of orchids can indeed be seen on Gunung Murud, during the flowering season in September.

7. The Ascent of Batu Lawi

A four day trek to the most famous mountain in the Kelabit Highlands.

Introduction

The Bario Plateau lies to the Southeast of Brunei, in Sarawak, adjacent to the border with Indonesian Kalimantan. It is an isolated area with an elevation of some one thousand meters, surrounded on three sides by mountain ranges. On the Southern side of the plateau, rivers drain from the central plain through deep gorges and eventually form the Baram.

Batu Lawi is a very distinctive mountain with twin peaks rising to more than two thousand meters. It is located North of the plateau, some twenty kilometres or two day's walk from Bario. For centuries the mountain has been of religious significance to the Kelabit people who would make long pilgrimages from either Bario or Bakalalan to its base. More recently, it became an important landmark for the special forces who were parachuted into Bario during the Second World War to form a resistance movement against the occupying Japanese.

Batu Lawi's lower, or female, peak was first climbed in 1946 by Tom Harrison who erected a memorial to those killed during the campaign against the Japanese. The main, or male, peak is a finger of sandstone which rises more than one thousand feet from the mountain below. The ascent of its sheer rock faces requires specialist climbing equipment and has only been achieved twice. Firstly by a British Army expedition in 1985/86 and then in 1993 by a group of Australians.

The ascent of the female peak was, until recently, quite an arduous undertaking - involving a return trek of almost a week with overnight stops in makeshift shelters. In 1991, however, a project was initiated to improve tourist access to the mountain. This was sponsored by the Sarawak government at a cost of M\$ 50,000 and executed by villagers from Pa Ukat and Pa Umor whose guides and porters will benefit from the resulting tourist income.

The project comprised improvements to the path from Pa Ukat to Batu Lawi, for example the construction log bridges across deep gullies to avoid long detours and the building of two permanent wooden shelters. These are similar to the camps in Mulu National Park, though smaller and less sophisticated since most of the materials were carried in by porters rather than being airlifted by helicopter. The first shelter is located one day's walk from Bario and the second a few hundred meters below the saddle from which Batu Lawi's twin peaks protrude.

These improvements result that the return trip to Batu Lawi can easily be accomplished in four days by any reasonably fit tourist party.

Route Description

The timings in this route description are based upon a trip that was made between Christmas and New Year 1995. Possible alternative itineraries are discussed in a later section.

Day One - Bario to Camp Penaad

The first part of the trek comprises a straight forward walk of some forty five minutes from Bario to Pa Ukat, the village at the head of the trail. The route follows wide cart tracks which, in dry weather are used by mopeds and small trucks. It is a straight road which passes (right hand) turn offs to the new airport and, at about half distance, the road to the village of Pa Umor. Evidence of the traditional agriculture of the highlands - wet rice paddy fields and water buffalo pastures can be seen along the way.

There will probably be some delay at Pa Ukat as your guide pays his respects to family and friends and assembles porters (even if arranged in advance this seems to be very hit and miss - our group had booked four porters to assist in carrying specialist climbing equipment, but departed with only two).

The trail from Pa Ukat passes to the side of rice paddy fields for some fifteen minutes before, after a right hand turn across an irrigation ditch, entering an area of secondary jungle and water buffalo pastures. The path here is has been churned up by cattle and is very muddy. In several places there

are forks leading to fords (for the buffalo) and simple bamboo bridges across a wide meandering stream. Keep to the right at any junctions to remain on the main trail up the valley.

After twenty minutes amongst the pastures, the trail emerges in a small area of paddy fields with a number of rice harvesting huts on the left hand side. This is the last cultivated area in the valley and after some ten minutes walk the path enters the jungle. Shortly afterwards, at about one hour's walk from Pa Ukat, you will pass a small dam across a fast flowing stream from which the irrigation and drinking water is taken for Pa Ukat. This marks the start of the trail proper and the ascent towards the pass through the Tamu Abu cliffs.

The ascent follows the stream all the way up the valley with several fords along the way. At one point, some forty minutes from the dam, the path is blocked by a series of fallen trees. Whilst it is possible to push through these and continue following the stream, the correct route is to back track for some fifty meters to make a steep detour up the valley side and across a spur before descending back towards the stream. In December 1995 both trails were equally evident but it will not be long before the detour, which is already well trodden, becomes established as the main path.

After several more fords, the trail passes alongside two huge boulders (on your right hand side) and crosses a small stream. A few hundred meters later there is a clearing across the path which marks the site of our first night's camp. Samson had earlier called this place "Penaad". It is not a regular camping spot - there is no permanent sleeping platform and access to the stream requires a short scramble down a muddy bank. It has probably been chosen in the past due to the availability of huge palm leaves in the vicinity which can be used as bedding and roofing material.

The first of our group arrived here at 16.30 hrs, some two and a quarter hours after leaving Pa Ukat. With the aid of some tarpaulin sheets, our porters soon prepared a comfortable, dry sleeping area.

Day Two - Camp Penaad to Camp 2

The climb from Penaad to the pass over the Tamu Abu cliffs takes around two hours. The first hour is spent in a steepening climb, following the river system up the valley, with several fords. At one point, the path follows the stream bed for about fifty meters before continuing (very distinctly) up the right hand bank. At each ford there are suitable stepping stones although these are slippery and most people elect to walk through the water rather than risk jumping from rock to rock. The trail is never far from water and there are several old hunters campsites along the way.

After about 75 minutes walk from the camp, the trail climbs away from the stream up onto a ridge with steep drops on either side. The path here is good and wide, climbing only gradually towards a viewpoint where the sheer Tamu Abu cliffs can be seen through the trees on the left hand side.

Fifteen minutes later the path leaves the ridge and traverses westward, i.e. left, along the steep cliff base (the bare rock is, however, not visible through the trees above you). The ridge must end at a point where the cliffs are impassable (Briggs implies as much in his book, see later) and the traverse is necessary to bring you below the only gap.

After the traverse, the trail climbs steeply to the pass. This is marked only by a small clearing which has been used as a resting point and camp site (though there is no water here). There is no rising ground visible on either side of the path and it is only the descent into the boulder field fifty meters further that indicates you have passed the highest point. We reached here some two hours after leaving the overnight camp.

On the other side of the cliffs, the change in vegetation is abrupt. The climb has until now been through typical upland primary rain forest, with little change in appearance during the ascent. On the descent, however, the trees are more stunted and everything is covered in thick green moss. This distinct change must indicate that the Bario side of the cliffs are in the lee of the prevailing winds, with the northern side more prone to cloud cover and resulting precipitation.

The other change as one descends the pass is the boulder field. Rather than a muddy footpath, the trail now passes through a series of moss covered boulders more than a meter in diameter. These are very slippery and progress becomes quite slow. In a number of places there are deep holes between the boulders, some of which have been bridged by short logs.

The descent from the pass is gradual, with a change in elevation of less than two hundred meters in the ninety minutes walk to Camp 1. During the first half of this section the trail passes through three

main boulder fields before continuing alongside a narrow stream. Everything remains covered in thick brown and green moss, even the banks of the stream, which gives the water a peaty appearance though it is quite clear when collected.

At several stream crossings there are vast mats of an umbrella fern *Dipteris Lobbiana*, a montaine species that thrives on rocky ground which is frequently covered by fast moving water.

As the stream widens, there are a number of fords and several log bridges. Most of the bridges are small although two, over the deepest gullies, are built from very large trees more than six meters long. The path in this area is in very good condition, though occasionally swampy, and fast progress can be made.

Suddenly the trail emerges at the side of the Ulu Limbang river. This is of marked contrast to the streams along the descent, being more than ten meters wide, meandering and stained brown with tannin. Two hundred meters later, surrounded by thick grass teeming with leeches, lies the wooden hut at Camp 1.

Camp 1 was our lunch stop on day two. We reached it at 12.00 hrs after leaving Penaad at 08.15 hrs and pausing for some twenty minutes at the Tamu Abu pass. It is a totally enclosed hut with a central fireplace and ventilation openings between the walls and ceiling. Outside there is a clothes drying line and a long "park bench" type seat next to the river. The hut comfortably slept our group of eight on the return leg and could probably accommodate ten before becoming too crowded.

There is a fading sign in the hut giving the names of the villagers from Pa Umor and Pa Ukat who were involved in it's construction. It includes a memorial to the four workers who were killed when a flight between Bario and Marudi crashed at Long Seridan in 1992.

After waiting until 13.30 hrs for the last of our group to arrive at Camp 1, and enjoying one of Samson's culinary delights for lunch, we finally began to depart for Camp 2 at 14.30 hrs. This, it transpired, was *far too late* to be able to reach our destination in the safety of daylight.

After crossing the river in front of the camp, the trail continues along flat, swampy ground for at least forty minutes. There are several river crossings, the last three of which are within a few hundred meters of each other and comprise fords across rocky stream beds. This marks the start of the gradual ascent up to the ridge walk section of the trail.

We were warned by Samson that there were several hunters trails which left the ridge and that we should take care not to descend too early. Whilst we saw several side trails (principally to the right of the main path) these were much less distinct. In several places side trails were symbolically blocked by an "X" of cut saplings to avoid confusion and the main trail was regularly marked with parang marks blazed into the tree bark. I doubt whether anyone following the trail in daylight could stray from the correct path. Nevertheless, Seamus and I marked our trail with toilet paper at any junction to assist those who followed.

The walk along the ridge lasts for about one hour. The ridge is not sharp but rather flat on top with a number of swampy sections as the path undulates through the mossy forest. At half distance, we found a Punan message stick at the side of the trail, next to the junction with a small hunters trail or pig track. We were later told that this point offered, in clear weather, the first sight of Batu Lawi though thick clouds prevented us from seeing anything.

At the start of the long descent the ridge narrows. A wide valley can be glimpsed through the trees to the right whilst the sound of a fast moving stream can be heard far down to the left. The jungle floor here is very open and the path becomes less distinct. In several places it was necessary to check for the parang marks on the trees to confirm that we were on the correct trail.

A few minutes into the descent, at a right hand bend, trees have been cut at the left hand side of the trail to give a view of Batu Lawi. The view from here is spectacular (I have seen photographs) as you are now only two or three kilometres from the summit. Unfortunately, cloud cover prevented us from seeing anything on the outward journey and we missed the spot on the return.

Three hours after leaving Camp 1, we reached Sungai Tabun - a fast flowing stream at the foot of the ridge. The path continues on the other side of the stream and climbs away for some 100 meters before swinging right to follow the bed of another stream. After some 15 meters along the stream bed there is a sharp right turn up the bank (marked again with a parang cut in a tree).

The trail climbs over a small ridge before descending again. In the bottom of the valley is a log bridge over a deep gully. This is the most difficult bridge of the trip, especially as it comes near the end of a very long day's walk. The log is more than eight meters long yet only some forty centimetres in diameter and slippery. The drop to the stream below must be at least three meters as the tops of trees and shrubs along its bank were below the level of the log. Seamus and I crossed this point at 17.40 hrs, in the gloom of an overcast dusk. The rest of our party were some thirty minutes behind and our porters, who had tidied up at Camp 1 before their departure, crossed in the dark with one fading torch. It is essential that you make an earlier start from Camp 1 to avoid the risk of crossing this point in the dark - there seemed to be no obvious detour.

After another ten minutes we reached a ford over a third stream which also forms part of the Sungai Tabun system. The last twenty minutes before Camp 2 were spent on a steep ascent up Batu Lawi itself. Just before the hut comes into view, the trail passes a rough helicopter landing area on the right hand side (built not to assist in the construction of the camp, but more recently to fly in a high ranking army officer on a "pilgrimage" to the mountain) and finally over a very small stream which provides the drinking water to the camp.

We arrived at 18.05 hrs, just over three and a half hours after leaving Camp 1. Though we had spent some time checking out side trails along the route, we walked quickly to avoid becoming caught in the dark and, ideally, four hours should be allowed for this leg.

Camp 2 is of similar construction to Camp 1, though slightly smaller. It is beginning to show signs of neglect as one of the floor cross members has already collapsed leaving one half of the room some four inches lower than the other and providing a convenient access for rats (we saw none, though the visitors book gave details of earlier "visits"). This hut is surprisingly warmer than Camp 1, being some two hundred meters lower and located in a more sheltered spot.

Check out the visitor's book for details of earlier expeditions including the Australian party who climbed the main peak in 1993.

Day Three - Camp 2 to Batu Lawi Summit and Camp 1

Immediately after leaving the camp the trail begins to climb steeply. Initially it follows a small ridge where the sound of a stream (probably the same as passes next to Camp 2) can be heard below to the left. It then continues to wind up the side of the mountain - look out for parang marks blazed on the trees as in several places the jungle floor is open and it is difficult to make out a regularly worn trail.

Some forty minutes after leaving the camp, there is an excellent view of the main peak as the trail passes along the edge of a small land slip. Ten minutes later the path steepens markedly as it continues to the right of a sheer rock face. The vegetation also changes at this point with the start of the mossy forest. The last ten minutes to the saddle are a scramble up over moss covered boulders and between stunted tree roots. In one place a thin nylon rope has been placed to provide an additional hand hold.

We reached the saddle an hour after leaving camp 2. To emerge on the saddle is breathtaking after the ascent under the forest canopy as the vegetation here is low and offers wide views. To your right (north) is the main peak and to your left the female. In front of you are views towards Bukit Batu Iran and behind you, in clear weather, Murud can be seen.

From your position low in the saddle with the two peaks towering close by on either side, it is difficult to judge their height. The female peak appears only a short scramble away (rather than half an hour's hard slog) and whilst the main peak looks impressive, there are better view from the path to the female peak. Even though we had partial cloud cover we were lucky as some groups reach the saddle with both peaks shrouded in mist, then climb the secondary peak and return without ever having seen the main peak!

The scramble to the secondary summit is steep and similar to the last ten minutes up to the saddle. The only change is the excellent views and the fact that, in several places, there are sheer drops of more than a hundred meters either side of the path. Nylon ropes have again been placed to provide hand holds up the steepest sections.

Twenty minutes from the saddle, you reach a large overhang where a brass replica of Tom Harrison's plaque has been fixed. It was erected in 1987 by a group of Australian servicemen who had made an earlier ascent in 1985 to decipher all they could from the original wooded memorial. The remains of the Harrison's plaque can also be found at this point, in a cleft in the rock, along with several other mementoes left by more recent climbing parties.

A rough rope ladder has been fixed to assist the climb up this overhang from which it is only a short scramble to the summit itself. From here are the best views of the main peak as you are now of similar elevation and some five hundred meters away. Take time to enjoy the views but to not follow the tradition of writing your name on one of the rocks!

After spending some time on the summit, the descent to Camp 2 should take about one hour. If you had set off for the summit after breakfast it should now be time for lunch.

The trek back to Camp 1 took the first of our group three and a quarter hours. We were surprised to be quicker in this direction as there is a net increase in height on the way back. In particular, the ascent from Sungai Tabun up on to the ridge seemed to be a very long uphill slog. Even at a moderate pace, however, you should arrive at Camp 1 with plenty of time to bathe in the (very cold) Sungai Ulu Limbang and set up camp before night fall.

Day Four - Camp 1 to Bario

The trip back to Bario is just a long route march. There is very little uphill walking but at least ten kilometres to cover before Pa Ukat where we were aiming to arrive before lunch. If you only concentrate on covering distance then this leg could become quite boring but instead, take time to photograph the mossy forest and listen out for wildlife.

During the four days, different members of our group encountered wild boar (disturbing a whole family at a small stream and, on a second occasion, a large male who crashed away through the undergrowth), red leaf monkeys (difficult to identify high in the canopy, but definitely brown), small squirrels and heard gibbons early in the morning at Camp 1. The trek from Camp 1 to Pa Ukat took us some five hours.

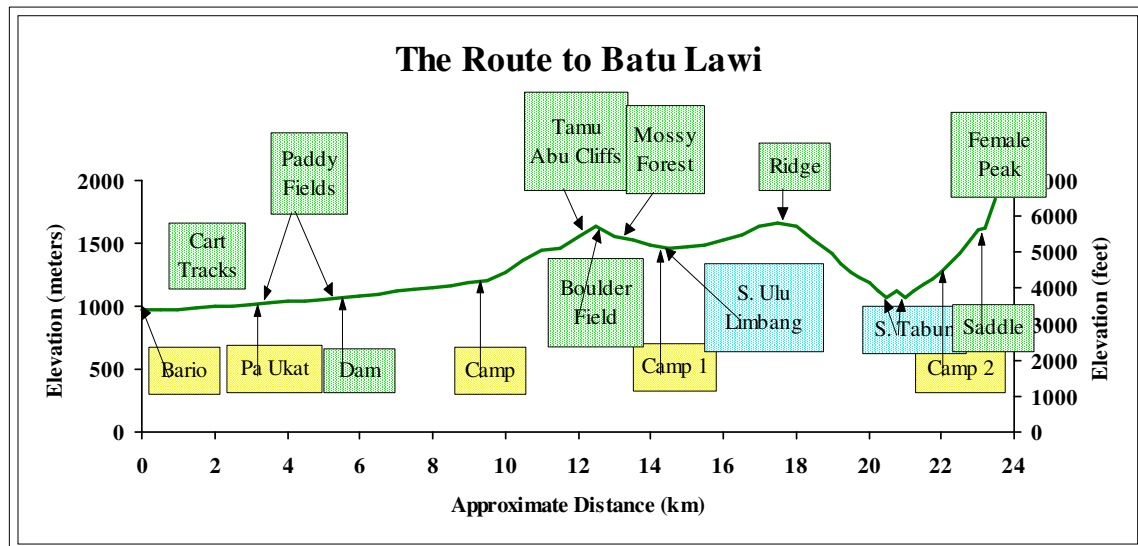


Figure 2 The route to Batu Lawi

List of Waypoints

	Description	Co-ordinates (Timbali)	Time	
			Ascent	Descent

		<i>Elevation</i>		
1	Bario <i>Tarawe's Lodging House</i>	N 03° 44' 28.5" E 115° 27' 42.9" <i>1000 meters</i>	Depart 13.00 hrs	Arrive 17.00 hrs
2	Pa Ukat <i>Village at the head of the trail</i>	N 03° 45' 38.6" E 115° 29' 09.4" <i>1020 meters</i>	Arrive 13.45 hrs Depart 14.15 hrs	Depart 16.20 hrs Lunch Arrive 13.10 hrs
3	Dam <i>Water supply to Pa Ukat</i> <i>Start of jungle walk</i>		15.15 hrs	
4	Temporary Camp "Penaad" <i>One of several suitable sites</i> <i>on the ascent up the valley</i>	<i>1180 meters</i>	Arrive 16.30 hrs Overnight Camp Depart 08.15 hrs	11.30 hrs
5	Ridge below Tamu Abu Cliffs <i>View Point before short descent</i> <i>and traverse towards the pass</i>	<i>1625 meters</i>	9.30 hrs	
6	Pass over Tamu Abu Cliffs <i>Start of Boulder Field &</i> <i>Mossy Forest</i>	<i>1670 meters</i>	Arrive 10.00 hrs Depart 10.25 hrs	10.00 hrs
7	Camp 1 <i>Permanent shelter next to</i> <i>Sungai Ulu Limbang</i>	N 03° 50' 39.2" E 115° 26' 16.0" <i>1500 meters</i>	Arrive 12.00 hrs Lunch Depart 14.30 hrs	Depart 08.10 hrs Overnight Camp Arrive 16.15 hrs
8	Ridge	<i>1670 meters</i>	15.40 - 16.40 hrs	
9	Sungai Tabun <i>Two fords & one log bridge</i> <i>over deep gully</i>	<i>1100 meters</i>	17.25 - 17.45 hrs	
10	Camp 2 <i>Permanent shelter at Pa Tabun</i>	N 03° 52' 00.7" E 115° 23' 36.9" <i>1300 meters</i>	Arrive 18.05 hrs Overnight Camp Depart 08.10 hrs	Depart 13.00 hrs Lunch Arrive 11.45 hrs
11	Saddle	<i>1700 meters</i>	09.10 hrs	11.00 hrs
12	Female Peak	N 03° 52' 07.8" E 115° 23' 00.8" <i>1870 meters</i>	Arrive 09.40 hrs Depart 10.40 hrs	

Notes:

1. Departure/arrival times were for the first members of the party. At least 20% extra time should be allowed for each leg.
2. Approximate elevations were measured by Neil Casson using a divers watch.
3. Time constraints and thick tree cover prevented me from taking more GPS fixes. The path between the camps is, however, reasonably straight except for a slight dog leg on the descent from the ridge towards Sungai Tabun. Briggs's book provides a good sketch map.

Planning the Trip

Our itinerary was probably the best that could be achieved with an early morning flight into Bario. The trek from Bario to Camp 1 will take at least seven hours and with flight delays and porters to organise, this would be almost impossible with an arrival in Bario around 10.30 hrs.

Setting off from Bario or Pa Ukat in the early morning, however, the two permanent camps are ideally situated at the end of the first and second day's walk. In fact, the relatively short distance between Camps 1 and 2 opens up the possibility of reaching the summit on day two and spending spare time on the way back fishing or exploring the area around Camp 1.

Our itinerary offered no contingency should the summit be shrouded in cloud or bad weather delay our ascent. A possibility would have been to leave Camp 2 for the summit before dawn to catch the sunrise (and, from experience on Trusmadi, the clearer weather before cloud begins to rise from the valleys). Our late arrival the previous evening, however, resulted that nobody suggested this!

We could have improved our itinerary by making earlier starts in the morning and eating a cold lunch rather than a full cooked meal. This would have left more time for relaxing at the end of each day's walk and, on day two, avoided the potentially dangerous arrival in Camp 2 after dark.

Flights into Bario are notoriously unreliable, a situation that may only marginally improve with the opening of the new runway which is scheduled for mid 1996. It is essential that you plan alternative routes into Bario (fly/walk via Bakalalan, drive/walk via Lawas and Bakalalan or as we were forced to do on an earlier attempt, fly/boat/drive/walk via Marudi, Long Temala, WTK logging concession and the Kubaan Trail!). Make sure that you have one or two days spare at the end of your trip, before your boss/wife/girlfriend begins to panic, to make sure that any delay in reaching Bario does not result in your whole trip being scrubbed. Note that space on the Marudi - Bario charter flights cost M\$ 2/kilo (for you and your luggage!) outward when space is at a premium but that the return flight is only some M\$ 50 per person.

Whilst it is not necessary to make the trip on a guided tour, since the trail is very clear, protocol probably dictates that you employ one or two porters from Pa Ukat as a minimum. These should be booked in advance - see useful addresses later.

Permits

Permits to visit the Ulu (interior) - are officially required for any non Malaysian travelling above Marudi. If you arrive on a scheduled MAS flight for an organised tour (with Samson Bala for example) this requirement is usually waived. On the other hand, those hoping to make their own arrangements with local porters or who may be forced to take alternative routes into Bario in the event of flight cancellations, are strongly advised to have the correct paperwork.

Permits can be obtained in advance from the Residents Office in either Miri, Marudi or Limbang. The standard procedure is to first visit the police station with two copies of your passport in order to gain clearance for the trip. You will be required to complete a form with your profession, other personal details and the purpose of your trip (ecologists, journalists, members of Greenpeace etc. are automatically excluded at this stage!). The police inspector endorses the form which you then take to the Residents Office where you complete yet another form to enable your permit to be issued.

Climbing the Main Peak

Our group included two experienced climbers who intended to make an attempt on the main peak. They brought with them a considerable amount of technical climbing gear and had allowed an additional twenty four hours at Camp 2 to complete the ascent.

After receiving the peak from the saddle, however, they abandoned their attempt for two main reasons. Firstly, it had rained considerably during the night and the cloud base was then below the main peak. Wet weather or poor visibility during the climb would have posed a major risk. Secondly, whilst they assessed that the climb was within their capabilities, there were no other members of our party who could have offered assistance if they got into difficulties.

Bearing in mind the grade of the climb (see later), unreliable weather and remoteness of the mountain, attempts to climb the main peak should only be made by parties of four to six experienced mountaineers, with the time and resources necessary to adopt a siege approach. This has been the method used on the two previous successful attempts (the first group of British Army climbers in 1986 even had helicopter support for re supply and any casualty evacuation!).

Paul Casson, one of our climbers, had been unable to source any technical information from the two earlier ascents and provided this information from the visitors book in Camp 2 and his own reconnaissance:

The first ascent in 1986 was via the North Ridge after unsuccessful attempts from the saddle (up the Southern Face) and two days trekking round to this easier route.

The second ascent was via the South East Buttress (perhaps the more difficult side but visible from the saddle or secondary summit and better suited to photographs for Australian Geographical magazine!). Starting from the saddle, this group traversed Eastwards up easy slabs before ascending using grooves and corners on the East Face. Midway in the ascent, they made a rising traverse onto the South Ridge which offered clean rock before the angle becomes easier close to the summit.

The ascent comprised five technical rock climbing pitches (presumably fifty meters each) and was indicated in the visitors book as "Grade 20". If this refers to Australian climbing grades, this is equivalent to British "Hard Very Severe/E1 5a/5b". There was no information to suggest whether this referred to the whole climb or just one particularly difficult section. Fixed ropes and jumars were probably used to allow the whole party to make the ascent over the several days they remained at Camp 2.

Paul added that from the aerial photographs, and our MAS sponsored fly past on the way in, there appears to be another feasible route on the South West corner, via an angled ramp that is obscured when the main peak is viewed from the saddle or secondary summit.

Geology

Batu Lawi's exposed rock faces have a distinctive white appearance that led to the mountain being mistakenly identified in the past as being of limestone. It is, however, composed of sandstone as are most of the surrounding mountains (the nearest limestone outcrops are probably in Mulu National Park).

Neil Casson advised that the sandstone of Batu Lawi and the Tamu Abu cliffs, is well cemented and of the Meligan Formation of the Late Oligocene to Early Miocene age (17 - 30 million years old). It is significantly harder than the surrounding rocks and has resisted weathering, resulting in the spectacular appearance of these two features.

Access from the Logging Concessions / Kubaan Trail

Standing on the summit of Batu Lawi, no evidence of logging was visible in any direction. My GPS, however, indicated that a way point taken a few weeks earlier on the logging roads close to the start of the Kubaan trail was less than nine kilometres away. Camp 1 was also a similar distance from a fix taken midway during that walk into Bario.

Whilst the advance of logging towards this beautiful spot is worrying, it opens up the possibility of alternative routes to the mountain. The terrain in the area is undulating but not really mountainous and should pose no serious problems for a well equipped group ready to make camp in the open. (We considered making the trek from the logging concession to Batu Lawi whilst staying at WTK Jelita logging camp, some eleven kilometres from Batu Lawi, the evening before embarking on the Kubaan trail. The idea was rejected, however, because we were not properly equipped, in particular lacking parangs and any materials to make an overnight shelter. Our overland journey had only been necessitated by flight cancellations and we had expected to pick up these essentials in Bario.)

8. Ascent of Gunung Trusmadi

An Account of the Trek in the Crocker Range National Park Sabah.

Introduction

Gunung Trusmadi is, at 8670 feet (2640 meters), Malaysia's second highest mountain and is located in the Crocker range some 60km south of Kinabalu. Until recently the ascent required a 7 to 10 day round trip from Tambunan but logging activity in the foothills has now made the area accessible to motor vehicles and the summit can now be reached after only one days climb from the nearest logging road.

There are no facilities on the mountain and overnight accommodation is in tents. One night is normally spent on the summit to take advantages of the spectacular views of Kinabalu at sunset and sunrise

The total ascent from the logging road to the summit is 4500 feet (1370 meters) over some 10 km. The path is well trodden and proceeds directly to the summit without any forks or junctions. There are few difficult steep sections although in many places the path narrows and it is necessary to squeeze between or under stunted trees.

In addition to the views from the summit the main reason for making the ascent is the opportunity to see a wide verity of pitcher plants including the large *Nepenthes X Trusmadiensis* which grows at higher altitudes and is said to be unique to the mountain.

Route Description

Day 1

- Turn off the main Tambunan - Ranau road about 4 km South of Tambunan at Waypoint 1. If you are driving from Tambunan this is a left hand turn opposite a row of shop houses. The road is signposted "Jalan Kaingaran".
- The road is initially sealed and after about 500 meters passes over a bridge across a small river. Soon afterwards the road becomes unsealed and travels more or less directly to Kg Kaingaran about 20 minutes later. There are several forks on the way to the Kampong but these are mostly logging tracks and the correct route is very distinct.
- Kampong Kaingaran (Waypoint 2) is a Dusun settlement and has a large school which obviously serves the whole area. The porters for the climb (two brothers) are based here.
- After collecting the porters turn back along the dirt road back towards Tambunan. The junction for the mountain is the first left hand turn approximately 5 minutes drive outside the Kampong. There is a small logging vehicle maintenance camp at the junction and a **padlocked barrier**. The porters needed to find the logging camp boss to open the barrier which may be one of the principal advantages of including the porters in your party.
- The drive to the base camp is along logging trails for a little over one hour. The road is of good quality and is easily navigable with a Toyota minibus (not 4WD). The route generally follows the main (most heavily used) road and there are only two "T" junctions on the way - turn right at both junctions. Our guide informed us that a left turn at one of these junctions would have lead to a camp site only two hours walk from the summit, but that the road was impassable except for 4WD vehicles. Again, the porters would be invaluable in giving directions to this alternative starting point.
- The base camp site (waypoint 3) is just off the main road and is reached via a rough track on the left which climbs steeply to a clearing with a small weather station. We have no exact distance to this junction and without the guides/porters it could easily be missed unless you are using GPS.

The last water stop before the base camp is a small stream which crosses the main logging road approximately 1km before the turn off.

Day 2

- The path to the summit begins at the opposite side of the base camp clearing to the entrance track. The path is initially indistinct and overgrown although after about 100 meters one enters the main jungle canopy and the path is much clearer. The first few hundred meters of the route generally follow a ridge but there are both ascents and descents with little net gain in height until a steep 150 meter long uphill section marks the start of the climb.
- The first hour and fifteen minutes climb up the ridge is through primary rain forest with a high canopy. There are several small clearings along the way although the dense cover overhead prevented us taking a GPS fix.
- Waypoint 4, at 6650 feet, marks a distinct change in the type of vegetation with the tall trees of the primary rain forest having given way to smaller stunted trees and bushes. Stunted trees often cross the path and it is necessary to squeeze over or under them. This is also a very important point as our guide informed us that this marks the end of leech country, the upper slopes being too cold/dry/exposed to support them.
- For approximately two more hours the trail climbs only slowly to waypoint 5 at 7750 feet. The path continues to follow the ridge and, on a clear day Kinabalu should be visible due north. The trees are increasingly covered in moss and lichens, and there are many pitcher plants along the way - particularly *Nepenthes X Edwardina* & *Nepenthes Lowii*. The pitcher plants were identified using photographs in Brigg's "Mountains of Malaysia" - we probably did not see *Nepenthes X Trusmadiensis* which appears to be similar to *Nepenthes X Edwardina* but with a more rounded bulb and less pronounced ribs around the mouth.
- The next two hours climb to the summit involve a net ascent of less than 1000 feet but there are two steep descents on the way and a further 20 minutes walk from the first peak to the summit proper. The path is now quite narrow and crossed by many tree roots. There are two short, almost vertical sections one of which has a safety rope fixed.
- The summit is reached after between five and six hours walk from base camp. It is marked by a large metal tripod and a concrete trig. point which can be seen from several clearings along the ridge path below. The campsite is 20 meters further in a sheltered depression just below the summit.

The only water on the summit is in two rainwater pools adjacent to the trig. point. It is heavily discoloured but, if boiled, is suitable for making tea or cooking rice (we lived!).

You should arrive at the summit with plenty of time to make camp and rest before the clouds over Kinabalu begin to clear (about 5.00pm on our trip) and the photo session starts.

Day 3

After a night on the summit and an early rise to photograph the sunrise over Kinabalu, the descent to base camp takes between 2 hours 45 minutes and 4 hours. If you have made an early start, the beer that you hid at base camp will still be cool!

Equipment

The equipment list from our May 1995 trip is included in this report. This was based on our arrangements with Api tours who supplied all the food, cooking equipment and tents. Note that if you are making your own arrangements, the porters from Kg Kaingaran do not supply their own food and equipment.

If you are not using porters then you will have a little more to carry (probably 3 - 4 kg extra) and a GPS will be essential to locate the base camp.

Tents are necessary as there are no trees sturdy enough to sling a hammock, either at base camp or on the summit. Tents and sleeping bags are also essential in the cold of the summit.

In planning the weight of your packs, allow for the fact that there is no running water along the trail or at the summit. You should carry about 2 litres for the ascent and 1.5 litres for the descent plus whatever you need for cooking/drinking on the summit (unless you plan to use the rain water pits on the summit). We each left base camp with at least 3.5 litres with the guides/porters carrying a little extra for the meals at the summit. Our rucksacks probably weighed about 15 kg.

Guides/Porters

Our party of six was accompanied by a guide from Api Tours, his helper and two Dusun porters. They were useful in cooking meals and carrying the tents, food and cooking equipment. It is not necessary to use guides to point out the correct route once the base camp has been located although the presence of at least one porter should ensure that your expedition is not hindered by the logging company or local authorities.

Photography

One of the main reasons for making the ascent is the opportunity to photograph the rare pitcher plants along the route and the sunrise and sunset over Kinabalu from the summit. 400 ASA film may be useful in the half light under the forest canopy but most of our photographs were taken either with flash or with the camera supported, therefore, slower film would have been equally acceptable.

There is a flat concrete trig point on the summit which can be used to support your camera for sunrise and sunset pictures. We found that a mini tripod was also useful for larger SLRs and for more varied shots.

Everyone takes Kinabalu from the summit at sunrise and sunset and fails to notice that there is also an excellent view from the campsite itself, where the mountain is framed by trees and bushes, until they return for breakfast!

General

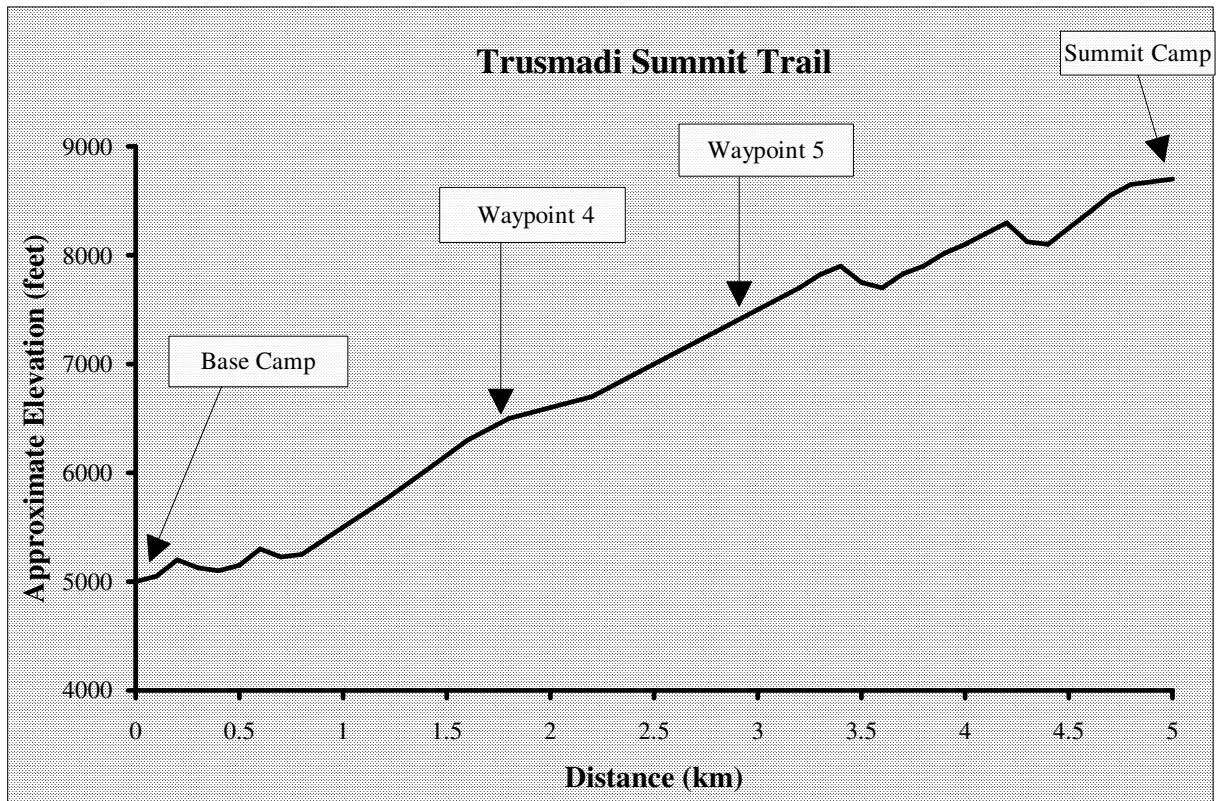
Our trip with Api tours lasted three days although the first day involves no climbing, only the drive to the base camp with an optional tour of the Rafflesia Centre on the way. With an early start from KK, it would be possible to drive to base camp by late morning and make the ascent the same day, thus making it a two day trip.

If a night in the cold on the summit is not appealing it would be equally possible to make the journey to and from base camp in a single day, especially as there would be no need to carry heavy packs. This, however, would mean that you would miss the dawn/dusk views from the summit, when cloud cover is at it's minimum, and a sight of mount Kinabalu would be unlikely.

As there is no running water at either camp, you will welcome the chance to bathe on the way back to KK. A good spot is on the Tambunan - KK road, on the left hand side, just before you reach the Rafflesia Centre. There is no sign post, just a small track which ends about 20 meters from the main road. 100 meters further is a small waterfall where you can wash (not big enough for swimming though). Further along the same road on the right hand side is a signposted track to a larger river and waterfall. This involves a 40 minute walk and you probably won't feel like it!

List of Waypoints

Waypoint	Description	Co-ordinates	Approximate Elevation	Time on Ascent	Time on Descent
1	Turn off Tambunan Road	N 05° 40' 07.3" E 116° 21' 48.6"	630 meters	16.00 hrs (Day 1)	Arrive 10.20 - 11.30 hrs (Day 3)
2	Kg. Kaingaran	N 05° 38' 22.2" E 116° 27' 32.7"	730 meters	16.20 hrs (Day 1)	
3	Base Camp	N 05° 34' 24.6" E 116° 28' 38.8"	1650 meters	18.00 hrs (Day 1) Depart 07.30 Day 2	
4	Start of Mossy Forest	N 05° 33' 52.2" E 116° 29' 19.8"	2000 meters	09.30 hrs (Day 2)	
5	Clearing on Ridge	N 05° 33' 29.8" E 116° 29' 59.2"	2350 meters	11.15 hrs (Day 2)	
6	Trusmadi Summit	N 05° 33' 13.7" E 116° 30' 49.8"	2650 meters	13.30 - 14.30 hrs (Day 2)	Depart 07.30 hrs (Day 3)



9. Mount Kinabalu Summit Trail

A Weekend Trip from Brunei to Climb the Highest Mountain in Southeast Asia 4101 meters (13,455 feet).

General

The Mount Kinabalu climb is described in almost every guide book on South East Asia and in Sabah National Parks leaflets which are available from any travel agent. This description will therefore be brief and limited to topics not covered in the normal tourist literature.

Two days are required for the climb but, now that flight connections between Brunei and Kota Kinabalu have improved, it is possible to make the trip in a normal weekend, flying out on Friday evening and returning late on Sunday.

Although billed as South East Asia's highest mountain, the climb via the 8.5 km long tourist trail can be accomplished by any reasonably fit individual. The ascent begins from 1,829 meters (6,000 feet) and therefore the climate is pleasantly temperate. Overnight accommodation at the end of the first day is provided in a modern rest house where hot food is available and the (bunk) bedrooms are electrically heated.

It is possible to make the trip as part of an all inclusive package through the usual Brunei travel agents or to arrange everything yourself, dealing directly with the National Parks Office in Kota Kinabalu.

Route Description

Day One

- You should aim to depart your hotel in Kota Kinabalu as early as possible on Saturday morning for the 1½ to 2 hour drive to Park Headquarters. Although there is no risk of you arriving too late to complete the climb before night fall, the weather on the mountain is best in the morning and cloud/rain frequently closes in by mid afternoon. Ideally you should begin climbing before 9.00 am to reach the Laban Rata rest house in time for lunch.
- A (free) left luggage service is offered at the Park Headquarters for the clothes that you do not need for the climb.
- Upon arrival at Park Headquarters you will need to complete the formalities required for the issue of a climbing permit and hire a guide. All groups must be accompanied by a guide although there is no chance of you straying from the correct path. In busy periods, there may be a shortage of guides when you arrive (even though you will have booked one in advance) since most parties who have spent the previous night in park cabins will have set off up the mountain at about 8.00 am. The park rangers will contact the local village and call up more guides but this can result in a delay of several hours. If this happens, it is best to set off up the trail on your own and rely on the guide catching you up (they always do - most can make it to the Laban Rata in under two hours!). Tell the park rangers what you intend to do (they always give permission) but remember to take with you confirmation of your accommodation booking and a note of your guides name to make sure that you meet up without difficulty and can check into the rest house.
- A mini bus service links Park Headquarters with the start of the trail, 4km away near a small power station.
- The path up the mountain on the first day is well maintained and has been cut into a series of steps. There are several shelters on the way where it is possible to rest and drink from one of the rain water collection tanks (the water seems very clear and many people have drunk it without difficulty - it's your decision whether you use puritabs).
- The trail passes through the full spectrum of upland and montaine forest, from primary jungle through dwarf bamboo, rhododendron and stunted trees covered with moss and lichen. Pitcher plants grow close to the path and your guide will be able to show you the best specimens which usually require a few meters scramble up or down from the main trail. The flora and fauna along the route are described in great depth (by real experts!) in many books and therefore I will not go into further detail here.

- The climb to the Laban Rata rest house at 3,353 meters (11,000 feet) is advertised as taking between four and six hours. This is somewhat pessimistic, however, as a fit person can easily complete the ascent in under four hours and the average tourists will normally have reached the rest house in under 5 hours.

About twenty minutes before the rest house the Crockier sandstone which covers the lower slopes gives way to grey granite and this is a good indication that you are approaching the end of the first day's climb.

Day Two

- The two to three hour climb to complete the ascent begins before dawn to enable you to view the sunrise from the summit. The guide will want to wake you at 2.00 am for a 2.30 am start to be sure of reaching the top in time. Before committing to a departure time, you should assess your fitness from your time for the first day's climb and balance the risk of arriving too late with that of a long wait in the cold wind of the summit as you wait for dawn.
- The first part of the climb takes you up through rhododendrons and small stunted trees. The path is very steep in places and wooden ladders have been placed over stretches where the tree roots do not provide sufficient support.
- After about 45 minutes you emerge above the tree line and the trail continues up the bare granite mountainside. The trail is still steep for a further 20 minutes with fixed ropes provided in a number of places (in fact ropes are placed for almost the whole of the route across the summit plateau to provide a reference point in case cloud descends. The path on and off the plateau is also marked with boulder cairns).
- The Sayat Sayat hut at 3,810 meters (12,500 feet) marks the start of the summit plateau and the end of the steep climb. The ascent to the summit now becomes more gradual although the shape of the plateau obscures the view of Lowe's Peak for some time. On the way you will pass several other peaks (Donkey's Ears, South Peak, St. Johns Peak etc.) all of which are only a few meters lower than Lowe's Peak but almost impossible to climb without specialist equipment.
- The climb up the last few hundred meters to Lowe's Peak is a scramble across a large boulder field. There are fixed ropes but the effects of altitude result that most people need to rest several times during the short final ascent.
- The summit affords a good view into Lowe's Gully where the British Army expedition became trapped in 1994. It is only after seeing the sheer granite walls, which rise almost vertically for several thousand feet, that you begin to appreciate the impossible situation that they got themselves into.
- After watching the sunrise, descend to the Laban Rata rest house (1 to 2 hours) to have breakfast and collect your other clothes. From there, the walk back to the power station and the road to the Park Headquarters should take between two and four hours depending on how stiff your legs have become from the previous days climb.
- A National Park bus operates from the power station to the Park Headquarters and saves you an hour's road walk home. During quiet periods the driver is often reluctant to depart without a full load of passengers but a M\$ 10 "special hire charge" (best negotiated by your guide) is normally sufficient to persuade him!
- There are two simple shower cubicles behind the Park Headquarters next to the souvenir shop. Ask one of the rangers for the key.
- Back at the headquarters you can purchase your certificate of achievement (there are even versions for those who didn't make it - with a blank space for the guide to fill in the height at which you gave up!) and T shirt with a suitably modest slogan ("It's hard to be humble when..." etc.).
- The public bus service back to KK is intermittent. If you are on a package tour a mini bus will have been organised through your tour operator, if you are making your own arrangements it is a good idea to have something booked in advance (try telephoning Api tours or Borneo Eco Tours. These agents often have space on busses returning to KK)

Accommodation on the Mountain

- **Laban Rata rest house.** Most people stay here as it has electrically heated rooms, (occasionally) warm showers and a good canteen. The bunk beds are fitted with a rough sheet and thin blanket although extra thick blankets are available for hire at M\$ 1 each (ask early as they always run out). The availability of a canteen means that it is not necessary to carry any food up the mountain - not even your first days lunch as you should reach the rest house in plenty of time.
The Laban Rata also has a small shop selling beer and soft drinks, sweets, chocolate, playing cards, (cheap) torches and batteries, candles and, when in stock, woollen gloves and balaclavas. The prices are all very reasonable considering that everything needs to be carried up from Park Headquarters.
- **Other Huts at 11,000 feet.** These simple huts are normally used by army groups but can also be hired by the general public. There is no heating or bedding materials so you will have to bring warm sleeping bags. Gas stoves are provided although most people would still eat in the Laban Rata which is only a few minutes walk away. If you insist on doing your own cooking, simple provisions such as mee and tinned meat can be purchased in the Laban Rata shop.
- **Sayat Sayat Hut.** At 12,500 feet, this is the highest fixed accommodation on the mountain and is normally only used by parties staying on the summit plateau for more than one day. If you press onto the summit on day 1 then this would also be a good place to spend the night on the way down rather than try to reach Laban Rata before nightfall. The hut is draughty and very cold - you will need to be completely self contained regarding bedding, food and cooking gear. The area is also said to be infested with rats.

Clothing

- Shorts & t shirt for the ascent on day 1
- Walking boots (leather or gortex alpine type with ankle support for the rocky terrain are best although many people use training shoes, canvas "jungle boots" are not necessary)
- Long trousers/leggings & shirt for evening in the rest house and the second days ascent to the summit.
- Extra warm layer for the summit (fleece jacket, sweater or light anorak)
- Gloves (for warmth and protection on the ropes - a good solution is cheap woollen gloves inside plastic gardening or diving gloves. The two layers keep you both warm and dry.)
- Warm headgear or scarf for the summit (Thai grass cutters balaclava is ideal!).
- Waterproofs (poncho).
- Spare socks & underwear.

Other Things to Remember

- Small rucksack (pack everything in plastic bags in case of heavy rain)
- Water bottle
- Small first aid kit (include Sudocream against chaffing and Aspirin/Panadol for altitude induced headaches)
- Ankle/knee supports or tubigrip bandage in case of sprains
- Torch and spare batteries
- Puritabs and, optionally, glucose powder for making the drinking water along the trail more palatable.
- Malaysian Ringgits
- Sunscreen and chapped lip ointment
- Toiletries & Small Towel
- Camera (400 ASA film - best for early morning shots, is rarely available in the shops at the park).
- Cut your toe nails before you set off or you may find the descent painful.

10. Jungle Driving; 4WD Trips along the logging roads of Sarawak

- *Limbang to Long Seridan, Mulu and Sungai Baram*
- *Limbang to the Kubaan Trail (Trekking Route to Bario)*
- *Miri to Long San, S. Baram Bridge & the Dulit Mountains*

Introduction

This guide contains details of a number of 4WD trips using logging roads in Sarawak. It is ironic that the logging companies, which are responsible for the greatest devastation of the primary rain forests in Brunei and Sarawak, have provided a means for the ordinary tourist to enjoy the spectacular scenery around Mulu and the upper Baram and Limbang rivers.

The logging concessions contain a huge network of roads, none of which are shown on publicly available maps. Three or four years ago, it was only possible to travel short distances into these areas as one would soon become lost after innumerable junctions or bogged down as the road disappeared into a swampy track. Then, in 1993, a number of off road drivers began taking detailed "pace notes" and sharing these with other enthusiasts to enable them to push ever deeper into the interior. It was as a result of this that, in June 1994 for example, we were able to make the first 4WD trip by tourists to the Mulu National Park - an achievement only made possible using the notes taken on at least five earlier expeditions.

The pace notes included in this guide describe the main routes south from Miri and Limbang, covering in total more than one thousand kilometres of jungle driving. Logging roads change quickly as old routes fall into disrepair and new areas are opened up, there are also many areas which have never been travelled by tourists. Please, therefore, use the pace notes with care and record any amendments or additional information for the benefit of future users.

The Logging Roads

There are basically three types of logging road:

Within each concession there is at least one main arterial highway which links the logging camps to the log ponds where timber is transferred to barges for transport to the coast. These sand roads need to be kept in very good condition as they are used by heavily laden trucks. Road gangs regularly maintain these highways, re grading the surface and clearing the minor land slips which are often triggered by tropical storms. Excavations are made to minimise the gradients of ascents or descents and bridges are built over all rivers. These can be simple log bridges over minor streams or major civil engineering projects such as the Wong Fujita bridge over the Limbang river south of Medamit or the (only) bridge over the Baram river at Long San. Whilst road surfaces can be very slippery following any rain, there are seldom deep pot holes or muddy sections and the roads can normally be travelled in ease by any 4WD vehicle.

Smaller roads run between logging concessions or link them with main settlements such as Long Seridan or Long Atip. These roads are principally used for the transport of people by Toyota pickup trucks and are much smaller and less well maintained. The road surfaces are often deeply eroded and impassable after heavy rain. Whilst bridges are built over most rivers there are occasional fords.

The last type of roads are the tracks that are pushed into the areas currently being logged. Since they are so new, the road surfaces are often unconsolidated and very muddy. Little, if any, attempt will have been made to make cuttings to minimise gradients and some roads are only passable using tracked vehicles. There is seldom any need to follow these tracks as they usually just stop at the furthest extent of logging activity without leading to anything of interest.

Route Descriptions (refer to the "pace notes" attached)**Limbang to Long Seridan and Mulu or Sungai Baram**

This is now a reasonably easy trip which can be made over a long (three day) weekend, plus any additional time that you would like to spend in the National Park. The first part of the journey takes you South from Limbang, firstly on government roads, then into the LCC logging concession at Medamit and finally on to the main arterial road to the WTK base camp.

Just beyond Medamit is the huge log pond which marks the furthest navigable point on the Limbang river for the barges which carry the timber to the coast. The logging company check point, beyond which permits are required (see later), is located some 20 km further.

The next main landmark is the Wong Fujita steel bridge which spans the Limbang river as it passes through a deep valley. This marks the end of the relatively flat, coastal area and the views now begin to improve considerably

Some 35 km later (121.1 km from Limbang) is the right turn which takes you on to one of the minor roads linking this concession to the one South of Mulu. The road descends steeply to a rough bridge before climbing again to join the main east/west arterial road in the next concession. This is one of the only sections of the journey that would be difficult in bad weather as the initial descent may be too slippery after heavy rain (It is best to allow two days for the return journey and to make sure that you pass this point before stopping for the night).

In October 1995, we were taking this route in reverse direction on the way to Bario after travelling up the Baram by boat and joining the other end of the east/west arterial road at Long Temala. We were being driven in hired logging pick up trucks whose drivers took an alternative route between the two concessions. Travelling from the Baram, we turned off before (i.e. west of) the route that I had driven before and emerged on the Medamit/WTK road beyond (i.e. south of) the turn off at 121.1 km. This link road must run parallel to the route described in the pace notes but was interesting as it passed a small long house and involved a shallow ford across a minor river (probably the same river as the other route bridges at 122.8 km).

After emerging on the main east/west logging highway, the road improves and the driving is very easy. The turn off (left) for Long Seridan is at 151.3 km. (Note that this is the easiest way to Long Seridan and allows you to drive right into the village. Long Seridan can also be reached from a turn off on the Medamit - WTK road that you left earlier, but the road stops on the wrong side of Sungai Seridan and you have to wade to the village. See the Limbang to WTK/Kubaan Trail pace notes for this alternative route).

The Sim Yang logging camp at 204.9 km marks the junction for the choice between turning right to Mulu or continuing straight on towards the Baram. The pace notes provide the details for the Mulu route which will probably be most people's objective. I have only made the trip eastwards from the Baram in the back of a logging pick up truck so have no pace notes. From memory, however, the route continues on the main road, reaching Long Temala some two hours later. I also know of people who have reached Long Terawan (the major settlement on the Tutoh river west of Mulu) from a turn off on the way to Long Temala, beyond Sim Yang camp, but have no detailed information.

The last part of the route to Mulu is quite difficult. There is a maze of logging roads and certainly more than one way to get to your objective: Long Iman - a Punan long house on the Tutoh river approximately 1 km upstream from the confluence with the Melinau which marks the start of the National Park. I am grateful to Rob van der Vegt and Wouter van den Brink who made a number of corrections to this section of the original pace notes following their drive to Mulu, six months after my first trip.

The Punans at Long Iman are friendly and hospitable but also sharp businessmen. They charged some M\$ 300 for the 15 minute return boat ride to and from Park Headquarters and offered their blowpipes and other crafts at full Miri high street prices!

Limbang to the Kubaan Trail (Trekking Route to Bario)

This trip follows the Limbang to Mulu route as far as the Mulu turn off some 120 km from Limbang. Rather than turning right here, continue straight on along the main logging highway. A very good camp site, though with no water, can be found shortly afterwards (at N 04° 03' 49.8", E 115° 07' 15.3"). There is a large flat area on the right hand side of the road which offers fantastic views over Mulu and Api to the west. The site is high on a hill side and the mist rising from the valley below in early morning is very beautiful. You should reach this point some four hours after leaving Limbang so this is a more suitable place to camp on the way home to Brunei, rather than on your outward journey.

Continue straight on towards WTK camp (N 03° 55' 59.1", E 115° 11' 16.8") using the pace notes attached. At WTK the pace notes stop since the remainder of the journey to the start of the Kubaan trail was made in the back of a truck in October 1995 (the pace notes date from our first trip in January 1993 although they have been validated several times since then). The final part of the route is very easy with few junctions - if in doubt ask at one of the camps.

Just before WTK camp there is a left hand turning with a fork in the road about one hundred meters later. Take the right hand fork which leads on to WTK Jelita camp. The scenery now becomes very spectacular as the road climbs over Bukit Batu Iran (N 03° 50' 28.3", E 115° 15' 48.8") at over five thousand feet. At the highest points the primary rain forest can be seen to have given way to smaller stunted trees and ferns. Some exposed sandstone has the distinctive bleached white appearance which is characteristic of Batu Lawi.

Jelita camp (N 03° 50' 00.4", E 115° 18' 41.5") is reached after about one hour's drive from WTK base camp. If it is becoming late, it is possible to stay in one of the huts on the camp to save making camp. Take care, however, not to make our mistake of accepting an invitation from one of the loggers without first paying your respects to the camp boss.

As an alternative to staying in the logging camp, suitable camp sites can be found either about forty minutes out of Jelita where the road crosses the wide Sungai Kubaan (N 03° 47' 28.5", E 115° 19' 31.7") or, if you have even more time you could consider walking and making camp along the Kubaan trail. The first good spot is some 20 minutes walk along the trail where there are some old hunting huts next to the river. It is uncertain as to whether these huts can be opened or even whether their floors could still support any weight. Nevertheless it would be possible to sleep sheltered underneath them (they are some two meters off the ground) thus avoiding the need to carry tents.

In making this journey in October 1995 we did not set off from Limbang but from Marudi where we had become stranded following cancellation of all flights to Bario. We then needed to travel by express boat upriver to Long Temala (two hours thirty minutes), hire two Toyota pickups and drive eastward, passing close to Long Atip, Mulu and Long Seridan before emerging on the logging roads south of Limbang about half way to WTK camp (close to N 04° 01' 57.9", E 115° 07' 15.4"4). This is much longer than driving from Limbang (we took express boats at 9.00 am but did not reach Jelita until after dark) and would only be interesting if your journey originated from Miri

The logging road cuts the Kubaan trail on the brow of a hill a few hundred meters beyond the bridge over Sungai Kubaan (at N 03° 47' 16.2", E 115° 19' 36.8"). In October 1995, this point was quite distinct with a small shelter having been built by Punans gathering special hard timber used for making long house foundation poles. Note that the air map is incorrect at this point as it places the trail some 800 meters North of Sungai Kubaan whereas comparison of the co-ordinates of the river and trail crossing show it to be clearly south of the river.

The trail on the right (western) side of the road leads to the (abandoned) long house at Kubaan and the Punan settlement at Pa Tik. Judging from the distance shown on the map and the type of terrain, Pa Tik should be able to be reached after about half a days walk, offering an alternative to Bario for those who wanted to make a shorter trip.

The path to Bario begins on the left (eastern) side of the road. After about twenty meters there is a sharp right turn as the trail leaves the area cleared by the Punan hunters. We started walking at 8.15 am.

The walk to Bario takes some 10 hours (in good weather) and can just be completed in a single day. For further details refer to the separate notes on the Kubaan Trail.

Miri to Long San, Sungai Baram Bridge & the Dulit Mountains

This is the longest jungle driving trip that I made, spanning four whole days in June 1993 and covering some 600 km. It was undertaken in an attempt to reach Limbang from Miri and thus open up an east - west route through Sarawak without passing through Brunei. The key to this objective would be to cross the Baram river at the only bridge, situated at the Long San rapids some 200 km south of Miri, and then to travel north east, joining up with the logging roads around Mulu or WTK.

We were unsuccessful having followed every road on the east side of the Baram until it became impassable. Reports from the Catholic missionary based in the village of Long San (Fr. Jakob) indicated that at that time such a trip was impossible as there was an unlogged area south of Mulu and the roads in the various concessions did not meet. Nevertheless the trip was worthwhile for the opportunity to travel in spectacular scenery close to the Kalimantan border and around the headwaters of the Baram and Tinjar rivers. On Fr. Jakob's advice we took an alternative route back along the Dulit mountain range which form part of the Tinjar river valley.

The pace notes for this trip are divided into three sections:

- Miri to Long San via the Baram valley (Samling timber concession)
- Long San to Miri via the Dulit Mountains and Tinjar valley
- Long San to the Baram bridge and roads on the Eastern bank of the Baram

The first section is very straight forward following good roads in relatively flat country. Permits are certainly required to proceed through the Samling concession but these are readily available from their offices in Miri (see later).

The alternative route back is very difficult, often following steep minor roads between concessions and involving the fording of a substantial river. It is well worth it, however, for the spectacular views from the Dulit Mountains close to the spot where Tom Harrisson made his base camp during his first visit to Borneo on the Oxford University Expedition of 1932 (see his book "Borneo Jungle"). The distinctive twin peaked mountain that can be seen east of the Dulit mountains is probably Kalulong which was first climbed by A.W. (Ev) Moore at the end of the 1932 expedition (at the same time as Edward Shackleton was making the first ascent of Mulu). Compare my photograph at the end of this account with Harrisson's on page 235 of "Borneo Jungle" or page 100 of "World Within".

The roads on the Eastern side of the Baram will now undoubtedly extend further as logging was ongoing in this area in 1993. This is again a beautiful area with good camping sites and views which very few Europeans will have experienced. At one point, a mountain similar to Batu Lawi *but with three peaks* can be seen to the south, close to the Kalimantan border.

The Route Around Brunei

If you ask any pundit in a bar in Miri they will tell you that it is possible to reach Limbang via the logging concessions without passing through Brunei. None, however, will have done it themselves. I can certainly confirm that it was impossible in 1993 and I have still to meet anyone who has achieved it. Two motor cyclist from Brunei (Dave Marren and Malcome MacGreggor) came closest, reaching the Baram river at Long Temala from Limbang and then ferrying their bikes across by barge and beginning to explore the concession on the west bank (which should provide a route to Miri). They ran out of time, however, and had to turn back to the Baram and reach Kota Baram by express boat.

The current "missing link" is that between Long Temala, which is reachable from Limbang, and the Long San bridge with it's route to Miri. It is certainly worth trying this again and asking loggers in these villages for directions. An alternative may be to try a more southerly route from Long San, aiming for Long Lelang and WTK, however, this area is completely unknown. If you attempt anything from the Miri side contact Fr. Jakob at Long San for latest information, his radio phone number is given on the pace notes.

Jack Verouden has travelled South on a turn off from the road to Long Temala and plotted the route with GPS (see the map at the end of this account). Unfortunately time constraints forced him to turn back even though the road was in very good condition.

Jungle Driving

General

The most important point to note is that not only do logging vehicles have the right of way (obviously) but that they also drive on either side of the road! This is not as chaotic as it sounds, but is a system to ensure that long, heavily laden trucks leaving the concession do not have to negotiate the outside of bends with dangerous drop offs. At any blind corner or when approaching the brow of a hill, look out for a small sign with a red arrow. This directs you to the correct side of the road at that particular point. Hopefully there will be a similar sign on the other side pointing oncoming traffic in the opposite direction! In some logging concessions the vehicles drive on the right hand side by default (e.g. Baram valley area and WTK) so check for details as you pass the check point on the way in.

The size and weight of logging trucks dictates that they have special preference on hills. Traffic moving downhill has preference over uphill traffic and take particular care when being approached by vehicles picking up speed in order to negotiate the next hill - they may not be able to brake or manoeuvre to avoid you.

In general be courteous to logging vehicles, pulling over to let them pass whenever necessary.

Always take pace notes to make sure that you can find your way out of the concession and in any event turn back before you have used half your fuel supplies.

Finally never travel alone. Ideally your group should comprise three vehicles if you are planning to do some serious driving and at least two in any conditions. Make sure that your group is "balanced" i.e. that the lightest vehicle would be able to tow out the heaviest.

How to Ford a River

Whilst it is seldom necessary to ford rivers, it is important to know the correct technique as this is equally applicable for passing through long flooded road sections.

Fords will only have been built across areas where the river bed is reasonably firm since heavy logging vehicles are more at risk from being bogged down than your relatively light 4WD. The main problem that conventional jeeps have is that their relatively low ground clearance puts them at risk of flooding or even loss of control as they begin to become buoyant.

It is essential that before crossing the river someone walks across to check that it is not too deep *and that the first car is led across by two people walking in front of each wheel* checking for pot holes and other obstacles. The need for this was learnt the hard way when driving on a flooded road next to a river in Limbang in January 1993. We sent one person walking ahead who confirmed that the water in the middle of the road was only about eighteen inches deep. As the first car was some 20 meters into the flooded section, one front wheel slid down a deep hole (possibly a ditch at the side of the road which was obscured by the floodwater). The car stalled and came to rest at an angle of almost forty five degrees, with the bonnet and drivers seat under water! We were very lucky that the car behind was able to tow them clear as the muddy road gave little grip.

The maximum water depth that can be crossed is governed by two factors - the stability of the car (i.e. not floating away downstream!) and the need to prevent water entering the engine. The first is the main problem in conventional 4WD vehicles which can, in theory, be recovered from by opening the doors to flood the passenger compartment and regain stability (I've never heard of this being done for real!). The second is potentially more serious as it can put your car out of commission. Many people see the "snorkels" fitted to the engine air intakes on logging pick-ups and imagine that these are to enable them to cross deep water. Their main purpose is, however, to minimise the amount of dust entering the engine - the standard air intake is in fact on top of the engine in a position unlikely to flood. The main risk of water entering the engine is from the exhaust. When the engine is running, the exhaust gasses will prevent any water ingress, however, if the engine stalls with the exhaust outlet under water, the cold water will condense the vapours in the silencer box, sucking water into the exhaust and possibly even into the engine. For this reason it is essential to prevent the engine from stalling when crossing water.

With all things considered, it is probably best to avoid crossing water that is deeper than the tops of your tyres i.e. around half a meter (even shallower if it is fast flowing).

Make sure that your engine has been well sprayed with WD40 and drive slowly to prevent any bow wave forming as this may put your engine air intake at risk.

Dealing with Mud and Slippery Roads

Mud causes greater problems for our conventional 4WD vehicles compared with commercial logging trucks and jeeps for two reasons: firstly, factory fitted tyres tend to be too slick and easily become clogged with mud and, secondly, our relatively low ground clearance puts us at risk from becoming bogged down with the underside of the chassis literally floating on the mud whilst the wheels spin uselessly.

Some mud tyres are available in Brunei - the off road tyres for the Suzuki 410SJ jeep are particularly good and a set of Indonesian "Goodyear" crossplys with a deep profile, suitable for a Vitara, cost around B\$ 500. It's worth investing in some if you intend to make a number of jungle trips (they are also suitable for the Labi road!).

To minimise the risk of becoming bogged down try to keep at least one wheel out of the "tram lines" made by heavy trucks as these will certainly be deeper than your modest ground clearance can accommodate. In very soft mud, speed can help to get you through but take care that the mud does not hide any solid objects which may damage the underside of your vehicle. My petrol tank was remodelled by a boulder in the middle of a muddy stretch of road in Sarawak - the car behind was not so lucky with the rock punching a hole in their tank.

On long, low lying, muddy sections the lightest car should travel in front and ensure that it does not get too far away from the car behind. Remember that the second car will need reasonably solid ground to be able to tow the first car out if it becomes bogged down. It is no good if the first car picks up speed to cross one hundred meters of thick mud and becomes stuck half way across if you are only carrying one four meter tow rope! For this reason make sure that you are carrying plenty of rope with you - a specially made 25 meter heavy duty line (any hardware store) with shackles and pad eyes (from Joe Curio KB) can cost up to B\$ 100 but is well worth it.

If it proves impossible to simply tow out a stuck car then find something to put under the wheels to provide some extra grip. Many people cut large timbers and try to jam these or big stones under the wheels - I've never seen this work as they create too much of a step for the wheels to negotiate, although small branches complete with twigs and leaves are effective. Some drivers carry hessian sacks for the same purpose (an old trick to get out of snow: tie the sacks to your rear bumper with some string to avoid having to stop and go back to retrieve them). You may also need to dig mud away from the underside of the car if your sump or chassis has grounded. Finally check which wheel(s) are actually gripping, rather than spinning in mid air. Do anything you can to give these additional traction. Stand on the bumper above the wheel that is making contact with the ground and even rock the car up and down hard to try to force the wheels to grip.

When travelling in a convoy, make sure that the car in front has reached the brow of a hill before starting your ascent - you will not want to stop half way up if their tyres begin to lose grip.

If roads are slippery after heavy rain, it is always safer to wait for the sun to dry out the surface again if there are any steep ascents or descents to be negotiated. If this is not possible, there are a number of tricks that I have seen work although they may not be recommended by any 4WD textbooks!

If wheels begin to spin on a steep ascent then a surprising amount of additional traction can be gained by your passengers simply pushing the car up the slope as the wheels spin. Pushing can also prevent the rear of the car moving round and keep wheels out of any tram lines.

On steep descents, loss of control can be a real problem, particularly for heavier vehicles such as Land Cruisers and Pajeros. I was once the passenger in a Land Cruiser that began to slide sideways on a steep descent with a drop of several hundred meters at the edge of the road. Resisting the temptation to brake, which would certainly have made matters worse, the driver (Roddy Murray) brilliantly banged the clutch in and made sure that the wheels were moving in the same direction as we were

travelling before steering us away from the edge. After stopping for a change of underwear, we developed a technique for the rest of the descent (down the Dulit mountain range, towards the Tinjar river) using a long tow rope strung out behind the car. Three people held the rope and followed the car, running, sliding or being dragged down the road, using the rope to pull the rear end back into alignment any time that it began to slide away. The scene (which was captured on video!) looks like something from the Keystone Cops - but it worked.

Problems can also occur close to home. In 1993, two families were airlifted from the jungle where their vehicles had become bogged down within 10 km of the Labi road during a Sunday afternoon jaunt (they were trying to take the inland route to Tasek Marembum - the road has improved considerably since then). They had taken two very heavy 4WD jeeps and allowed them *both* to become stuck in the same stretch of mud. Whilst one driver walked to the nearest telephone, the families (including young children) spent an uncomfortable night in the open. Never underestimate the conditions!

Deeply Eroded or Rocky Sections

Whilst it is always possible to retrieve a car from soft mud, a vehicle stuck with two wheels down an eroded gully at the side of the road may not be so lucky. If the road is badly eroded, with deep channels running down it, then it may be safer not to continue, particularly if the ground is soft and there is a risk of the road collapsing under the weight of your vehicle. In any case, unless the road condition can be seen to improve after a few meters then this is a sure sign that no logging vehicles have passed this way for sometime and the road is unlikely to lead to anywhere of interest.

On rocky sections the main risk is of your car grounding and damaging the exhaust or petrol tank. It is possible, however, to significantly increase your ground clearance by keeping your wheels on the high points in the road - purposely diving slowly over boulders or even up any bank at the side of the road to clear the obstruction.

Equipment

An equipment list for jungle driving trips is included with this guide. Note in particular that the number of tools and spare parts are essential and based on bitter experience! Some of the problems that have occurred on recent trips include:

Holed Petrol Tank	Drain and then repair using epoxy plastic steel.
Blocked Fuel Filter	Flush with WD40 (take spare hose and clips in case you need to cut it out to remove it).
Exhaust Torn Off	Try fixing back with spare nuts or bailing wire, otherwise take home on your roof rack!
Spark Plug Shaken Out	Luckily the plug was still attached to the HT lead and was not damaged, we now carry spares though!
Burst Radiator Hose	Carry spare hose, "Radweld" and aircon sealing tape.
Punctures	Check in advance that your wheel nuts are not over tight and carry an aerosol vulcanising kit (as used by motorcyclists etc.) in case you have a second puncture.
Blown Head Gasket	No solution here except to abandon the car (it was towed a short distance to Long Seridan) and return later with a mechanic.
Broken Spring	Temporary repair executed with small chains and shackles from the tow rope.
Broken Engine/ Transmission Mounting	Held in place with bailing wire.

Whilst it is recommended to carry all the necessary tools and equipment, I should point out that the vast majority of problems occurred with older vehicles (most on one particular Suzuki jeep!) that could just as easily have broken down on the way to the Club!

Vibrations caused by the road surface will also loosen any nuts that have not been tightened before the trip - the light pod on front of my Vitara was particularly susceptible. Carry spare nuts, bailing wire, steel tape, string and anything else you can think of.

Take plenty of spare fuel in jerry cans - remember that all logging vehicles run on diesel and there will be no possibility to refuel once you enter the concession.

The Loggers

The loggers that we have met during our trips have been without exception friendly and hospitable. On many occasions we have stopped them to ask directions and they have done their best to help in spite of language difficulties. Remember that whilst few will be able to understand a map or even read and write, they will be able to give you the name of a nearby river or mountain and to give directions to the next logging camp. On one occasion, a logger made a one hour detour to lead us through a particularly difficult section of roads on the way to Mulu and would accept nothing in return.

If you stop at a logging camp make sure that you first pay your respects to the Camp Boss before accepting any hospitality from other loggers. Unless it has become late or you have got into difficulties you will probably want to make camp rather than stay in a logging hut but these can be useful in an emergency.

On our return from Long San, in June 1993, we had driven until late in the evening to make up for lost time and it had begun to rain heavily. We stopped at a very small logging camp and stayed in a empty hut. That evening, the three loggers who worked there accepted our invitation and we drank and talked long into the night. A can of beer costs around M\$10 in the Ulu and a manual worker earns about M\$15 per day - whiskey was a luxury that they had never tried before (most loggers are Chinese or Iban and will not be offended by your offer!).

Earlier on the same trip we were camped in the middle of the jungle on the eastern side of the Baram. Late in the evening, a loggers pickup truck drove up and checked us out. This was a group on an unofficial hunting expedition (on first seeing us in the distance they had stopped and hidden their guns at the side of the road in case we were an army patrol). Their hunting would involve a drive at high speed along the darkened roads, illuminating the jungle with a very bright halogen spot lamp. As they saw the reflection of a pair of eyes they would let loose with their collection of ancient and home made shotguns - identifying their quarry by the colour of the reflected eyes. That evening two of our group joined them and returned with a mouse deer and large wild boar. As we shared our ample beer supplies with the loggers one of them barbecued a leg of wild boar above our camp fire. Even though we had almost no common language we somehow managed to communicate and the ensuing party is one of my best memories of the jungle trips.

Permits

The type of permits that are required depend on where you start your trip and whether you will be using your own transport. The system of issuing permits to restrict access to the Ulu (interior) was first introduced by Brooke in the last century to discourage missionaries and other European settlers who may ferment trouble amongst the inhabitants. The procedure is maintained today largely due to sensitivities surrounding logging activities and their effects on the indigenous people and wildlife. Rules are strictly enforced during periods of protest by Ulu inhabitants - as happened in 1993/94 when Punans blockaded logging roads Southeast of Long San and when residents of Long Terawan protested about the confiscation of their traditional lands around Mulu for the planned construction of a golf course and luxury resort.

Permits to visit the Interior (Mulu, Bario, Long San etc.) - are officially required for any non Malaysian travelling above Marudi. These can be obtained from the Residents Office in either Miri, Marudi or Limbang. The standard procedure (which is sometimes waived, but don't count on it!) is to first visit the police station with two copies of your passport in order to gain clearance for the trip. You will be required to complete a form with your profession, other personal details and the purpose of your trip (ecologists, journalists, members of Greenpeace etc. are automatically excluded at this stage!). The police inspector endorses the form which you then take to the Residents Office where you complete yet another form to enable your permit to be issued.

Note that the same procedure applies if your ultimate destination is Bario, Long San, Long Seridan or Mulu. The Residents Office will issue the relevant permit.

Permits to enter the Logging Concession (Limbang) i.e. to pass the LCC checkpoint 20 km past Medamit, are required for anyone using their own transport. These can be obtained from the Limbang Trading Company whose offices are in a marble fronted building opposite Limbang market. The office opens at 8.00 am (also on Saturdays) and a duty manager is available on public holidays. Latest reports (October 1995) are that vehicles without this permit were being turned back the checkpoint.

Limbang Trading and the police check point do not seem to be asking to see any permits from the Residents Office at the moment, however, these are advisable if you intend to walk anywhere.

Permits to enter the Logging Concession (Miri) There are two checkpoints on the road South towards Long San. The first is at the turn off for Long Miri and is a low key affair manned by logging company employees. The second is at the Samling Timber base camp just North of Long San. This is much more formal and, in 1994, was manned by Malaysian police officers (we were able to bluff our way through the first check point but not the second, which must be passed to reach the bridge over the Baram or the roads to the Dulit Mountains and Tinjar valley).

The procedure for obtaining permits is similar to that on the Limbang side - First obtain the official permit to visit the Ulu from the Miri police station and Residents Office. Then take this to the Samling Timber Company's offices next to the Holiday Inn for a letter of authorisation to use their roads through the concessions (phone first for an appointment with Henry Kong, the MD, or Philip Ho the Operations Manager).

Equipment List for 4WD Jungle Expeditions

Equipment List for 4WD Jungle Expeditions		Essentials	Optional
	Tow Ropes & Shackle	X	
	Jerry Cans (Water & Fuel)	X	
	Funnel with hose attached	X	
	Jump Leads	X	
	Radweld	X	
	Tool Kit	X	
	Scaffold Board (for bridging holes and jacking up on soft ground)		X
	Engine Oil	X	
	WD 40	X	
	Foot Pump	X	
	Fan Belt (& Aircon Belt)	X	
	Plastic Steel Epoxy	X	
	Plastic or Steel Tape	X	
	Spark Plugs & Contact Breakers	X	

Exhaust Repair Kit (bailing wire)	X	
Electrical Wiring, Test Meter & Spare Fuses	X	
Gloves (leather welders gloves for hot engines/exhaust etc)	X	
Pulley Block & Rope (and/or "come along" ratchet kit)		X
Spade	X	
Axe / Parang	X	
Hessian Sacking		X
Tents (no possibility to sling hammocks)		X
Tarpaulins (as large as possible - blue/white type from the kedai)	X	
Rope/string for tarpaulin shelter	X	
Sleeping bag/sack	X	
Inflatable Mattress & Pillow		X
Towels for Car Seat Covers		X
Mosquito Coils / Insect Repellent		X
First Aid Kit	X	
Torches & Spare Batteries	X	
Storm Lanterns		X
Toilet Roll	X	
Wetties		X
Malaysian Ringitts (small denomination bills)	X	
Compass	X	
Maps or Pace Notes	X	
GPS		X
Paper, pens, scale ruler	X	
Cool Boxes & Ice		X
Food (main meals & Snacks)	X	
Stoves (or cook over an open fire if you can find dry wood)	X	
Cooking & Eating Utensils	X	
Soft Drinks & Bottled Water	X	
Beer & Whiskey		X
Disposable cups, plates etc	X	
Refuse Bags	X	
Washing up liquid		X
Logger/Longhouse Gifts (cigarettes, balloons, sweets, tinned food etc)		X
Swiss Army Knife		X
Passports, Permits & Car Papers	X	
Sunglasses	X	
Camera		X
Binoculars		X

Pace Notes

LIMBANG to LONG SERIDAN & WTK LOGGING BASE CAMP

Limbang to WTK camp

Graham Henley - June 1993

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
1 Limbang Market Place	START	0.0	0.0	Leave as if returning to Brunei
		10.7	6.7	
2 Road joins from the right	Turn RIGHT	10.7	6.7	Retracing the route back to Brunei
		12.6	7.8	
3 Road joins from the right	STRAIGHT AHEAD	23.3	14.5	Start of unmetalled government road
		18.8	11.7	
4 Village - Nanga Medamit	STRAIGHT AHEAD	42.1	26.2	
		0.3	0.2	
5 Log pond	STRAIGHT AHEAD	42.4	26.4	
		19.5	12.1	
6 Road joins from the right	Turn RIGHT	61.9	38.5	LLC logging camp checkpoint (permits required in theory)
		3.9	2.4	
7 Fork in the road	Bear RIGHT	65.7	40.9	Low logging camp
		0.6	0.4	
8 Fork in the road	Bear LEFT	66.4	41.3	Right turn goes to Goodwood Camp (see later)
		14.6	9.1	
9 Road joins from the left	STRAIGHT AHEAD	81.0	50.4	
		0.2	0.1	
9a Fork in the road	Bear RIGHT	81.2	50.5	New Junction since this trip was made
		6.2	4.0	
10 Wong Fujita Steel Bridge	STRAIGHT AHEAD	87.5	54.4	Sungai Limbang ?
		0.3	0.2	
11 Road joins from the right	STRAIGHT AHEAD	87.8	54.6	
		11.6	7.2	
12 WTK Transi Camp	STRAIGHT AHEAD	99.4	61.8	
		18.7	11.6	
13 Small logging camp	STRAIGHT AHEAD	118.0	73.4	
		1.6	1.0	
14 Road joins from the right	STRAIGHT AHEAD	119.6	74.4	
		4.2	2.6	
15 Possible camp site	STRAIGHT AHEAD	123.8	77.0	*Camp 2 on Chinese New Year expedition 1993*

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
16 Small logging camp	STRAIGHT AHEAD	130.9	81.4	
		5.3	3.3	
17 Fork in the road	Bear LEFT	136.2	84.7	
		3.5	2.2	
18 Road joins from the right	STRAIGHT AHEAD	139.7	86.9	Road bends left, Junction easily missed. Right to Long Seridan
		12.1	7.5	
19 Road joins from the right	STRAIGHT AHEAD	151.8	94.4	Merge with main road and bear left
		16.4	10.2	
20 WTK Base Camp	END OF ROUTE	168.2	104.6	

Three roads leave WTK base camp going West, South & East. The Western road is poor and ends in a muddy track after approximately 5km (camp 1 March 93). Loggers report that the other roads head for another logging camp & Pa Tik and that Bario can be reached after a half days walk (Actually 10 hours walk) SEE KUBAAN TRAIL NO

Directions to Long Seridan There is a better (but longer) route to Long Seridan from the North (you can actually drive into the village). See Limbang to Mulu pace no

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
1 Road joins from the right	Turn RIGHT	139.7	86.9	See 18 above. Directions & distances are as if travelling from Limbang
		1.6	1.0	
2 Fork in the road	Bear RIGHT	141.4	87.9	Hand painted road sign high on tree
		8.8	5.5	
3 Long Seridan	Cross River	150.2	93.4	

Road meets river where there is a small island. Crossing to the island is not too deep, however, crossing from island to village is deep and fast flowing (boat available!). It is believed that crossing the river is possible in the dry season - maybe a little further upstream.

Directions to Goodwood Camp

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
1 Fork in the road	Bear RIGHT	66.4	41.3	See 8 above. Directions & distances are as if travelling from Limbang
		3.2	2.0	
2 Fork in the road	Bear LEFT	69.6	43.3	
		4.9	3.0	
3 Goodwood Logging Camp	END OF ROUTE	74.5	46.3	

Road goes through the camp and follows a river (S. Limbang ?) in a downstream direction. The road is very poor and we got stuck after approximately 2km. There may be a possibility to ford the river but only in the dry season.

LIMBANG to MULU

Limbang to Long Iman (Mulu National Park)

Graham Henley - June 1994

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
1 Limbang Market Place	START	0.0	0.0	Leave as if returning to Brunei
		10.7	6.6	
2 Road joins from the right	Turn RIGHT	10.7	6.6	Retracing the route back to Brunei
		12.6	7.8	
3 Road joins from the right	STRAIGHT AHEAD	23.3	14.5	Start of unmetalled government road
		19.2	11.9	
4 Village - Nanga Medamit	STRAIGHT AHEAD	42.5	26.4	
		0.3	0.2	
5 Log pond	STRAIGHT AHEAD	42.8	26.6	
		19.7	12.3	
6 Road joins from the right	Turn RIGHT	62.5	38.8	LLC logging camp check point (permits required)
		2.6	1.6	
7 Fork in the road	Bear RIGHT	65.1	40.4	Low logging camp
		2.0	1.2	
8 Fork in the road	Bear LEFT	67.1	41.7	Right turn goes to Goodwood Camp
		12.7	7.9	
9 Road joins from the left	STRAIGHT AHEAD	79.7	49.5	
		0.2	0.1	
9a Fork in the road	Bear RIGHT	79.9	49.7	New junction since January 1993 Limbang to WTK pace notes
		6.7	4.2	
10 Wong Fujita Steel Bridge	STRAIGHT AHEAD	86.7	53.9	Sungai Limbang ?
		0.5	0.3	
11 Road joins from the right	STRAIGHT AHEAD	87.2	54.2	
		13.2	8.2	
12 WTK Transit Camp	STRAIGHT AHEAD	100.4	62.4	
		3.1	1.9	
13 Small logging camp	STRAIGHT AHEAD	103.5	64.3	
		17.6	11.0	
14 Road joins from the right	Bear RIGHT	121.1	75.3	Straight ahead to WTK camp & possible routes to Bario area
		1.7	1.0	
15 Bridge & gate into new concession	STRAIGHT AHEAD	122.8	76.3	Very steep descent. Gate is rumoured now to have been removed (1995)
		1.6	1.0	
16 Logging/road building camp	STRAIGHT AHEAD	124.4	77.3	
		12.7	7.9	
17 Road joins from the right	STRAIGHT AHEAD	137.0	85.2	
		8.1	5.0	
18 Major logging/road building camp	STRAIGHT AHEAD	145.1	90.2	
		5.7	3.5	

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
19 Bridge over Sungai Seridan	STRAIGHT AHEAD	150.8	93.7	
		0.5	0.3	
20 Road joins from the left	STRAIGHT AHEAD	151.3	94.1	turn left for Long Seridan, road follows river to more longhouses
		21.6	13.4	
21 Fork in the road	Bear RIGHT	172.9	107.5	road crosses bridge over small river
		6.9	4.3	
22 Road joins from the left	STRAIGHT AHEAD	179.8	111.7	
		1.6	1.0	
23 Bridge over a wide river	STRAIGHT AHEAD	181.3	112.7	
		2.1	1.3	
24 Road joins from the left	STRAIGHT AHEAD	183.4	114.0	
		7.1	4.4	
25 Major logging/road building camp	STRAIGHT AHEAD	190.5	118.4	
		1.6	1.0	
26 Road joins from the left	STRAIGHT AHEAD	192.0	119.3	
		2.9	1.8	
27 Double fork in the road	Bear LEFT (x2)	194.9	121.2	
		6.6	4.1	
28 Fork in the road	Bear RIGHT	201.6	125.3	
		2.6	1.7	
29 Road joins from the left	STRAIGHT AHEAD	204.4	127.0	

30	Road joins from the right	Turn RIGHT	204.9	5.1	127.3	3.2	Sm Yang logging camp. Straight ahead to Sungai Baram/Long Terawan
31	Fork in the road	Bear RIGHT	210.0	3.3	130.5	2.1	Distance to next junction may be incorrect
32	Fork in the road	Bear RIGHT	213.3	1.3	132.6	0.8	Left also leads back on to the same route after several more junctions
33	Fork in the road	Bear LEFT	214.7	5.5	133.4	3.4	
34	Road joins from the right	STRAIGHT AHEAD	220.2	1.3	136.8	0.8	
35	Fork in the road	Bear LEFT	221.5	0.4	137.7	0.3	
36	Fork in the road	Bear LEFT	221.9	3.0	137.9	1.9	
37	Fork in the road	Bear LEFT	224.9	1.1	139.8	0.7	
38	Road joins from the left	STRAIGHT AHEAD	226.1	0.3	140.5	0.2	

	LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
39	Road joins from the right	Turn RIGHT	226.4	140.7	
			10.5		6.5
40	road from the right	turn right	228.8		
41	road goes right down	Bear RIGHT	230.5		
42	logging camp on the left	keep right	234.2		
43	fork in the road	turn left	234.9		
44	road on the right	straight ahead	237.0		
45	road on the right	turn right	239.8		
46	Fork in the road	keep left	240.2		
47	Fork in the road	keep left	241.6		
48	Fork in the road	Bear RIGHT	242.5		
49	parking spot	park car here	243.0		two tracks descend steeply 500 meters to long lman. Impassable.

Notes

- 1 Beer supplies from Hwa Kiaw Air Con Hotel, Limbang (second square on the right hand side as you enter the old town). M\$55/case in May 1994
- 2 Permits to visit "Ulu Limbang" are definitely required to pass checkpoint at LLC logging camp (6 above). Available from Residents Office Limbang.
- 3 Permits to visit Mulu NP are a good idea and can be obtained from the Residents/National Parks offices in Miri.
- 4 Whole journey can just be made in one day (our trip departed 8.30am and camped at 6.00pm with only 30km "mistakes").
- 5 The only "severe" driving in normal (dry) conditions are the steep descents after junctions 14 & 44. These may be impassable in heavy rain so plan return journey accordingly.
- 6 Long lman is a Punan longhouse on Sungai Tutuh approximately 1km upstream from the confluence with Sungai Melinau.
- 7 The Punans are very friendly but sharp businessmen (Boat hire for transfers to/from park headquarters etc M\$300, "minding the cars" M\$50 and overpriced blowpipes)
- 8 Ideal camp site to break the return journey is 4.2 km beyond junction 14 (ie away from Limbang towards WTK) - spectacular views of the Mulu range.
- 9 Fuel consumption for a Suzuki Vitara was one full tank (40 litres) plus two 5 gallon jerry cans.
- 10 First trip May 28th - 31st 1994 with drivers Paddy Murray, Seve Allinson & Graham Henley plus Annet Valk, Jackie Allinson & Jan, Zoe & Kyle Murray.

MIRI to LONG SAN via SUNGAI BARAM VALLEY and SAMLING TIMBER CENTRAL BASE CAMP

Graham Henley - May 1993

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
1 Pelita roundabout Miri	Take exit to Bntulu/Airpor	0.0	0.0	
		59.4	36.9	
2 Minor road joins from the left	Turn LEFT	59.4	36.9	Road sign "Jambatan Batang Tinjar 56km"
		18.7	11.6	
3 Road joins from the right	Turn RIGHT	78.1	48.6	Road sign "Jambatan Batang Tinjar 37km"
		28.7	17.8	
4 Bridge over small river - Sungai Bok	STRAIGHT AHEAD	106.8	66.4	Shop & fuel (?)
		8.8	5.5	
5 Bridge over large river - Sungai Tinjar	STRAIGHT AHEAD	115.6	71.8	Village Lapok, Shops & fuel available
		3.0	1.9	
6 Fork in the road	Bear RIGHT	118.7	73.7	Uphill, FIRST turning after Lapok
		1.1	0.7	
7 Fork in the road	Bear LEFT	119.7	74.4	Say on main road
		5.4	3.3	
8 Fork in the road	Bear LEFT	125.1	77.7	Say on main road (straight ahead)
		0.8	0.5	
9 Fork in the road	Bear RIGHT	125.9	78.2	Say on main road (straight ahead)
		6.9	4.3	
10 Fork in the road	Bear LEFT	132.8	82.6	Say on main road (straight ahead, then bear left)
		6.5	4.0	
11 Road joins from the right, then road forks	AHEAD & Bear RIGHT	139.3	86.6	No "U" turn !
		4.5	2.8	
12 Fork in the road	Bear RIGHT	143.9	89.4	Say on main road
		2.0	1.2	
13 Fork in the road	Bear RIGHT	145.8	90.6	
		2.0	1.2	
14 Road bends to the left	STRAIGHT AHEAD	147.8	91.9	Small logging camp on right hand side
		4.6	2.9	
15 Fork in the road	Bear RIGHT	152.5	94.8	Minor road to the left goes steeply downhill

LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
16 Minor road joins from the left	STRAIGHT AHEAD	159.4	99.1	
		2.1	1.3	
17 Security checkpoint (Samling timber)	STRAIGHT AHEAD	161.5	100.4	Road to the left goes to Long Miri - approx 20km
		3.6	2.3	
18 Staggered crossroads	STRAIGHT AHEAD	165.3	102.7	Shop on right, house on left, turn left for Long Pila
		1.9	1.2	
19 Fork in the road	Bear LEFT	167.2	103.9	
		3.0	1.9	
20 Logging camp on the right hand side	STRAIGHT AHEAD	170.2	105.8	
		1.8	1.1	
21 Fork in the road	Bear LEFT	172.0	106.9	Minor road joins from the right immediately after
		4.7	2.9	
22 Road joins from the right	STRAIGHT AHEAD	176.7	109.8	
		3.6	2.3	
23 Logging camp on the left hand side	STRAIGHT AHEAD	180.5	112.2	
		2.3	1.4	
24 Road joins from the right	STRAIGHT AHEAD	182.8	113.6	
		1.3	0.8	
25 Logging camp on the left hand side	STRAIGHT AHEAD	184.1	114.4	
		14.9	9.2	
26 Fork in the road	Bear RIGHT	198.9	123.6	
		0.3	0.2	
27 Security checkpoint (Samling timber)	STRAIGHT AHEAD	199.3	123.8	Central Base Camp, Permits required to proceed further
		0.3	0.2	
28 Road joins from the right	STRAIGHT AHEAD	199.6	124.0	
		2.9	1.8	
29 Fork in the road	Bear LEFT	202.5	125.9	Downhill, sign "Sungai Baram bridge closed Tue/Wed/Thur."
		3.4	2.1	
30 Minor road joins from the left	STRAIGHT AHEAD	205.9	128.0	
LANDMARK	INSTRUCTION	Standard km	Standard miles	REMARKS
31 Houses on left hand side	STRAIGHT AHEAD	212.1	131.8	
		0.2	0.1	
32 Village down road on left hand side	STRAIGHT AHEAD	212.2	131.9	
		2.6	1.6	
33 Fork in the road	Bear LEFT	214.8	133.5	Say on main road (straight ahead), house on left hand side
		0.8	0.5	
34 Minor road joins from the right, small cam	STRAIGHT AHEAD	215.6	134.0	
		1.5	0.9	
35 Row of four houses on the left hand side	STRAIGHT AHEAD	217.1	134.9	Small road also joins on the left hand side
		7.5	4.6	
36 Minor road joins from the left	STRAIGHT AHEAD	224.6	139.6	
		6.0	3.7	
37 Fork in the road	Bear RIGHT	230.6	143.3	Say on main road (straight ahead)
		0.5	0.3	
38 Minor road joins from the left	Turn LEFT	231.0	143.6	Minor road to Long San
		0.5	0.3	
39 Long San village	END	231.5	143.9	Info from Fr Jakob, phone 1064 ext 814, shop & accommodation

Further Reading

Nature walks in Brunei - PNHS 1997, edited by Jacqueline Henrot

Contains information on nature walks and their habitat in Brunei Darussalam

Brunei Darussalam, A Guide - Brunei Shell

Contains information on walks in Brunei Darussalam

Mountains of Malaysia - John Briggs

A comprehensive guide to the mountains of Peninsular and East Malaysia. Brigg's descriptions of the jungle are very informative although his route descriptions are now, however, somewhat dated. The treks upon which his book are based must have taken place in the late seventies and early eighties, before regular tourist trails were established. He also seemed to adopt a siege approach to any climb, accompanying his group with many local guides and porters (judging from the photograph on page 148, half the able bodied men from Pa Ukat and Pa Umor are standing on the summit of Batu Lawi!).

These two factors combine to result that he significantly over estimates the difficulty and duration of any ascent. For example, the return trek to Batu Lawi, which we completed comfortably in three and a half days, is described by Briggs as a five to seven day expedition "not suitable for casual tourists". Still the best book to use for planning your mountain and jungle trips.

Mount Kinabalu, A Guide to the Summit Trail - Sabah National Parks

A detailed description of the Tourist Trail with general information on flora, fauna and the geography of the mountain.

Stranger in the Forest: On Foot Across Borneo - Eric Hansen

Just in case you were thinking that a one day trek to Bario was something special, this book will bring you back down to earth. It describes Hansen's seven month journey in which he travelled roughly North - South across Borneo *and back again*. The first part of his journey, in which he walked either alone or with Punan guides, took him from Marudi to Bario via Long Seridan. Although he does not name it specifically, I think he must have entered Bario via the Kubaan trail which he describes as a "major highland footpath" crossing the Tamabo mountain range at a pass called Punga Pawan above the village of Ara Dalan (his spelling, pages 85 - 91).

SOS - Ron Foster and Robert Neil

An account of the ill fated British Army expedition down Lowe's Gully in 1994, describing how the team survived for weeks on little more than boiled sweets, and provides a stark contrast to the comforts of the Tourist Trail and the Laban Rata rest house.

World Within: A Borneo Story - Tom Harrisson

An account of life in the Bario highlands prior to 1945 by one of the first Europeans to visit the area. Harrisson describes Kelabit customs, religion and life style in great detail although little of this pre Christian culture now remains.

The second half of the book deals with the exploits of the special forces (led by Harrisson) who were parachuted into Bario in 1944 to form a resistance movement against the Japanese. This includes a description of the ascent over the Tamu Abu range on the Kubaan trail by one of Harrisson's officers who was obviously not a fan of the jungle:

Borneo Jungle (An Account of the Oxford University Expedition of 1932)

Tom Harrisson, who later became famous for his wartime exploits in Bario, edited this book which contains personal accounts of the expedition by several of it's members. Amongst them was Edward Shackleton (the son of the Arctic explorer) who made the first ascent of Mulu in 10 days during November 1932.

Australian Geographical Magazine - July/September 1995

An account of the 1993 Australian expedition to climb the main peak of Batu Lawi. The article contains superb photographs and a vivid description of the trek and climb, but is short of any technical climbing data (they left better information in the Camp 2 visitors book).

Useful Addresses

Samson Bala Palaba

c/o SSB Dept. FSU/222B
Borneo Jungle Safari
Home address:

Telephone (from BSP): 74-4700
Fax: 60-85-417-984
Lot 2233
Sin Siang Hai Gardens,
(turn off left ~500m before the airport)
Miri, 60-85-615-453

Samson's family come from Pa Umor five kilometres north of Bario. Villagers from here and Pa Ukat built the two permanent camps on the way to Batu Lawi (Samson's father was vice chairman of the project).

Samson has a small travel agency in Miri and is experienced in organising treks around the Bario area (e.g. Batu Lawi, Murud, Bario to Bakalalan). Even if you are planning to make an independent trip, Samson is a very useful contact to arrange guides, porters, transport etc.

Tarawe's (formerly Bario Airtel)

John & Karen Tarawe
P.O. Box 5, Bario,
Kelabit Highlands
Baram 98050,
Sarawak, Malaysia.

Miri Telephone: 085-414400
Bario Telephone: Telecom M'sia Radio
Tel 1064 Ext. 404

Very friendly and informal lodging house. Clean three bedded rooms with a separate shower and toilet block (approx. M\$12 per bed and M\$10 per meal - will also allow you to cook your own food). John & Karen have contacts all over the area and can also arrange local guides and trekking excursions, though these would be best booked in advance. Note that if they have run out of beer it can be bought for M\$ 6 per can from the old lodging house opposite.

Sabah National Parks

Lot 3, Block K, Sinsuran Complex,
P.O. Box 10626,
88806 Kota Kinabalu,
Sabah, Malaysia
Telephone (60-88) 211881, 211652, 211585
Fax 60-88-221001,

Borneo Eco Tours

Telephone 60-88-234009
Fax 60-88-233688

Api Tours

Sabdin Said
Fax 60-88-424174

Appendix 1 Equipment List for jungle trips

Equipment List for jungle trips	Essentials	Optional
Rucksack	X	
Sleeping Bag & Carry Mat	X	
Torch & Spare Batteries	X	
Lanterns (candle lanterns)		X
Firelighters (Hex)	X	
Matches/Lighter	X	
Mug, Cutlery, Plate & Bowl	X	
Cooking Pan & Utensils	X	
Water Bottle (2 litres minimum)	X	
First Aid Kit	X	
Rehydrating Salts (Servadrat - Smarts)	X	
Zinc Powder (anti fungal - Smarts)	X	
Chaffing Cream (Sudocream - Smarts)	X	
Personal Toiletries (contact lens kit)	X	
GPS		X
Map & Scale Ruler		X
Notebook & Pencil	X	
Plastic Bags (heavy duty or zip bags) & Heavy Duty Resealable Tape	X	
Tarpaulin for temporary shelter (if not planning to reach Camp 1 on first day)	X	
Insect Repellent	X	
Mosquito Coils		X
Parang	X	
Swiss Army Knife		X
Camera, (mini) Tripod & Spare Film/Batteries		X
Toilet Paper	X	
Wetties		X
Small Towel	X	
Sweat Band		X
Malaysian Ringgits	X	
Passport	X	
Small Padlock		X
Ear Plugs		X
Film Cases (salt, sugar, talc)		X
String (clothes line, spare laces, building shelter etc.)	X	
Main Meals	X	
Coffee, Tea, Sugar, Milk Powder	X	
Glucose Powder	X	
Puritabs	X	
Muesli & Powdered Milk (breakfast)		X
Muesli Bars, Nuts & Crisps		X
Sweets (Army ration type in plastic)		X
Beer (leave at Tarawe's)		X
Whiskey (in plastic bottle)		X
Walking Clothing ("wet set")	X	
Evening/Sleeping Clothing ("dry set")	X	
Extra Underwear	X	
Extra Socks	X	
Waterproofs (poncho etc.)	X	
Gloves (for warmth & protection during climb)		X
Boots	X	
Spare Laces	X	
Sandals/Flip Flops		X
Guides normally supply some items indicated, some camps are equipped with kettle, cooking pans and mugs		

