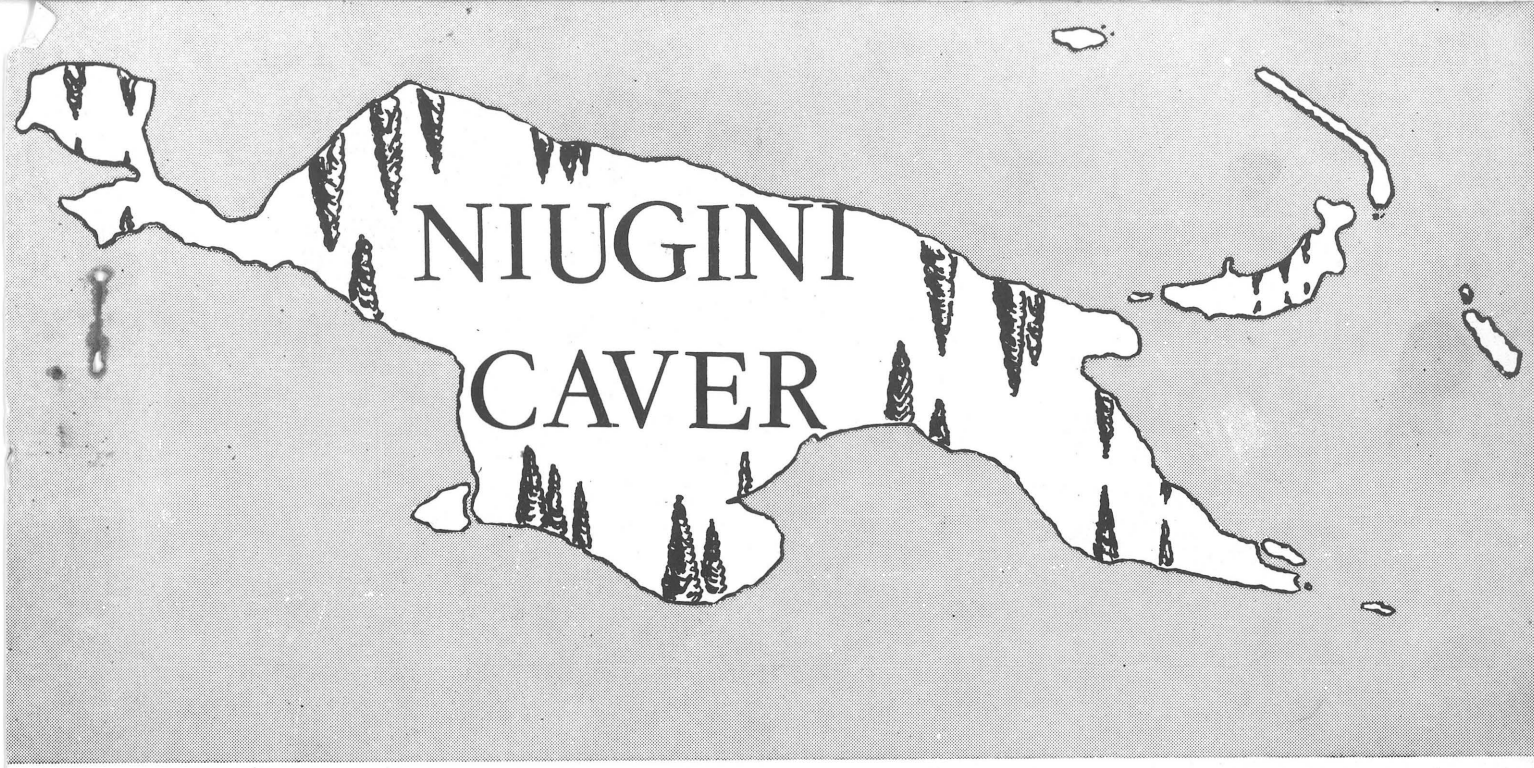
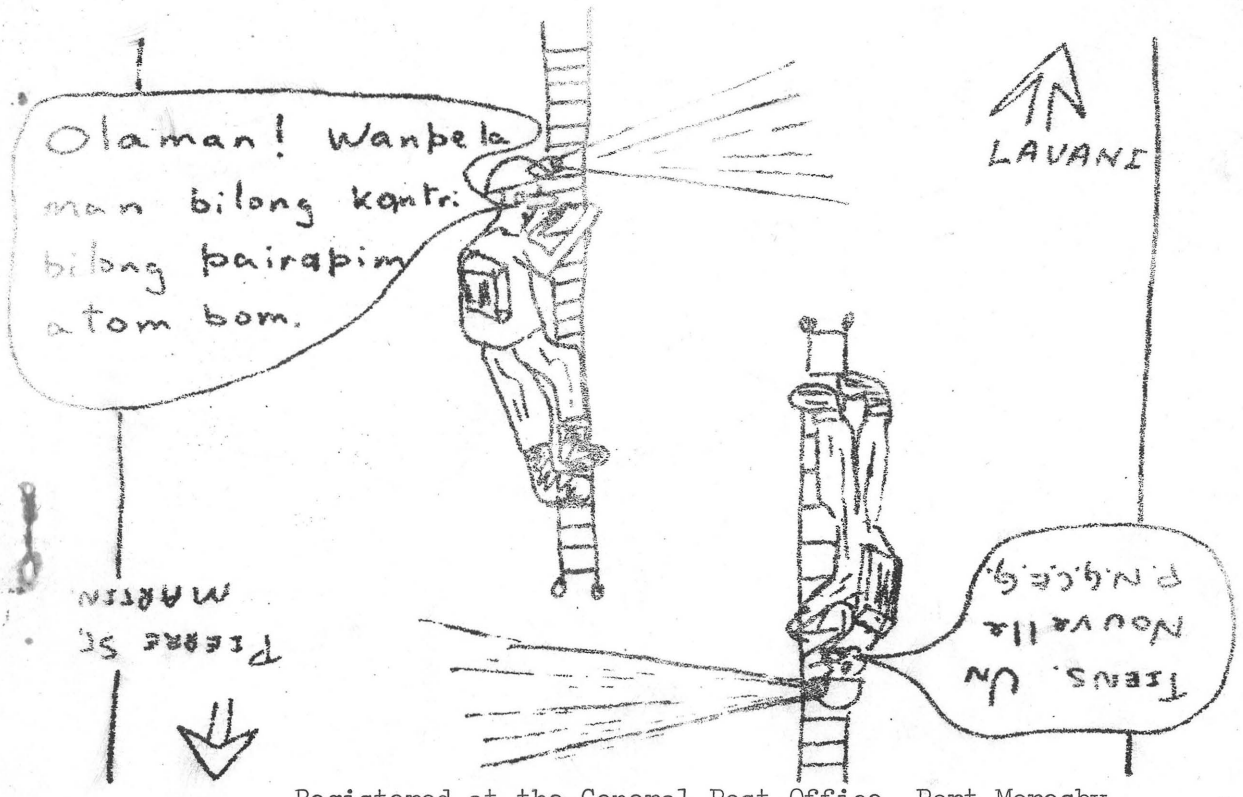


NEWSLETTER OF THE PAPUA NEW GUINEA CAVE EXPLORATION GROUP

Volume 1 Number 3 July 1973



Registered at the General Post Office, Port Moresby
for transmission by post as a Qualified Publication.

NIUGINI CAVER VOLUME 1 NUMBER 3

Niugini Caver is the newsletter of the Papua New Guinea Cave Exploration Group. The PNGCEG is an informal association of persons engaged in speleology in Papua New Guinea.

Volume 1 Number 3. July, 1973.

Price 50 cents per issue. $2.00 per annum.

Editor R. Michael Bourke, D.A.S.F., Keravat, East New Britain, Papua New Guinea.

Typist and Production Jean Schafferius.

Contents

.....

The cover cartoon was modified from one by Kev Wilde who copied it from Ash Cody ... Pierre St. Martin in France is the deepest cave in the world, by the way.

* * *

TOKTOK BILONG EDITA - FOCUS ON THE SOUTHERN HIGHLANDS

The Southern Highlands contain more and thicker limestone than any other district in the country, and yet it has been one of the most neglected, cave-wise, until recently. Only in the last few years as this primitive area has been opened up to the outside world have cavers been active there. In the early sixties the Port Moresby Speleological Society did not visit the area because it was considered that the red tape to get into the restricted areas was more formidable than the mountains themselves. And formidable indeed is some of the limestone country.

Even the geomorphologist S. W. Carey was moved to superlatives in describing the limestone country to the South in the Strickland-Purari foothill area. Carey (1938) wrote, "Overland transport through this region is often a task of extreme difficulty. The limestone has a deplorable tendency to form sheer walls along fault-lines, and precipitous chasms and gorges along the streams. On the limestone plateau the surface is broken by countless caldera and sinkholes 200-300 feet deep with sides of jagged rock, and the day's journey may be a continuous series of descents and ascents through these depressions. The surface is a litter of great limestone blocks with knife-edged projections which lacerate and gash the boots and legs of the traveller and the feet of his carriers.....most formidable country."

Little has been written on the caves in the area. Neil Ryan's article on the Erave area (Ryan 1970) was the first to give specific details on caves and locations, although the geomorphologists Jennings and Bik, and Williams have studied karst in the area earlier. Williams (in press) goes into more detail on the caving potential, but gives few details. Various authors of the "kiap turned writer" variety have mentioned caves in the general area.

In this issue we bring four articles from the Southern Highlands including notes on the known caves from near Mendi. It is hoped to publish further articles later. With the biggest caving expedition to come to Papua New Guinea now in the field in the Southern Highlands, there should be much more known about caves there shortly. The Mendi group is not now active following an active period over the past few years, but hopefully caving will pick up again soon.

REFERENCES

Carey, S. W. (1938). The Morphology of New Guinea. The Australian Geographer 3 (5) 3-31.

Ryan, N. J. (1970). Caving Potential in Papua and New Guinea. The Drave Area in the Southern Highlands. Spar 6 (2): 20-22. Uni.N.S.W.Spel.Soc.

Williams, Paul W. (in press). Cave and Karst Areas in East New Guinea. Acts. 5th Internat. Cong. Speleology. Stuggart, 1969.

* * *

THE NEW CONTRIBUTORS

Lex Brown first visited Papua New Guinea in 1967 and returned in 1972 for the UQSS New Britain expedition. After the expedition he caved at Mumeng and in the Chimbu. He is the President of the University of Queensland Speleological Society.

Kevin Read commenced caving in Papua New Guinea in the early sixties. He was a prominent member of the Port Moresby Speleological Society and later founded the Goroka Caving Club. Most of his caving has been at Javavere and in the Eastern Highlands and Chimbu Districts. He has also caved in New Britain.

John Van Amstel was introduced to caving in 1971 at Mendi. He has led the caving group there since then.

Bob and Viv Vincent commenced their caving in Victoria a few years ago. In 1972 they came to Port Moresby and made a series of trips to the Javavere caves.

* * *

CAVES IN THE MENDI AREA, SOUTHERN HIGHLANDS DISTRICT

Information supplied by John Van Amstel *

The Mendi group was started when Kevan Wilde interested John Van Amstel in caving in 1971. A group has been active for some years but is currently dormant as only John and Jim Wellington now remain in Mendi. As in most places they suffer from the problem of enthusiastic starters who do not front when the appointed time for caving comes.

The villagers are not always keen to provide location information as some caves are used for burial and others are used as hiding places in time of local wars. The caves are generally not very large. Lack of equipment or sufficient experienced people has prevented exploration of some deep drops. The names given below refer to the nearest village. The order is from South to North. (See map)

OMAI. A big cave and the most interesting one in the area. There is a group of sinkholes. A river flows in 3 or 4 entrances in sinkholes. About 40 hours have been spent exploring the cave and it has not yet been fully explored. End to end length is not great, but there are numerous interconnecting passages.

IARIA. A very muddy cave not entered. The entrance slopes down.

TUTAM. Visited by the 1970 Japanese expedition, but not by the Mendi cavers. There are a lot of bats in it.

OYARIP. Not a spectacular cave, but has a lot of insect life inside. Visited by the Japanese.

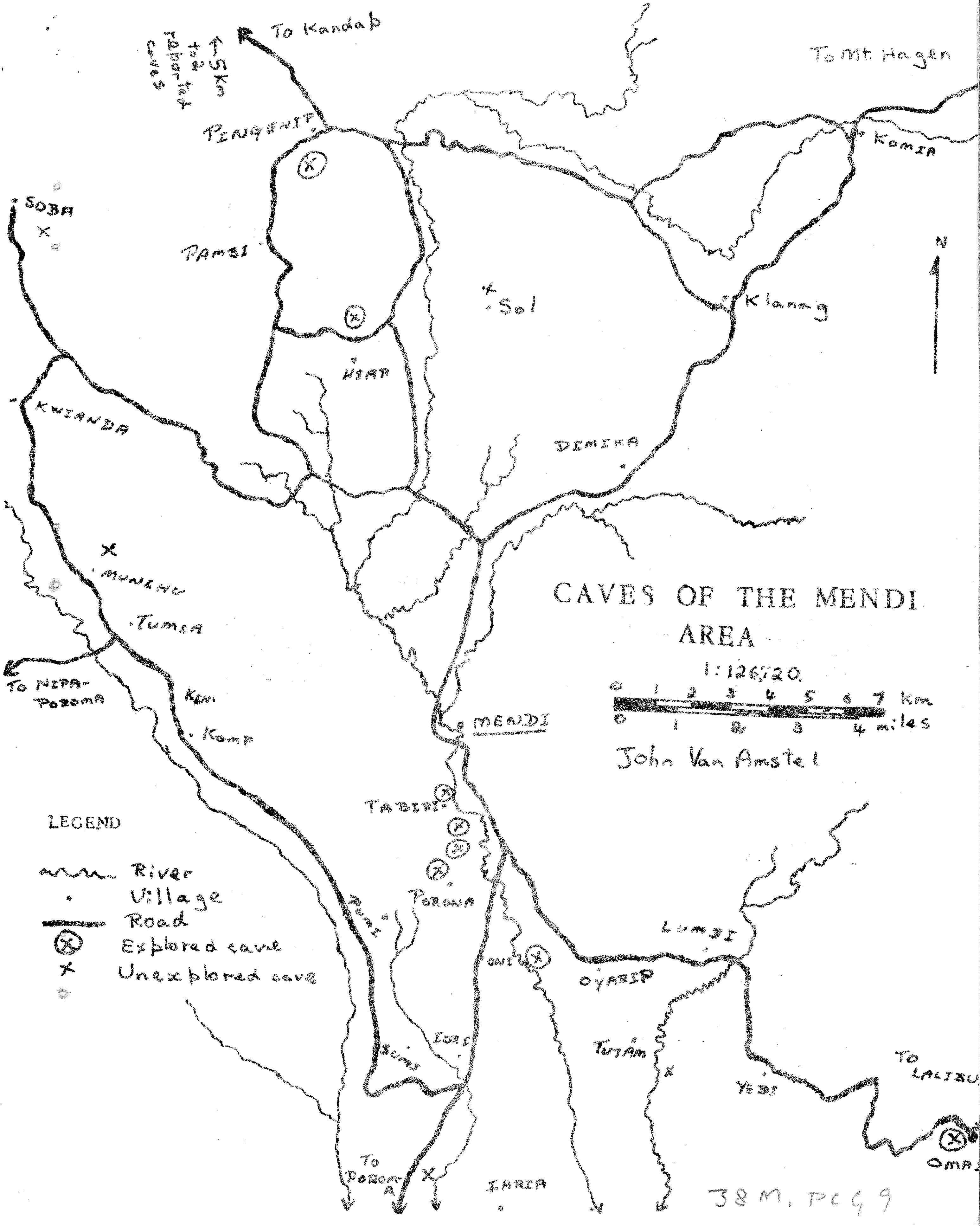
PORORO to TABIRI. Cave 1. It goes through the ridge and comes out on the other side. There are drops inside and 1½ hours are needed to get through. The cave is well decorated. Part of the cave is younger than the rest.

Cave 2. It is like a mine shaft and the entrance drop is at least 50 m deep.. Equipment is needed to get down.

Cave 3. A 40 m deep sinkhole with daylight going to the bottom.

Cave 4. Is small and is adjacent to the quarry.

* D.A.S.F., Mendi, Southern Highlands District.


CAVES OF THE MENDI AREA
1:126,720
0 1 2 3 4 5 6 7 Km
0 1 2 3 4 miles
John Van Amstel
LEGEND
River
Village
Road
Explored cave
Unexplored cave
To Kandab
5Km to reported caves
To Mt. Hagen
PINGENIP
KOMIA
SOBA
PAMBI
Sol
Klanag
KWIANDA
DIMIKA
MUNIHU
Tumia
TO NIPA-POROMA
KENI
Komp
MENDI
TABIBI
POROMA
LUMBI
OYARIP
TUTAM
YEBI
To LAIBU
OMAJ
IORI
TO POROMA
IARIA

MUNIHU. A sinkhole has been reported nearby.

HIAP. The cave is muddy and entrance is gained via the bank of a river. Two hours are needed for exploration.

SOL. A sinkhole and cave have been reported.

SOBA. There is a sinkhole with a breeze coming out. 2½-3 hours walk in from road.

PINGERIP. A small cave. Nearby a creek effluxes from a mountain.

KANDAP. A cliff with sinkholes in it.

TARI. A large cave is reported near the town.

* * *

EXCHANGE PUBLICATIONS

Niugini Caver is being exchanged for caving publications in Australia. They will form the basis of a library for the Papua New Guinea Cave Exploration Group. Publications received are being held by the editor of Niugini Caver at the moment and can be borrowed from him. The following have been received so far.

C.E.G.S.A. NEWSLETTER	Newsletter of the Cave Exploration Group (South Australia)
DOWN UNDER	Newsletter of the University of Queensland Speleological Society
SPAR	Newsletter of the University of N.S.W. Speleological Society
SPELEO-SPIEL	Newsletter of the Tasmanian Caverneering Club
SPELEOLOGICAL RESEARCH GROUP WESTERN AUSTRALIA NEWSLETTER	
S.U.S.S.	Bulletin of the Sydney University Spel. Soc.
THE WESTERN CAVER	Western Australia Spel. Soc.

NOTE ON CAVES AND A LEGEND, SOUTHERN HIGHLANDS DISTRICT

Lex Brown *

The following notes on several caves and a legend in the Mendi area, S.H.D., were provided by John Grant from Brisbane who spent a University vacation working with C.D.W. in the Mendi area 1967/68.

There are cave entrances, quite large to the South west of Mendi near the quarry and at the foot of the cliffs. (See article by Van Amstel, this issue) The caves may have been used by the villagers as a burial ground.

An underground river, a tributary of the Erave, enters a cave 400 m upstream of a road crossing on the Mendi-Ialibu road 8-15 km East of Mendi. The river is 6 m wide and 0.5 m deep, and enters a hole about 2.5 m in diameter. It may be accessible in the dry season. The river is believed to re-emerge 1-1.5 km downstream through sand and gravel banks. (Photographs of this entrance are now held in the University of Queensland Speleological Society's slide library.)

There is a legend of a cave that goes from a range from one valley to the next North east of Mendi towards Hagen. The cave would be 24 km long. It is not now accessible (20-40 years later) because of rock falls and also fears of the villagers.

* 45 Station Road, Indooroopilly, Queensland. 4068.

* * *

SPELEO-HYDROLOGICAL INVESTIGATIONS ON THE WAGA RIVER, SOUTHERN HIGHLANDS DISTRICT

R. Michael Bourke *

.....

Being a tale of some caves; streams that flow the "wrong" way and sometimes the "right" way; springs; wild limestone landscapes; and a natural bridge.

.....

GLOSSARY:

Cumec: A unit of water flow equal to a cubic metre per second, i.e., a flow a metre wide and deep flowing at one metre per second.

* D.A.S.F., Keravat, East New Britain.

Cusec: The British unit equivalent of a cumec, i.e., a flow of a cubic foot of water per second. There are 35 cusecs in a cumec.

Distributary: A stream that takes water from a river or water channel. A tributary contributes water to another channel.

Doline: A solution or collapse feature found in karst areas. It is a depression or hole in the ground's surface.

Hydrology: The study of natural waters.

Karst: General term for solution controlled landforms, particularly where connected with underground diversion of drainage.

.....

In May-June 1973 a Commonwealth Department of Works field party spent a month doing the preliminary investigation for a hydroelectric scheme on the Waga River, a tributary of the Kikori River. The proposed site is located some 15 km South west of Poroma Patrol Post which is 20 km South of Mendi. Because of the remoteness of the study area, daily access was from Poroma using a helicopter.

As the proposed scheme is located on limestone, knowledge of the underground hydrology and any cave systems was vital to the investigation. This work was done over a two week period by Gerry Jacobson (Geol. Surv., Dept. of Lands) and myself, assisted by Bruce Giltman (C.D.V.) and Banai Triure (Geol. Survey).

Caves: Probably about 100 caves and small cavities were explored, most of which were small. The longest was an old stream passage 195 m long and generally 2 m tall and up to 10 m wide. The stream that formed the cave sometimes passed through it and continued in a series of caves for another 500 m. The entire system was not traversed as there were 10 entrances to the surface which allowed one to avoid muddy tight squeezes. The second longest section allowing easy movement was 65 m long. The stream drained a small valley and flowed into the Waga River.

Another cave 40 m long takes a stream of 0.3 cumecs (10 cusecs) from a very large distributary flowing from the river.

About eight other caves worth recording were entered, the longest being 25 m. One cave 14 m long acted as an overflow channel for the river.

Distributaries: The most interesting hydrological feature was the distributaries which carried water from the Waga River. One was flowing at 10 cumecs (330 cusecs) - a very high flow rate. (A typical small cave stream flows at .02-0.1 cumecs.) The cave into which the distributary flows must be large, but we could find no way in.

Another distributary showed most puzzling behaviour. When we first saw it, it acted as a distributary flowing at .03-.06 cumecs (1-2 cusecs). There were four channels and all the flow was going into channel number 3. Then on the 12 June after heavy rainfall four channels were flowing to the river at a rate of 3 cumecs (measured at 94 and 111 cusecs). The flow had reversed overnight. Flow had reduced to .06 cumecs the following day coming out of channels 1 and 2. The following day it was again acting as a distributary, that is, flow had again reversed. The next day there were 0.3 cusecs going from the river into channel 3, but with the added complication that the water was flowing out of channels 1 and 2. Most confusing!

There were another two distributaries that flowed at .15-.3 cumecs (5-10 cusecs) depending on river level.

Measurements in the Waga River suggested that about 17 cumecs (out of 57 cumecs total flow) were being lost from the river over the study area of a few kilometres. There is reason to doubt our measurements however. The distributaries accounted for much of this loss.

Springs: Where all this water goes is still an unsolved problem. We investigated a series of springs a few kilometres West of the study area, but at the time there was no flow from them. They must carry very large flows at times from the size of their channels. Areas of young regrowth suggest flash flooding. However, the altitude of the springs (1060-1070 m) is about the same as the distributaries and these springs more likely drain the limestone plateau at the back of them. The springs occur at the base of the limestone where the contact with mudstone occurs.

Along the river in our study area there were about seven springs but combined flow was only about .15 cumecs.

Large springs were seen at Beaver Falls on the Muli River. This is about 40 km from the study area.

Karst Topography: The limestone land surfaces were wild and spectacular in places. In the Emia and Erave valleys, tower karst occurs. Sheer limestone pinnacles up to 100 m tall are clumped along the sides of the valleys. It should be noted that this form of tower karst differs from that characteristic in Asia where the towers arise from a flat alluvial plain. As we flew from the Erave valley to the Waga valley the karst type changed to honeycomb karst with some cone karst in the transitional area. Honeycomb karst consists of a surface punctured by solution holes or dolines. With cone karst the dominant feature is a positive form. Rounded cones stand up from a basal surface.

Strike ridges orientated N.W.-S.E. dominate the broad topography in the Waga River area. Honeycomb karst is found on top of these ridges where they are broad enough, and in the valley floors on gently sloping land. In places the dolines were only a few metres deep and apart, suggesting a relatively young age. Possibly a mudstone cover has been removed by recently. Generally dolines were many metres deep and apart.

Natural Bridge: On the Mubi River a few kilometres South of the junction of the Mubi and Waga rivers there is a natural bridge through which the river flows. It was estimated as 120 m tall and 200-300 m long. The cave mouth into which the river flows is about 15 m tall and 50 m wide.

CONCLUSION: The most disappointing aspect of the trip was the lack of big caves despite the promise of the area and our resources of time, manpower, a helicopter and labour. However, the unusual hydrology and interesting karst topography was a good compensation, as well as the general primitiveness of the area and the people.

As I spend more time in promising areas searching for caves in Papua New Guinea, the realization is coming that extensive and thick limestone with underground drainage does not necessarily add up to deep or long caves that one can enter.

It is hoped to publish the hydrological and geomorphological data in Helictite with the cave maps.

* * *

PIRUA CAVE, POROMA, SOUTHERN HIGHLANDS DISTRICT

R. MICHEAL BOURKE *

LOCATION. The cave is some 3-4 km South of Poroma Patrol Post which is 20 km South of Mendi. The main entrance is 15 m North of the road that runs South from Poroma, and a vehicular bridge crosses the stream that effluxes from the cave. It is well known locally and has been visited by Jim Wellington and other cavers from Mendi. On 8th June 1973 Michael Bourke, Philip Giltman, Gerry and Rae Jacobson and Banai Triure explored and surveyed the cave. This party and the Mendi cavers explored as far as the collapse chamber.

DESCRIPTION. The cave consists of a single passage through which flows a small stream. As ceiling height is about 2 m for most of the length and there is no mud, it is pleasant to explore. Only towards the end does it become necessary to crawl. There is a large collapse chamber at the end of the passage where the stream emerges from the wall. It may be possible to enter here if the stream was dry.

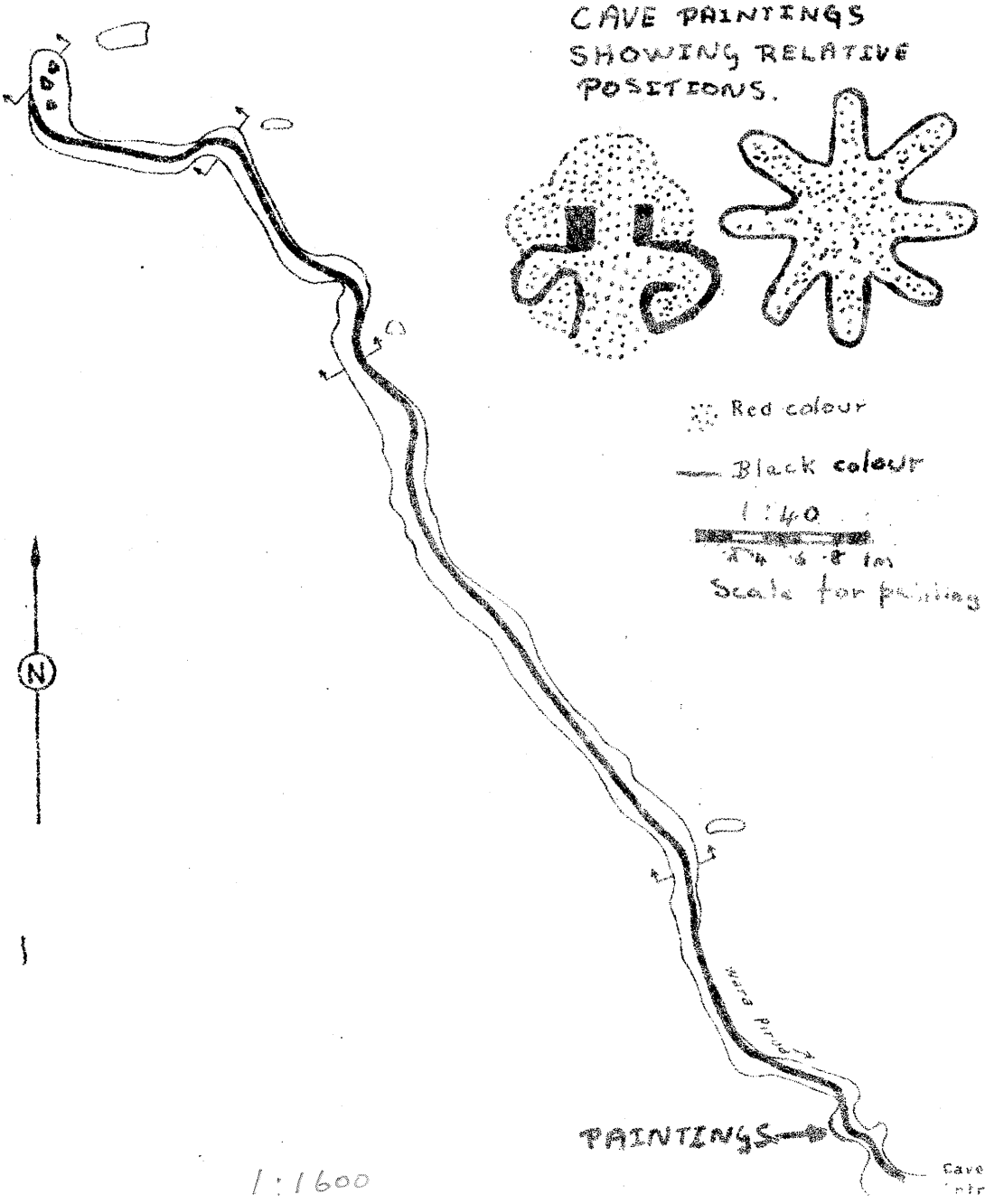
The cave is 390 m long. From the main entrance the stream emerges and was recorded as .02 cumecs (0.8 cusecs) on 8th June. The other entrance is in the first chamber.

GEOLOGY. (Information from Gerry Jacobson) It is located on the North east extremity of the Darai limestone which is Miocene in age. The bedding dips horizontally near the entrance. Halfway in the strike is 330° with a dip of 30°E. The dip changes to 45°E in the end cavern. The cave is formed along the strike (see map), while the end cavern is aligned along a fault with a strike of 110° and a dip of 90°.

The cave has a striking flat roof and rounded appearance. Near the entrance the roof is structurally controlled, that is, the horizontal beds cause the flat roof. Further in, it is caused by phreatic conditions (cave formed under the water table). It is quite well decorated with calcite formations. There is a line of small dolines 3-8 m deep on the surface above the cave running in the same direction as it (330°). It appears that the cave is draining one quarter of the valley in which Poroma is situated.

* D.A.S.F., Keravat, East New Britain.

PIRUA CAVE, POROMA, S.H.D.



Surveyed 8th June 1973 by R M Bourke to Grade 3 standard (C R G & B).

38m 1.PCG10

13/12/E

PAINTINGS. Twenty metres from the entrance there are two adjacent wall paintings done in red and black (see figure). The red colour is derived from red clay. One figure resembles a face and the other is star shaped. They were done on a smooth surface a few metres above floor level. The local villagers said that they "bilong bipo" - at least before World War II anyway. The paintings indicate that it was prohibited to go inside the cave or drink the water from it. However since the Europeans came (the Patrol Post was established in 1967 only) and have drunk the water, the villagers have also done so. The paintings seem different to me from those described in the literature from the Chimbu, Kainantu, Port Moresby, Kitava Island (Trobriand Islands), and Jafi and Jegriffi in Irian Jaya.

FAUNA. Ten metres from the main entrance a python was curled up in the ceiling when we visited it. A fish 8 cm long was seen and small bats inhabited the entrance chamber.

OTHER CAVES IN THE AREA. (Information from John Van Amstel and Jim Wellington) South east of Poroma two caves are known. One is a doline at least 15 m deep which has not been entered. The other nearby one is only small.

Near Nenia North west of Poroma an unstable sinkhole is known.

* * *

THE CAVING SCENE

Bougainville: Four cavers went over to the Keriake plateau on the West Coast at Easter. They were trying to get to a very large doline there. It appears to be approximately 1200 m by 700 m and 140 m deep (possibly the doline visited by Fred Parker years ago?). The party flew to Torokina on Good Friday morning and walked to Atsinima village that day. However some of the villagers refused to take the party there and nothing could be done. (Information from Hans Meier)

Chimbu: Bill Sanders, Van Watson and Kevan Wilde got down a deep pot ("The Hole") in the Chimbu at the end of Easter. They pulled out at 170 m depth down before reaching the end of the cave. (See report this number.)

Javavere: Gerry and Rae Jacobson and family and a few friends seem the only people caving out of Moresby these days. Over Easter they tried unsuccessfully to find the cave at Javavere mapped by Bob and Viv Vincent (see map this issue). The Vincents have now gone finish and are off on a world trip.

Lavani Expedition: The biggest caving expedition to Papua New Guinea is now under way (late July). John Carter, Kev Wilde, and Van Watson are in the expedition area West of Koroba in the Southern Highlands District setting up camps for the week long w lk in, and doing some preliminary investigations. There are now 25 starters with five from Papua New Guinea, one from Singapore, five from New Zealand and fourteen from Australia. The main party will be in the field for a month from early August when the main party will fly to Tari and Koroba.

Keith Holmes
~~Bill Sanders~~, Kev and Van went into the area at Easter but ran out of time after three days walking and had to pull out before getting to the expedition area. Kev writes, "The area is bloody tough with miles upon miles of rain forest and is honeycombed with gigantic dolines. B.H.P. reckon the limestone is 900-1200 m thick..." Sponsorship by companies has been good and the expedition will be supported by air drops. One of the members is a doctor. Most members are familiar with the "Single Rope" techniques for vertical caving.

Madang: John Bywater has been collecting cave life and exploring the Rempi system with his students from the Talidig Vocational Centre, and on one trip with Vince Aitkin up from Australia. He has had a look at another couple of caves near Yagam Hospital behind Madang, and reports that a nearby limestone fissure belches out sulphurous fumes. John has the usual problem of being a one man caving band. Any speleos passing through Madang are invited to contact him at the Education Office and he will take them to the local caves.

Mt. Elimbari: Peter Dwyer (the "Bat Man") from the Zoology Department, Uni. of Qld., spent 1972 in a village on the Eastern Highlands side of Mt. Elimbari studying the fauna. He only entered a few caves but reports numerous dolines on the side of the mountains. He is now back in Brisbane.

Mt. Hagen: Neil Ryan has not done any caving out of Hagen, and is looking for interested speleos up his way. Neil can be found in the T.A.L. office at the "ples balus".

New Britain: Over Easter Hal Gallasch and Chris Rawlings visited the "Police Barracks" cave at Kandrian on the South Coast (see report this issue). Mike Bourke, Ian Cooper and Rod Saunders had an aerial inspection of the karst areas in the Raulei Range in the Bainings. No cave entrances were sighted. The area is a mass of large dolines and the country is very rough. A perched lake in the limestone country was sighted.

The Rembarr Range on the North Coast between Keravat and Rabaul was confirmed as a caving area in July when Hal visited a small cave an hour's walk from Vunadavai.

New Ireland: Hal recently visited a cave near the road that runs from Karu (North of Namatanai) to the West coast. It was a few hundred metres long and was an efflux cave.

Southern Highlands: Caving is at a standstill in Mendi these days, now that most of the enthusiasts have moved on. Jim Wellington has gone on leave and probably is going finish. This leaves John Van Amstel holding the fort.

The C.D.W. hydro investigation field party was in the Waga River area for a month in May-June. They found a few decent caves and some interesting hydrology. On one of the "rest days" the party explored Pirua cave near Poroma. Michael Bourke and Gerry Jacobson were the cavers on the trip. (See reports this issue.)

* * *

THE HOLE, POROL ESCARPMENT, CHIMBU DISTRICT

K. A. Wilde *

LOCATION. Approximately 10 km (est.) Northwest of the town of Kundiawa and situated on the Porol Escarpment at approximately 2200 m A.S.L. Access by Pari-Mindima Loop Road, Kundiawa, Chimbu District.

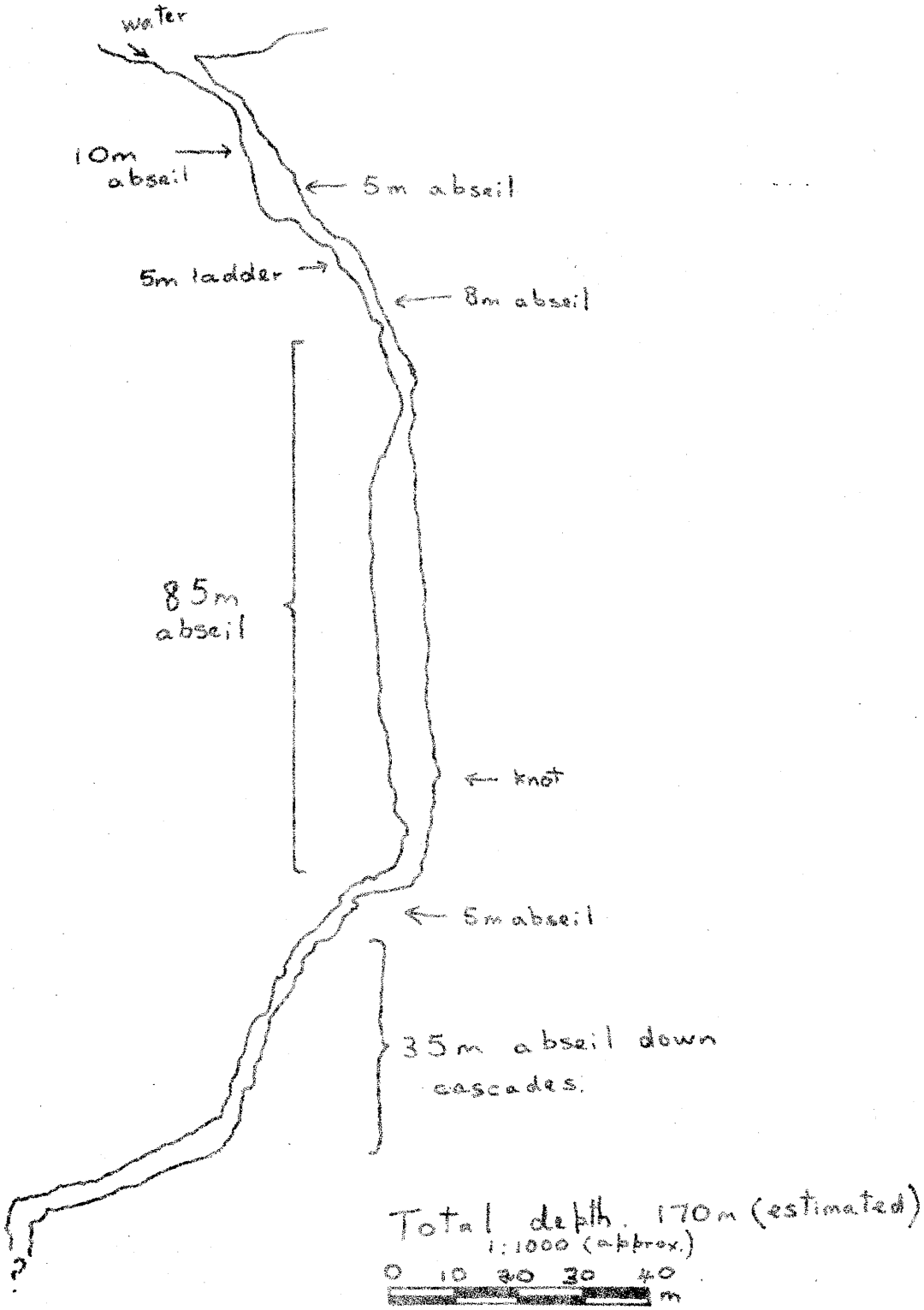
HISTORY. Used by the local inhabitants for hunting flying foxes. The first European to note the existence of the system was Van Watson late in 1971. No previous descent, with the exception of a tentative exploration of the first 30 m or so by Van Watson and Tony Maddern early this year. The local name is unknown.

GEOLOGY. Eocene and Oligocene limestone (Rickwood 1955). The system is located on what seems to be an East-west fault.

TRIP REPORT. Bill Sanders, Kevan Wilde and Van Watson plus packs and gear set off from Kundiawa at about 10.15 a.m. on 24th April 1973 on Bill's 350 cc twin and a borrowed 100 cc two-stroke. The road was as slippery as hell and the bikes were abandoned at a landslide about a kilometre from the Primary School past Pari village. We continued on foot and reached the cave entrance about 1.15 p.m.

* P.O. Box 6490, Boroko, Papua New Guinea.

THE HOLE, CHIMBU DIST.



Total depth. 170m (estimated)
1:1000 (approx.)
0 10 20 30 40 m

K. Wilde
(24.IV.1973)
C.R.G. Gde. 1

14 Pl. PCG 11

The entrance to the system is situated on land owned by one "lapun" (old) Siwi and is muddy with a permanent stream. We scrambled into the entrance and down the first 15 m of the system to a 10 m abseil (wet) which we rigged with 11 mm terylene followed by a short pitch of only 5 m (used 'T' rope). The route so far had been muddy and unpleasant with a large quantity of bat guano overlaying the rock surfaces. We then struck an 8 m abseil (wet) which we also rigged with terylene; this was followed by a short scramble which brought us out into a much cleaner area with a deep fissure. Van tossed the odd rock down the fissure which produced impressive deep hole type noises. We decided that the chasm could well exceed 80 m so we rigged our longest terylene rope of about 75 m with a knot tied in the end. Van took off through the narrow opening and exclaimed that it was a beautiful clean and open shaft. He ran out of rope whilst the shaft was still going, but was fortunately carrying a 25 m rope on his back which he tied on to the original with a super-clever type knot and continued the abseil. Kevan and Bill followed Van down the rope and along a short scramble. We then rigged a short hand-line of about 5 m which "dropped" us on to another pitch of 35 m down a series of cascades which we rigged with a No. 4 nylon. Oh yes, I forgot to mention that there was a 5 m ladder pitch after the 5 m pitch nearer the entrance (see sketch). Two of our wet cells freaked out and Van and Kevan were obliged to use carbides which, unfortunately, kept drowning themselves. Van chimneyed down for about 15 m or so and came back with a report that "The Hole" was still going.

We decided to surface and return before the July-August-September Southern Highlands District Expedition, to complete the exploration. At the time the decision was made, there was also an ominous rumbling noise rolling up the system which assisted us in making up our minds about leaving. We climbed out, using Jumars and were on the surface by 8.15 p.m. (Progress was hampered by failing carbide lamps.) Bill did a great job of hauling the wet ropes out in a 'H' frame pack which won loads of admiration from Van and Kevan.

In conclusion, the cave is well worth revisiting and seems to be a definite goer. The drainage for the area, the River Singa, is approximately 400 m below the entrance and the system is still going with possibly enough go to exceed the magic 1000 ft. (Doesn't sound so good in metres.)

REFERENCES

Rickwood, F. K. (1955). Geology of the Western Highlands of New Guinea. J. Geol. Soc. Aust. 2: 63-82.

IRAPUI CAVE, POROL ESCARPMENT, CHIMBU DISTRICT

K. A. Wilde *

.....

With approximately 4 km of surveyed passage, Irapui is the longest cave known to and surveyed by speleologists in Papua New Guinea in July 1973. The cave has not been fully explored.

.....

Irapui is situated approximately 30 m above the lip of the Kwiningl Gorge through which flows the often boiling River Kwi. (Ningl being the Kuman term for water.) The Kwi itself runs on the northern side of the Porol Ranges (Escarpment) in the Chimbu District. The initial exploration was made in 1964 but it was not until May 1972 that a more thorough exploration and survey was made.

From Kundiawa it is possible to reach Irapui by a short drive and a relatively short walk, the total time being under one and a half hours. The drive takes one along the East side of the River Chimbu along the road that leads to Mai which lies behind the Porol Escarpment, an almost majestic knife edge ridge that travels from Kundiawa to Chuave split by a gorge through which flows the River Chimbu, a shallow but fast river. The first few miles of the journey are a little bumpy but a most pleasureable drive with almost bare magnificent limestone cliffs falling away into the River Chimbu. The road has two hairpin bends that must be negotiated and it is strongly recommended that a four wheel drive vehicle be used. When one arrives at the highest point on the road, it is a good idea to stop and take in the scenery from one of the limestone outcrops. Below is the boiling River Kwi which flows into the River Chimbu and through the mighty 'V' that the Chimbu River has cut through the escarpment. Above, the rock-strewn Porol Escarpment climbs towards the sky.

A short drive further on, after the road swings to the right, brings one to a small native track that descends to the River Kwi. This is the track that leads to Irapui. A twenty to thirty minute walk along this track which follows the river then ascends a little is the entrance to the cave. As a point of interest there is a cave in the limestone outcrop at the beginning of the track; this is not Irapui but Mebikumbago, a long straight system with two levels.

* P.O. Box 6490, Boroko, Papua New Guinea.

The entrance to Irapui is approximately 2 m in diameter and leads down on to a 45° mud slope and into a small chamber. Leading North west from this chamber is an old passage 40 m long which closes off. There is a 45° slope upwards South west with a short squeeze which leads down another 45° slope (muddy) into a small chamber which contains a large fallen slab of rock. The route travels along the right hand side of the rock, although it is possible to go over the top. This leads into the first chamber known as Marata chamber (see (1) on map). The distance covered so far is approximately 100 m.

Marata chamber is named after a stalactite formation which resembles the fruit of the pandanus palm that the natives call marata. The chamber is 50 m long and 20 m wide. In the North east upper corner of this chamber is a further chamber known as Goga-Kuri chamber (5) which develops into a passage, the whole being 150 m long. This passage contains the first indication of good 'living' formation. In the southern upper corner is a shaft 25 m deep (2), known as Irapui-Kombago. It is made up of loose conglomerate. There is an excellent belay point from a column which has conveniently formed on the side of the shaft. Each of our descents have been made on single ropes with aid of abseiling racks and Jumars; however, it is a perfect pitch for a ladder. At the bottom of this shaft is the river passage known as the Kwiningl Overflow (4) which is some 300 m long and travels in a south westerly direction. The stream terminates in a whirlpool sink in the chamber known as Skunge (7), named after the incredibly slippy thick mud. This in turn joins up with Tarn Chamber (11). The river passage is clean but, of course, wet. Approximately halfway along is the chamber called Ples Pit-pit (6).

The continuation of the original passage which leads off Marata chamber also takes one to Tarn chamber. Along this passage which leads to the base camp (20) is good formation in the form of flowstone, and stalagmites etc. The base camp is 150 m from the chamber. The vertical squeeze on the right before the camp leads nowhere. The base camp is a raised sandy platform which is perfect for overnight trips. This entire passage which continues for almost the total length of the cave is probably the original stream passage and now makes up the upper level of the system.

After the base camp the passage continues in a north westerly direction. Just past the base camp travelling due South is another passage some 30 m long which leads to the Balcony (10) which is an overhung 8 m pitch. It is recommended that this pitch be tackled by ladder, it being most unsuitable for the single rope technique. There are two

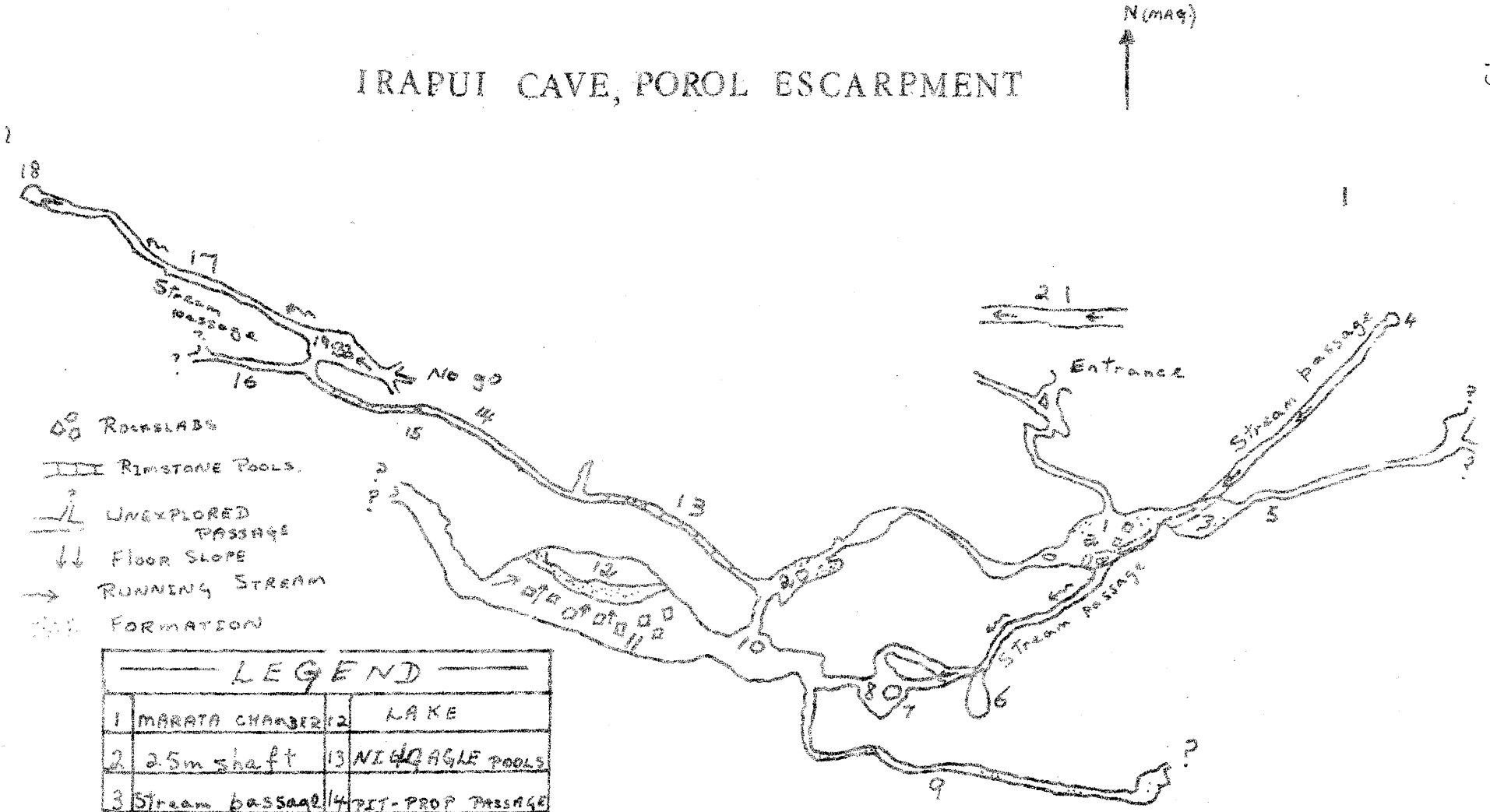
perfect belay points a short distance from the overhang in the form of a stalagmite and a small but sturdy column.

The pitch leads into Tarn chamber (11) which connects with the river passage. Tarn chamber is about 800 m long, and its width at the widest point is 50 m. It is approximately 33 m high. There is a lake (12) on the northern side of the chamber. The depth of this lake varies according to the season (Wet or Dry) and often completely disappears in the Dry season. The roof of the chamber is made up of the bedding plane and the floor is made up of rubble and large slabs. There is not a great deal of formation except in the form of calcite deposits and some exquisite crystal pools coloured by iron oxyde. Its magnificence, however, lies in its size and general atmosphere. In the South East corner is a passage which lies over the other side of a saddle. This passage was named The Passage of a Thousand Wounds (9), the name being derived from the fact that the passage is made up of red and white crystals with splashes of brilliant red iron oxides. The passage is 170 m long and can only be described as exceptional. It terminates in a crystal grotto which is made up of very delicate crystal formation. This area of the cave is the most beautiful area of the entire system and it is advisable to remove one's boots to avoid causing unnecessary damage.

The far end of Tarn chamber closes down to a sloping squeeze made up of the bedding plane and is quite precarious to negotiate and has not been pushed to its limits. When leaving the chamber, it is advisable to leave by the Balcony and to continue along the original passage which continues along from the point where the Balcony passage is entered. This passage is known as Niglgagle (13), meaning water pools. These pools are gours or rimstone pools and they continue for approximately 110 m. There is good formation along this passage, and it requires little technique to negotiate. The passage appears to close off in a small squeeze. However, just before the squeeze is an opening on the left. The opening is slightly sloping upwards and leads into Pit-prop passage, which is reminiscent of a mining passage. This passage is 100 m long and terminates in a squeeze.

Parka squeeze (15) is a low wet squeeze but is easily negotiated and is less than a metre long. On the other side is a passage about 130 m long which leads to an area that has been damaged by earth tremors and is named Guria Region, "guria" meaning earthquake in the pidgin language. Approximately 60 m along this passage is a further passage leading off in a northerly direction. This passage is short and almost immediately begins to descend. The descent can be negotiated by free climbing and chimneying down calcite

IRAPUI CAVE, POROL ESCARPMENT



LEGEND

1	MARATA CHAMBER	12	LAKE
2	25m shaft	13	NIGGAGLE POOLS
3	Stream passage	14	PIT-PROP PASSAGE
4	Kwining / overflow	15	PARKA SQUEEZE
5	GORA-KURI CHAMBER	16	GURIA REGION
6	PLES PITPIT	17	CHIMBU WAY
7	SKUNGE	18	SUMP
8	WHIRLPOOL SINK	19	12m PITCH
9	PASSAGE OF A THOUSAND WOUNDS	20	BASE CAMP
10	BALCONY 8m PITCH	21	RIVER KUWI
11	TARN CHAMBER	22	RIVER CHIMBU

1:5000 (approx)

0 50 100 150 200 250 m

K. WILDE
(16. IX. 1972)
C. R. G. Gde 4.

14 P 12. PLG 12

walls for approximately 10 m. This leads one on to a low ceiling bedding plane and a 12 m pitch which should be descended with the use of ladders. There is a good belay point around a large black river stone which is wedged into a vertical crack. From this position one can hear the noise of running water; in fact in the Wet season the river which is at the bottom of this pitch thunders along its course. This river is probably the continuation of the river passage below the shaft in Marata chamber. The river passage (17) has been named Chimbu Way as it is believed to come out in the Chimbu Gorge. There are higher levels along this passage that have not been explored with the exception of Uppersoxploration which is situated on the left of the river passage when it finally terminates in a sump.

A little should be said about the Kwiningl Overflow (4) and the subsequent river passage that leads to Skunge (7). Beneath the shaft Irapui-Kombogo is a small chamber through which flows the river passage. The overflow which leads off the chamber in a north easterly direction begins in a number of ducks with as little as 0.1 m airspace and after about 30 m opens up. On one occasion at the time of the survey the water level rose and subsided 5 m in twelve hours! The resulting danger is obvious and little needs to be said. One must always be aware of constant danger that is caused by tropical rain storms.

Throughout this system is some excellent formation, and although little has been said during the description, it is well worth noting that apart from The Passage of a Thousand Wounds (9) and Niglagole (13) there are varying types of formation present in just about every major passage and chamber with the exception of the entrance area which is dry and 'dead'.

Although the system has been explored and surveyed, there are many opportunities for further exploration and the system is a rewarding trip. The survey took three days from the base camp. However, the system could probably be done in two days without the hindrance of taking bearings and measurements. There is approximately 3000 m of known passage in Irapui. The survey was carried out in May 1972 at which time little of the cave had been fully explored.

LONGEST CAVES IN THE WORLD

After years of patient work by American cavers, the connection has finally been made between Mammoth Cave and Flint Ridge. The resulting system has a surveyed length of 230 km, which establishes it without any doubt as the world's longest to date.

The connection was made on September 9, 1972. Low water conditions allowed cavers to explore a 1830 m long crawl/stoopway which provided the long sought for link.

Throughout the years, a rivalry has existed between the cavers working in Mammoth and their Swiss counterparts in Hölloch. The Americans would announce a new record figure of surveyed passages, only to receive a telegram from the Swiss telling them of discoveries in Hölloch which brought the laurels back to their pet system. But as the Americans pieced together the Flint Ridge system from Crystal Cave, Unknown Cave, Salts Cave and Colossal Cave, their explorations took them nearer and nearer to the daddy of them all, Mammoth. Rumours persisted of only a matter of metres separating the two under the intervening Houchins Valley, but the connection proved stubborn. Now that connection has been made, and the Mammoth/Flint Ridge system surveyed length has probably a long way still to go even if no further discoveries are made - which is unlikely - for the backlog of discovered but unsurveyed passage is high.

(Reprinted from Descent No. 23 p. 24)

.....

Hölloch in Switzerland with about 115 km of surveyed passage is quite definitely namba tu in length now. With 54 km of surveyed passage, the Optimistitscheskaya gypsum cave (say that again!) in the Ukraine comes in as the third longest in the world and the longest in the U.S.S.R. Australia's longest is Exit cave South of Hobart in Tasmania with 17 km of surveyed passage. Irapui with its 4 km up in the Chimbu still has a little way to go. Wet pastaim!

* * *

CAVE SURVEY GRADINGS

Most of the cave maps in Niugini Caver have a grading based on that used by the Cave Research Group of Great Britain (CRG), for example, CRG Gde 4. This grading system has been adopted by the Australian Speleological Federation and is given below. The CRG have recently proposed slight changes in their system, but these have not yet been accepted in Australia.

CRG Grade 1 -

Diagram from memory.

CRG Grade 2 -

Based on notes made in the cave where no instruments were used but directions and dimensions were estimated.

CRG Grade 3 -

Compass used and read to the nearest 5 degrees, dimensions taken with a marked cord or stick of known length; angles of slope are not measured.

CRG Grade 4 -

Compass read to nearest 2 degrees, measuring tape or marked cord. The tape or cord to be held level or vertical, or at between stations. Distance between stations may have to be restricted to enable this to be done. Thus plan distance is measured but slopes are not.

CRG Grade 5 -

Calibrated prismatic compass and clinometer with bearings read to the nearest degree. Distances by non-magnetic metallic or fibre glass tapes and measured to at least the nearest inch, or 3 centimetres.

CRG Grade 6 -

Prismatic compass and clinometer both calibrated and used on tripods, and read to nearest $\frac{1}{2}$ degree. Distances by non-magnetic metallic or fibre glass tapes and measured to at least the nearest inch, or 3 centimetres.

CRG Grade 7 -

Theodolite for angles and slopes. Distances by calibrated tape or high grade tacheometry. Or by method that is more accurate than Grade 6.

Classification for passage details (not adopted by ASF but recommended.)

Detail Grade A -

All details based on memory.

Detail Grade B -

Passage details estimated and recorded in the cave. (Added to a line-survey).

Detail Grade C -

Measurements of detail made at survey stations only. Details of points intermediate between stations estimated and recorded in the cave.

Detail Grade D -

Measurements of detail taken at all survey stations and at as frequent intervals between stations as is necessary to show significant changes in passage direction, shape, nature, or dimensions and for all areas of possible interest.

If backsights were taken this is indicated by an 'S'

* * *

SOME 1963 TRIPS TO MONONO, HENGANOFI, AND CHUAVE, EASTERN HIGHLANDS AND CHIMBU DISTRICTS

K. Read *

.....

This article has been extracted from unpublished reports of the Port Moresby Speleogical Society.

.....

MONONO, CHIMBU DISTRICT, 26-28th January, 1963.

The party was composed of 13 persons, four members of the Society, Kev Read, John Barnaby, Margaret Evers, Charlie Legrady, ex-member Kath Taylor, visitors Chris Borough, (S.U.S.S.), Bob Taylor (Orange Speleo. Society), and John Eccles. A party of 6 from Kundiawa led by John Ross arrived at Monono Saturday afternoon.

* P. O. Box 5983, Boroko, P.N.G.

INDIVIDUAL CAVES

Duon Diri. The former report on Duon Diri may be regarded as fairly accurate. Unfortunately, the depth of the cave is considerably less than believed previously.

Duon Diri is a fissure cave located in the base of Mount Elimbari on the Monono side. From the entrance (2.5 m x 1.5 m) a vertical shaft falls away for 18 m to a "bridge" formed by collapsed boulders. This "bridge" forms a convenient platform for a second belay of some 20 m. The total depth of the cave is 45 m with no horizontal extensions. A sloping floor gives the impression that the cave is deeper than it is. There is little secondary formation.

Morena. Morena is a very large weathered cavern approximately 90 m x 45 m (at the entrance) located between Monono and Nambiufa. It was probably formed by weathering and subsequent collapse.

At the rear of the cavern 120 m in is a high level passage 35 m above the steeply upward sloping floor. This passage is only about 15 m long and 6 m high, and terminates in rubble. Access to the passage is difficult and should only be attempted with good gear, and experienced climbers. The last 5 m is a near vertical mud wall.

HENGANOFI, EASTERN HIGHLANDS DISTRICT, 16th March, 1963.

On Saturday 16th March a party of three from Goroka (Kevin Read, Dick Robinson, David Cole) with Allen and Jan Muscio from Henganofi, descended the vertical hole ("Hell's Gates"?) and investigated other entrances to the hole.

The hole is 43 m deep about 20 m long and 15 m wide. It was most likely formed by a large collapse above the river. The North west side rises 12 m above the other and forms a high overhanging cliff. There is evidence of extensive jointing with the rock dipping 20° WNW.

The descent is made on the left side to a cleft 9 m down. This cleft provides a good belay point, although a further 20 m descent can be made by rope to a small (1.8 m x 1.2 m) ledge. The floor is 17 m below this point, and the wall 20° undercut for the entire distance. The waterfall is 34 m high and forms a curtain behind which is a cavern very high, and about 15 m wide. The river flows between large boulders and enters a high passage (9-15 m) in a North west

direction. This passage was followed for 30 m only but has every promise of continuing.

In the cliff above the point where the river goes underground is a small (1.5 m x 2.5 m) entrance which becomes a dry river passage after about 60 m daylight is seen, and through a large hole in the floor the bottom of "Hell's Gates" can be seen about 30 m below.

EQUIPMENT

Gear used included 36 m of ladder 120 m 1½" Manila, 60 m of ½" Nylon, four locking carabinas, and personal equipment. All persons climbing wore safety helmets, and life lines were used whenever practical.

RECOMMENDATIONS

The limestone at Monono is less jointed than at Chuave, and does not seem as promising as was first thought. On the back slopes of Elimbari were noted a number of dolines which may provide some interesting potholes. A walk from Monono to Nambiufa could be rewarding.

HENGANOFI, EASTERN HIGHLANDS DISTRICT, 17th March, 1963.

On Sunday 17th March, Kevin Read, Jerry Vomicil, David Cole and Kath Taylor visited Henganofi. "Hell's Gates" was visited and Jerry and Kath descended the ledge. The party spent some time practising climbing, belaying, abseiling and general caving techniques on 6 m cliff.

In the afternoon a high fissure cave entrance was visited 400 m North west of "Hell's Gates". A small stream flows into it. Inside, the fissure becomes a river passage 9 m high, and 30 m in, drops away vertically 9 m to "The Well" to a circular ledge 3.5 m in diameter. A waterfall flows down the smooth, sheer face. Beyond the ledge is a further drop of 25-27 m also sheer or undercut. This drop may well lead into the main river passage.

CHUAVE, CHIMBU DISTRICT, 9-10th June, 1963.

During the June long weekend Kevin Read and Peter Amos walked from Chuave to Fikonbaro mission, locating cave entrances, correcting former reports, exploring some caves, and making arrangements for future camps in the area.

TRIP DIARY

June 8. Kevin, Peter arrive Chuave twelve noon, inspect Kimomo cave (waterfall was not flowing) walked to Fikombaro mission, arrive in heavy rain at 4 p.m.

June 9. Kevin, in company with Luluai Moses, partly explore Kirove cave, return to mission 10 a.m. Kevin, Peter, Moses and others examine paintings on overhanging limestone cliff, explore small fissure cave "The Wedge". Return camp 5 p.m.

June 10. Further exploration of Kirove cave. Jerry arrives 11 a.m. with Keith and Don. All return Kirove, complete exploration. Return Goroka 8 p.m.

DESCRIPTION OF AREA FROM "HIGH CAVE" TO FIKOMBARO MISSION

The combined Chuave Report (Bain, 1963) was found to be very inaccurate, both the report and map. Rather than try to correct the errors, the description has been re-written below.

From the Topia River entrance the track rises steadily to a small village. On the left is reported a cave system where the Leyer River goes into Lombida Cave (?). Further on the track rises over a saddle, and about 200 m down on the right hand side is a 9 m x 6 m vertical entrance. This entrance is in the southern side of the saddle. About 6 m down is a horizontal passage, which looks very promising. On the north side is a large collapse doline. Further up this valley the Oriri River can be seen. It is likely that this river is connected with the cave.

The track continues to rise and follows the valley for about 1.5 km, over another saddle. On the South side of this saddle is Kirove Cave, at the base of a solid wall of limestone 60 m high (see "Individual Caves"). A kilometre further up the valley is the main drainage divide, and the motor road to Nambaiyufa. On the northern side of the divide is Kovoi (not "Kofi") village, and Fikombaro mission. From the southern side can be seen Movi and Nambaiyufa. The village on the southern side is Leo, where there are four vertical caves. One was sighted, and stones went a considerable way down.

On the western side of the valley close to the road, is a high white limestone cliff, with paintings claimed to be over four generations old. One hundred metres below the road at this point is a vertical fissure cave ("The Wedge").

From this point the road to Chuave rises steeply, and passes between two large dolines, and follows beside a row of round dolines in a line. Near this point is reported a cave with two small, verticalentrances. The cave is said to branch, with very long horizontal passages.

Close to the summit of Elimbari are reported huge dolines with very deep vertical caves. These caves are reported half a day's walk from the road.

INDIVIDUAL CAVES

Kirove Cave. Kirove has been formed by the Miro and Onanaro Rivers. The main entrance is about 90 m x 45 m, but narrows down to an arch 15 m high by 21 m wide. The roof and floor dip 9 m, forming a river passage 9 m x 6 m wide. The two rivers join outside, and flow in on the North west side of the entrance. Entry is made generally on the left side, about 18 m above the river. Progress down the passage is slow, due to the many small waterfalls (average 2.5 m). The rock is folded heavily here, and as might be expected, the passage dips after 60 m, forming a "sump" and lake 6 m x 2.5 m. On the left is a passage requiring excavation.

From the direction of flow and topography, it is likely that the river emerges as the Oriri, and if so could join the Leyer, and eventually Topia.

"The Wedge". "The Wedge" is a vertical fissure cave with a round solution chimney entrance 2.5 m x 2 m. Six metres down is a ledge 2.5 m wide. A further 18 m down is a ledge with a narrow fissure on the left. This can be only descended for another 12 m by ladder, as the walls close in rapidly, but by chimneying for a further 6 m, the bottom can be reached. A small stream flows, but it would be very difficult to follow.

FLORA

In Kirove cave two specimens were collected, but subsequently lost. One was a "mushroom" growing with others, in a log. The other was a white substance rather like fine cotton wool. Both were found in complete darkness.

FUTURE ACTIVITIES

The dolines on the road to Fikombaro deserve investigation. The two vertical entrances in this area should be found and explored. The holes near Leo could develop. An

independent and well-equipped party should follow the courses of the Oriri and Leyer rivers.

A light party of, say two, should locate the large dolines atop Elimbari. A well-equipped party could then camp there, and make a descent.

The altitude of Fikembaro is about 2300 m resulting in extreme fatigue, and cold nights. Warm bedding and high energy foods are required, together with a carefully planned itinerary.

Luluai Moses is a very proud man. He informed me that in the past he had never shown strangers the caves. I think our friendly approach, and the items of gear carried helped win him over. Care should be taken on future trips to preserve these good relations.

FIKOMBARO (CHUAVE), CHIMBU DISTRICT, 25th August, 1963.

On Sunday 25th August 1963 a party of five (K. Read, D. Cole, K. Vande Linde, D. McLean) walked on to the backslopes of Mount Elimbari.

ACTIVITIES

Arrived Fikombaro 10 a.m., collected teacher Frank, Luluai Moses, and Elija, proceeded through Kurai towards summit of Mount Elimbari. David Cole descended 45 m vertical hole, as usual no extensions found. Keith shown small entrance to deep vertical cave, descended by Keith and Kevin - (see "Dangling Dutchman" - INDIVIDUAL CAVES).

The party examined dolines beside the road into Fikombaro and the reported horizontal cave above.

INDIVIDUAL CAVES

"Dangling Dutchman". This cave is located about 15 minutes walk above the road, (refer Elija), in the bottom of a 45° sided 12 m deep doline. The doline is about 30 m wide by 90 m long.

The entrance is 1.2 m x 2 m in a small cliff face, with another smaller entrance 3.6 m higher. The cave was descended for 45 m, but is estimated at 60-66 m. The walls are mostly smooth and undercut for the full depth, and covered with secondary formation. The descent is made against the smooth wall, and there are no rests.

The extensive secondary deposition makes geological observation difficult. The hole is square at the top, about 6 m x 6 m and rectangular at the bottom - the East wall slopes out, and the bottom is flat, covered with gravel, and the only possible extension would be East. A curious thing about the hole is that the limestone dips about 30° E, yet the hole is quite vertical.

Vertical Fissure descent by David Cole. This cave is 45 m, with a small ledge 9 m down. The bottom is 6 m x 9 m, the floor clogged with mud. Two other holes about 45 m deep were seen but both seemed to end.

Dolines beside the Fikombaro road. Two of these dolines were examined, but both were clogged, the water escaping by seepage. About 75 m above the road a horizontal entrance in the cliff was entered and followed for 60 m. The entrance is 9 m x 6 m, the floor flat and level. Inside the floor is broken, and the passage becomes steeper still, ending in a rear vertical clay wall. There is river gravel on the floor at this point, and a trickle of water falls from a high narrow cavern above. The clay wall is too dangerous to climb, and exploration was abandoned.

Beside the entrance is a 1.5 m x 5 m hole which is reported to be quite deep.

COMMENTS

The party was very disappointed with the horizontal cave described above. It seems that a cave is considered in relation to others close by when being described by a villager. In an area with no caves a 5 m long passage will be described as "big".

So far, ten promising vertical holes have been examined, and all found to end from 30-45 m down. The reason for this could be the very thick soil overlying the limestone - over 15 m in places, together with the high rainfall. There are very few real outcrops on the back slopes of Elimbari which is unfortunate, because a really solid outcrop would avoid the soil problem. About a dozen holes were seen, but by the law of averages, it would be safe to assume that they would be clogged. Perhaps the best idea would be to look for outcrops, or areas of local folding, where the rock is exposed. Such areas may exist toward the summit of Mount Elimbari, but very little was seen on the backslopes. No jointing or bedding could be discerned, but in places small vertically weathered outcrops were seen.

The best idea would be thorough exploration below Fikombaro - Oriri and Leyer Rivers.

CHUAVE, CHIMBU DISTRICT, 16 17th November, 1963.

Earlier in the week an inspection of Kimono cave was made, and the entrance found to be almost blocked by mud. During the weekend I camped at Leyer village, found and explored a new cave ("Box Canyon" area) and explored Oriro (NOT Oriri) cave, including the area where the Oriro river goes underground.

INDIVIDUAL CAVES

Yunee Cave. For some time we have suspected a cave in the "Box Canyon". While walking through Kimono village, I told the people that I had seen the cave from an aircraft and asked for the exact location. Together with the owner (Silai) the cave was thoroughly explored.

The system is an active river cave, an entrance in a cliff face about 9 m high, 5 m wide and falling fairly steeply. Thirty metres in, the river narrows to 3 m x 5 m high and turns right. There are some striking formations and a further 15 m the river turns left again. A further 15 m is a sump. The sump was negotiated via a mud passage leading from the first bend. Thirty metres below is a low squeeze (0.5 m high) and a second sump. Several dry mud passages were seen.

The cliff into which the river flows is a divide in the box canyon. A search on the other side (120 m) down, revealed a river emerging from a collapsed cavern 30 m up this river, a sump was found, almost certainly the other side of the second one described above.

Oriro Cave. The entrance of this cave was seen during the first walk to Fikombaro. The entrance is 6 m high, 5 m wide, and is located in a cliff on the south side of the ridge above Leyer village, and drops vertical for 9 m. Ninety metres to the south, and 45 m lower, the Oriro river sinks in several steep holes.

Inside the entrance 9 m down, the cavern is very large. The floor drops steeply for 21 m and a level mud bank follows the strike (N.S.) for 60 m to the left is a 70° steep bank, which was negotiated with a hand line. This bank is over 30 m high, and at the bottom is a horizontal passage 2.5 m high and 1.2 m wide, leading into a maze of scoured river passages, many with sheer and undercut drops of up to 6 m. A short distance down is evidence of recent flooding - large logs blocking the passage 2 m up. About 90 m in, and 20 m down, is a second passage joining the one followed. A short distance further the passage enters a 6 m wide fissure, where 27 m below is a large river - doubtless the Oriro.

Despite great care taken with arrows, much difficulty and anxiety was experienced returning. At least five times other passages were seen, and several times the route would be via one of many high level passages. The problem is finding which one, and not missing the arrow.

One of these passages must be an overflow to the river, probably the large one joining (mentioned above). The curious thing is the vast drop in level from where the river goes in, to where it is seen in the cave - 75 m drop, in 90 m length.

A second passage leads from the North end of the main chamber, and terminated in a sheer drop (fissure). Stones took from 4-7 seconds to stop bounc ing. This could be a more direct entry to the river.

I consider this cave the most dangerous in Chuave, both from flooding, and a party becoming lost. Great care should be taken in both regards, and adequate light carried; thorough exploration of the lower levels, in particular the second passage.

Sixty metres to the North is a huge cave entrance, 45 m deep, steep sided, 60 m across, and the bottom filled with mud. The villagers seemed sure that the two caverns joined.

GENERAL

During the twenty-four hours, goodwill was found everywhere. I was told that I had now seen all the caves in the area, and no objection was made to my entering any cave, and I was told of two more small streams going down dolines between "No. 8" and "The Pit" - the people have always denied any caves here. They were pleased when I told them that hordes of Europeans would not follow. It was agreed that P.N.S.S. members (identified by trog suits) would be given full freedom in the area.

Below the Oriro cave/a in line of dolines, indication is that this is the river that joins the Topia near "No. 8". This makes Oriro cave a part of Kimono, only 5 km away, and nearly 300 m higher. When exact figures are established, and a thorough trip made, a record could be claimed.

The Leyer river does exist; only two small streams which flow into small holes. These streams could join Topia, but probably above ground.

An interesting story was heard about two "Masalai", a male and a female, living in Lombida cave. A fire was reported lit by them recently, and investigated by missionaries.

REFERENCE

Bain, Gordon A. (1963). Chuave, Eastern Highlands District, New Guinea - a first report. Cave Talk-Talk 3 (1): 3-9.

* * *

CAVING AT KANDRIAN, WEST NEW BRITAIN

H. Gallash *

. . . . . .

This article is probably the first caving article on West New Britain ever published.

. . . . . .

The Patrol Post of Kandrian nestles on a spit of upraised coral reef limestone of Pleistocene age (coronos) at the base of 100 m high limestone cliffs. This forms an undulating plateau which extends inland to the Whiteman Range. The incredibly broken Miocene limestone of the Whiteman Range undoubtedly contains large caverns but the whole area is unexplored. Patrol reports mention rivers emerging from cliffs or else disappearing underground. The Alanbit River is reported to emerge from a hole in the hills.

Only in the immediate vicinity of Kandrian has any cave exploration been carried out. Two caves are well-known, the first situated just behind the Police Barracks and the other across the bay from Kandrian, in the promontory of Pleistocene limestone. The men of Tuielo village tell of a large cave several hours walk into the bush, which has traditional significance for the people of the area. From the air there appears to be a large doline only 1000 m or so off the end of the airstrip. Perhaps this connects to a cave. A small cave in the vicinity of Angelek village was visited and the road construction supervisor reports other sinkholes in the area. Near Malangalo village near Avli primary school 30 km East of Kandrian, a river emerges from a "railway tunnel" cave entrance.

Entrance to the "Police Barracks Cave" is gained after clambering over boulders at the base of the pleteau limestone.

* D.A.S.F., Keravat, East New Britain.

Hidden behind boulders and screened by vegetation the sizeable opening is sometimes difficult to find. The cave goes straight into the cliff.

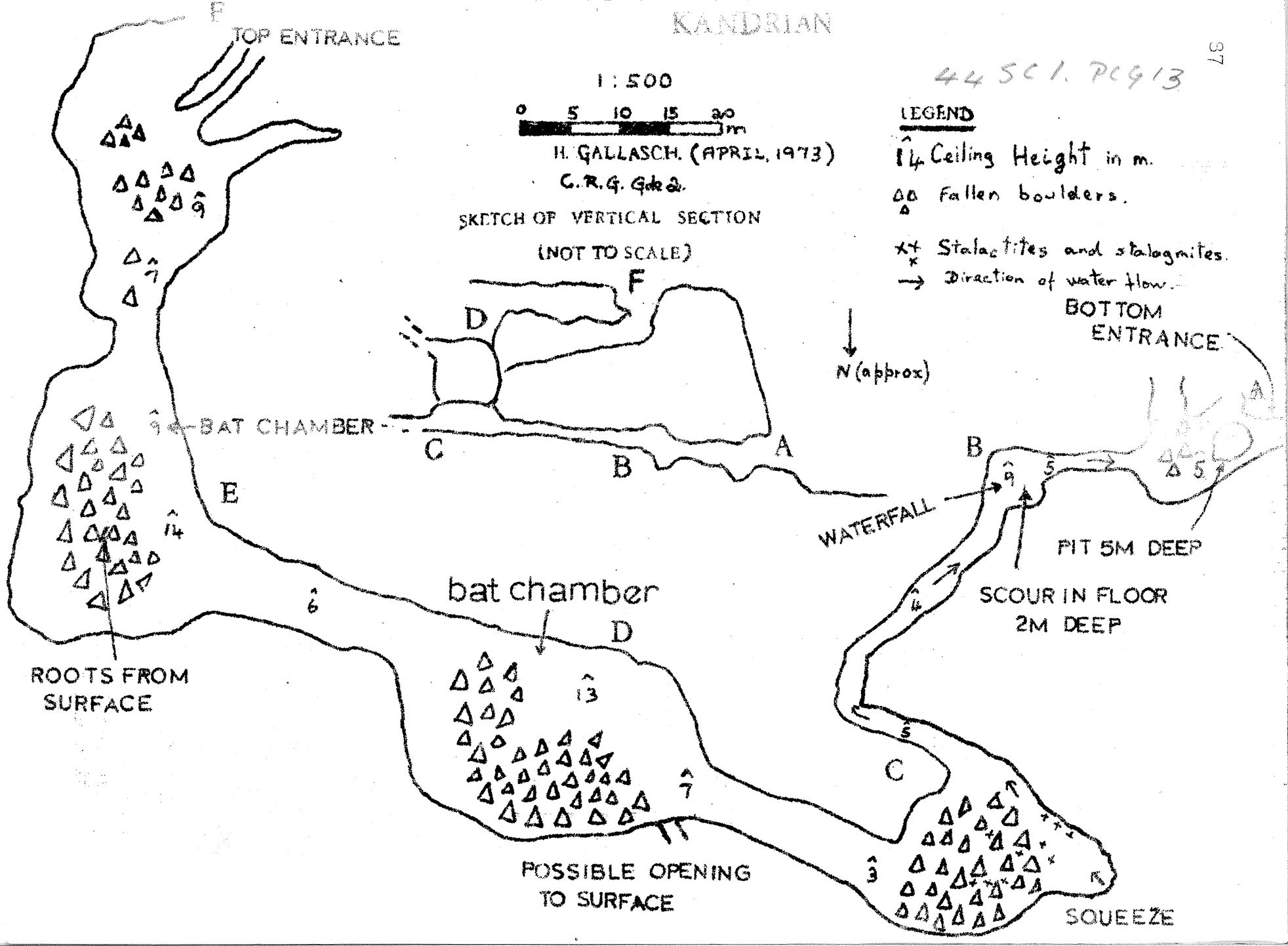
Inside the entrance is a large circular pit into which the efflux pours during the 'wet' season. A single passage leads up to a rock slope which must form a waterfall when the stream is active. At the base is a deep scour. Above the "waterfall" the passage enters a chamber largely filled with a huge slab of rock. Around the left side of this rock the passage flattens out until it is too small to follow. It is through the smaller openings here that water enters the active portion of this cave. There was no flow when the cave was visited in April 1973. Stalactite and stalagmite formation occurs in this area and above the boulder fill.

A climb over boulders to the right gave entrance to a large tunnel leading back in the direction of the cliff face. This emerged into a large chamber which could only dimly be made out in the torch light. Our intrusion aroused the large bat population which started a migration to more remote corners of the cave. Some flew into an opening above the tunnel and closer inspection revealed that this most likely led to another opening on the surface of the plateau above. A scaling ladder would be necessary to climb this opening.

The chamber is partially filled with fallen boulders, the domed roof arching high overhead. The floor was covered by a thick layer of fresh guano. From here a large passageway led to another chamber which also housed bats. The slope of the cave had been upwards and this second large chamber was not far below the surface. A cluster of tree roots emerged from the roof and hung down for some 7 m into the cavity.

After clambering upwards over large fallen boulders and through several smaller chambers, emergence to the surface was finally gained. This top entrance occurred at the bottom of a conical shaped doline, approximately 20 m deep. The surface around the doline is covered with low bush which tends to conceal it from the main road only 100 m or so distant.

During the visit to this cave in April, 1973, by Chris Rawlings and myself, no collecting was done in spite of the rich cave fauna that occurred. In addition to the bats and insects associated with them and with the guano, cave spiders and cave centipedes were particularly noted. These warrant collection and further study.



NOTES ON MAP OF CAVE AT JAVAVERE, CENTRAL DISTRICT

As Bob and Viv Vincent and I are uncertain of the name that has been used for this cave previously, no name has been given to the map here. It may be Old Cave. Perhaps one of the members of the old Port Moresby Speleological Society could provide the name.

The unusual presentation is an isometric diagram. This method gives a good immediate idea of the cave's form. It is a diagram and not an accurate map with interior detail.

The authors also produced a location map which is reproduced here in part. The directions to the cave are as follows. From Port Moresby go beyond Sogeri until the Musgrave River is reached. There are a few houses at the river. It is possible to ford the river in a four wheel drive vehicle, or a sedan if the river is low. Proceed 1.5 km along a vehicular track. A road branches to the left and 300 m along it, there is a rubber factory. Do not go to the factory but proceed straight ahead for another 400 m where a foot track to the left goes to the cave. The track branches off 150 m before Doee village. Proceed along the track in an easterly direction for 1.5 km to the cave. A guide is very useful.

There are at least four other caves in the area, some of which provide good sport.

R.M.B.

* * *

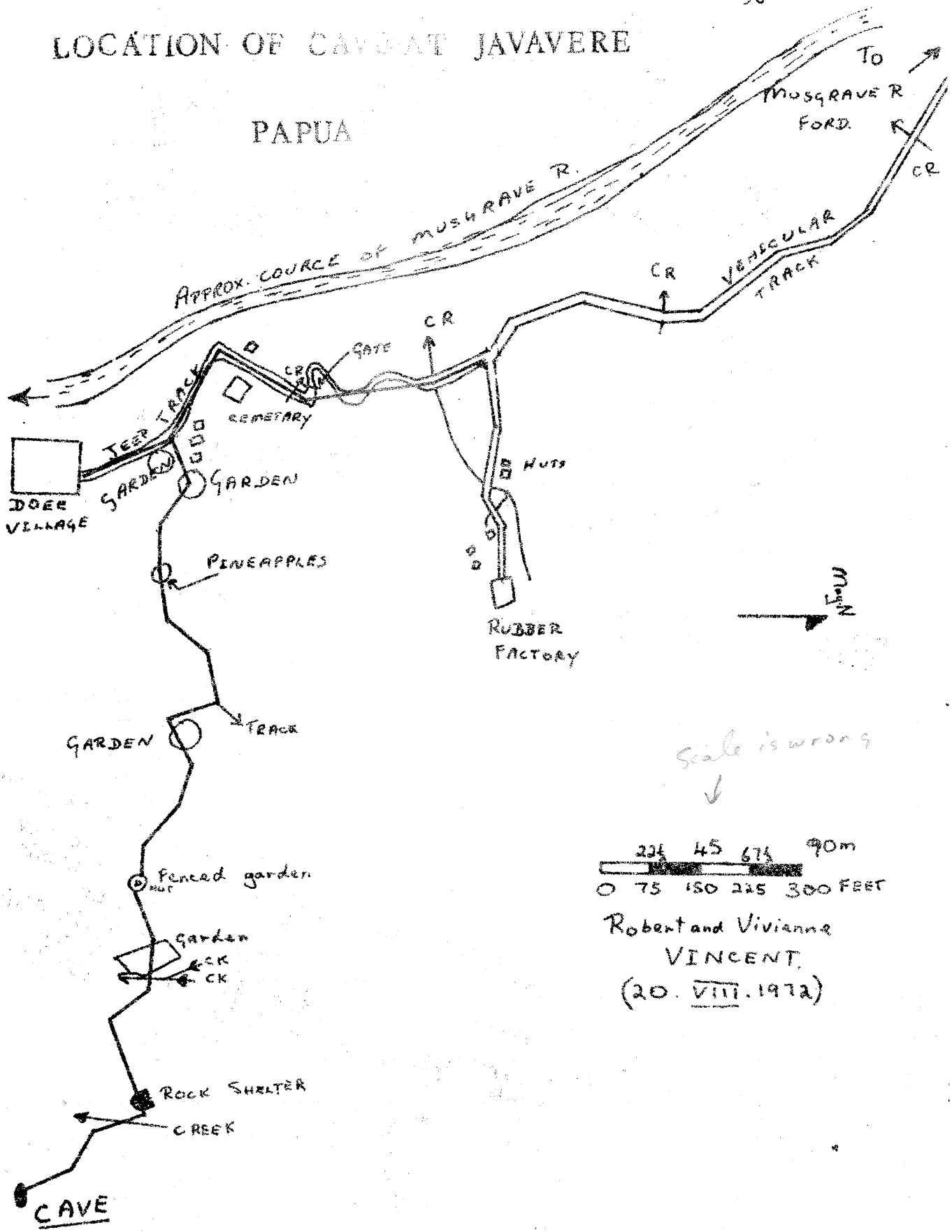
CAVERS IN PAPUA NEW GUINEA

The following is a list of residents known to be caving in Papua New Guinea and/or P.N.G. subscribers to Niugini Caver. Both postal and work address are given if these are not the same.

ANNABELLE, Graham	District Medical Store, P.H.D., Wewak.
BAIN, Gordon	P.O. Box 425, Port Moresby.
BAKER, Phil	D.A.S.F., Namatanai, New Ireland.
BATES, Bob	P.O. Box 316, Mt. Hagen, Bates Transport.
BOURKE, Mike	D.A.S.F., Keravat, E.N.B.
BOWDEN, Nick	P.O. Box 619, Lae, Territory Survey Pty. Ltd.
BYWATER, John	P.O. Box 2070, Jomba, Madang District Taledig Vocational School.

LOCATION OF CAVE AT JAVAVERE

PAPUA



Scale is wrong

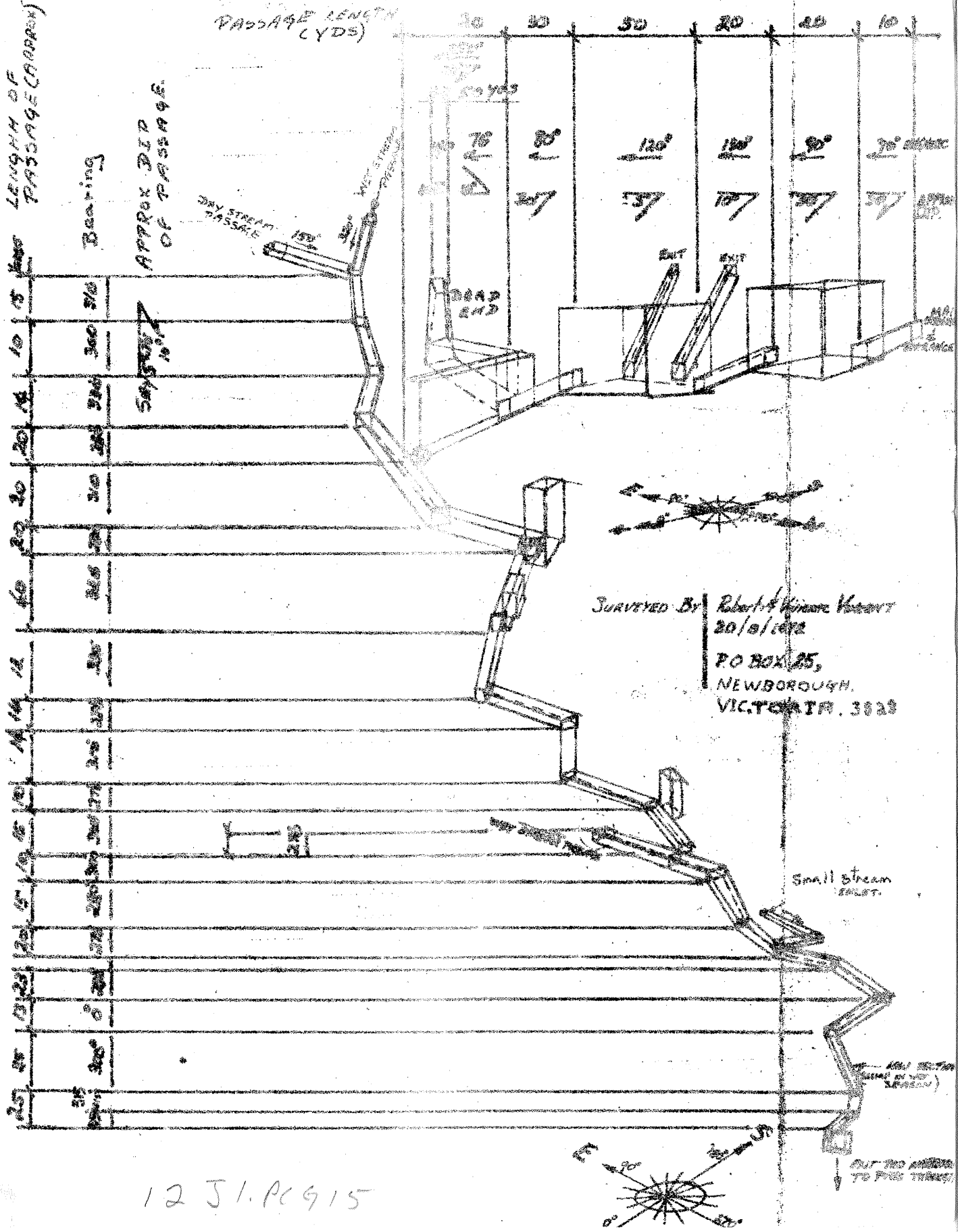
22½ 45 67½ 90m

0 75 150 225 300 FEET

Robert and Vivianne
VINCENT
(20. VIII. 1972)

12 J 1. PC 14

CAVE AT JAVAREE



COOPER, Ian	Vudal College, Keravat, E.N.B.
DODD, Brian	c/o Hans Meier, P.O. Box 73, Panguna.
GALLASCH, Hal	D.A.S.F., Keravat, E.N.B.
HOLDSWORTH, David	P.O. Box 4505, Boroko. Chemistry Dept., U.P.N.G.
HOLLAND, Chris	Malabunga High School, Via Rabaul.
JACOBSON, Gerry & Rae	P.O. Box 778, Port Moresby. Geological Survey, Dept. of Lands, Konedobu.
KIDD, David	D.A.S.F., Kandrian, W.N.B.
LOH, David	D.A.S.F., Keravat, E.N.B.
MADDEN, Tony	D.D.A., Kerowagi, Chimbu District.
MAYBERRY, Mike	P.O. Box 173, Rabaul. Cox Johnston & Co.
MEIER, Hans	P.O. Box 73, Panguna, Bougainville.
NOONE, Mike	P.O. Box 1144, Boroko. Law School, U.P.N.G.
NUNN, David	P.O. Box 5055, Boroko. Dept. of Forests.
PARKER, Fred	P.O. Box 52, Daru. D.D.A.
PYBUS, Andy & Judy	Wabag Hospital, Wabag, W.H.D.
RAWLINGS, Chris	D.D.A., Kandrian, W.N.B.
READ, Kevin	P.O. Box 5983, Boroko. Dept. of Lands.
ROMANYSHN, Vic & Bev	Busu High School, Lae.
RYAN, Neil	P.O. Box 27, Mt. Hagen. Territory Airlines.
SANDERS, Bill	Sub-District Office, Kundiawa.
SCHAFFERIUS, Jean	P.O. Box 504, Rabaul. Tavui Secretarial School.
SLACK, Alan	D.D.A., Wewak.
STIPBIK, Geoff	P.O. Box 2417, Konedobu. Entomology Section, D.A.S.F.
STOTT, Bill	D.D.A., Kundiawa.
VAN AMSTEL, John	D.A.S.F., Mendi.
WATSON, Van	Claude Street, Hamilton, New Zealand. Carpentaria Exploration Co. (?) Madang.
WELLINGTON, Jim	D.D.A., Mendi.
WILDE, Kev & Bev	P.O. Box 6490, Boroko.

As it can be seen, there are 39 cavers or subscribers scattered around 12 districts in P.N.G. Scattered is the word, although there are a few people together in Moresby and on the Gazelle. The Moresby mob seem pretty quiet for their numbers!

Niugini Caver also goes to libraries in Papua New Guinea and to subscribers, societies, and libraries in all states of Australia as well as to New Zealand, the U.K., the U.S.A., Switzerland, Hungary and Japan.

Please send any errors and omissions in this list to the editor.