August 1974

Niugini Caver, Volume 2, No. 3, August 1974

R. Michael Bourke

NIUGINI CAVER

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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.

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

Typist Jean Bourke

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Cover Photograph. Exploring a cave on Belik plantation in the Namatanai area of New Ireland. (See "Caves in the Namatanai Area of New Ireland".)

Photo by Hal Gallasch.

* * *

TOKTOK BILONG EDITA - FOCUS ON NEW IRELAND

Again, one edition of N.C. is devoted mostly to one district - this time the New Ireland District. I have followed the formula used before with an overall review article including a complete bibliography plus a number of other articles.

R.M.B.

* * *

AUSTRALIAN SPELEOLOGICAL FEDERATION TENTH BIENNIAL CONFERENCE

WHERE? The Conference will be held in the Physiology Lecture Rooms 1 and 2, University of Queensland, from 27th to 29th December, 1974. Accommodation from the evening of Thursday, 26th December at Union College, 100 metres away.

WHAT'S ON? A series of short consecutive symposia with discussion periods, films and slides, displays and demonstrations, and the new improved SPELEOSPORTS. Evenings devoted to films, slides, discussions around the keg!

FIELD TRIPS

MT. ETNA - LIMESTONE RIDGE: CENTRAL QUEENSLAND

24 km north of Rockhampton, the most densely cavernous limestone outcrop in Australia, close to coastal scenery. Individual transport at caves, but public transport to Rockhampton possible. Moderately civilized, come and go as you please.

KEMPSEY AREA & OTHER N.S.W. CAVE AREAS

Individual transport, trips as convenient for those returning south after the Conference.

CHILLAGOE, NORTH QUEENSLAND

Wet weather may impose group transport to the area.

CAMOOWEAL, NORTH-WEST QUEENSLAND

Distant area, expedition level, group transport, possibility of substitution of Undarra Lava Tunnels if wet season closes access.

TEXAS CAVES, SOUTH QUEENSLAND

Self guiding as you pass by, reached by a detour off the New England Highway.

FURTHER INFORMATION: The 74 A.S.F. Conference Committee,
P.O. Box 29, ANNERLEY. Q. 4103.

CAVES OF THE NEW IRELAND DISTRICT

R. Michael Bourke * and H. Gallasch *

Caves are very numerous on New Ireland. At almost every village on the north east coast from Mangai south the people know of caves nearby. They are important to the villagers in a number of ways. Legends on the island often feature caves, for example, in Beier (1972) many of the N.I. stories contain references to caves. During the war many people hid in them, as they probably did also in times of tribal fighting. Some caves have been used as burial places in past times. At places the caves serve as water sources and their bats are hunted for food.

Because of road access along the coast, some of the caves are well known to local expatriates, and guano has been extracted from a few. Very little exploration by speleologists other than ourselves has been carried out. Mention of caves was made in German reports but these have not been researched. The earliest available report is Hutchinson (1941) who described a guano cave at Kaut. In the Port Moresby Speleological Society (1960) report for the A.S.F. Conference, notes on cave locations in the Namatanai area are given. This information was published in Sydney (P.M.S.S. 1961) and also by the P.M.S.S. (Anon 1961) with some of the information left out. A trip report of ours in 1970 to five caves about 90 km south of Kavieng has been published (Bourke, 1970), as have descriptions of burial caves (Gallasch, 1974a) and cave engravings (Gallasch, 1974b) north of Namatanai. A brief note (Anon, 1974) on a recent trip to the Lelet Plateau has just been published.

In the period 1968 to August 1974 we have caved on N.I. 14 times, most trips being done by the junior author. In this article we summarize our information on caves together with what little is reported in the literature. The prefix N is used for caves that are accessible from the north east coast; NS for caves accessible from the south west coast; and L for caves of the Lelet Plateau.

GEOGRAPHY

The New Ireland District comprises the main island of New Ireland and seven groups of smaller islands. The district extends from the equator to 5°S and from 149° to 154°E. The main island lies between 2°30' and 4°55'S and 150°40' and 153°10'E. It is a narrow, northwesterly tending island 350 km long and up to 48 km wide. From the north west end elevation increases in the Schleinitz Range and Lelet Plateau to a maximum at the

* D.A.S.F., Keravat, E.N.B., P.N.G.

southern end of the plateau. From here elevation declines to a low saddle near Namatanai. There are further high peaks (up to 2300 m) in the broad southern part of the island.

Annual rainfall varies from 3000 mm to 5000 mm. The vegetation is mostly tropical rainforest with some grasslands.

GEOLOGY AND GEOMORPHOLOGY

This geological information comes from Hohnen (1970) and the B.M.R. 1:1 000 000 geological map. French (1966) also provides geological information on southern New Ireland. The 'basement' rocks of New Ireland are Oligocene andesitic agglomerate, tuff and lava intruded by presumably comagmatic gabbro, morite, diorite and tonalite. In the northwestern half and part of the southwestern half of the island, these rocks are overlaid by up to 1400 m of shallow dipping, lower Miocene to Plio-Pleistocene biogenic limestone. (See Fig. 1)

Limestone is very common in the district. The Schleinitz Range and Lelet Plateau consist of Lelet Limestone up to 1400 m thick. The greatest development is on the Lelet Plateau. Karst topography is very well developed. The north east fall of the plateau is made up of a series of 14 narrow, regularly spaced, sub-horizontal terraces. The south west edge of the plateau is marked by steep limestone cliffs up to 530 m high. The surface is covered by cone karst. Sub-parallel sinuous hog back ridges up to several tens of kilometres long and 100 m high are also common.

The Surker Limestone is also tertiary in age (Lower Miocene). It is located south east of Namatanai. Thickness is probably up to 1300 m in the south. Rare dolines occur, but no karst topography is developed.

The Punam Limestone is Pliocene to Pleistocene (?) in age and is located at the southern tip of the island and around Muliama Harbour. It is up to 1300 m thick. The area involved is much less than the Lelet and Surker Limestones.

Raised fringing coral reefs (Pleistocene to recent) form an almost continuous strip along the north east coast of New Ireland. They also occur in places on the south west coast, particularly on the southern end of the island. The limestone in the Kavieng-Kaut area is raised coral reef. This limestone is also common in the Feni, Tanga, Lihir and Tabar island groups off the north east coast. It also occurs on Dyaul Island off the south west coast and on New Hanover, the small islands between New Hanover and New Ireland, and Mussau and Emirau Islands in the St. Mattias group to the north of New Hanover.

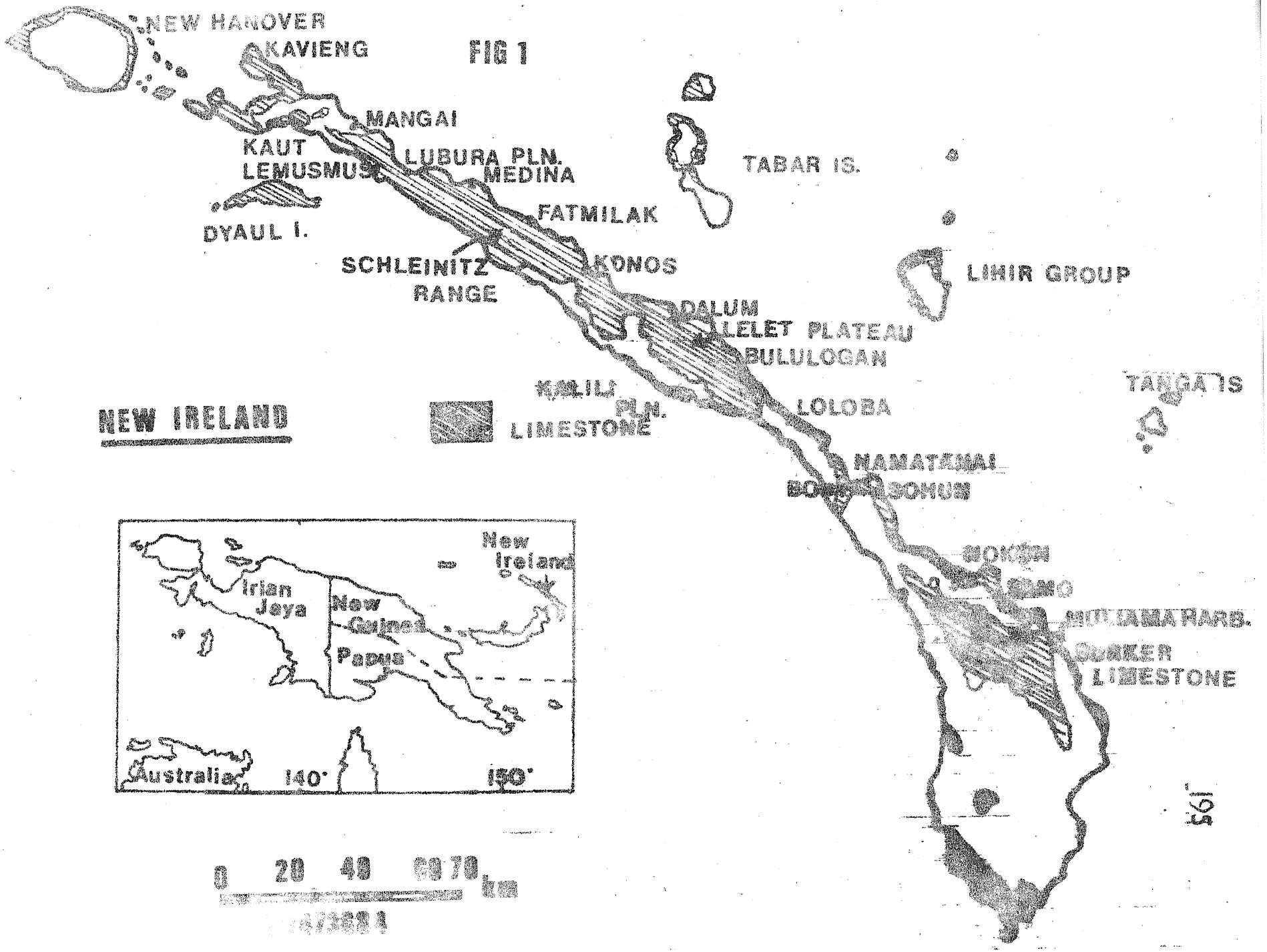

NEW HANOVER
KAVIENG
MANGAI
KAUT
LEMUSMUS
LUBURA PLN.
MEDINA
DYAUL I.
FATMILAK
TABAR IS.
SCHLEINITZ
RANGE
KONOS
LIHIR GROUP
DALUM
LELET PLATEAU
BULULOGAN
TANGA IS
NEW IRELAND
LIMESTONE
LOLOBA
NAMATANAI
BOHUM
New Ireland
Irian Jaya
New Guinea
Papua
Australia
140°
150°
0 20 40 60 70 km

FIG 1

CAVES ACCESSIBLE FROM THE NORTH EAST COAST (KAVIENG TO NAMATANAI)

Road distance from Kavieng in kilometres is given for each location.

Liga village (5 km). N1. A small cave used as a water source by villagers. (See "Two Water Supply Caves, New Ireland" this number.)

Mangai village (44 km). Caves are reported by villagers in the hills several hours walk from the coast.

Nonopai village (56 km). A cave used by the Japanese during the war is reported.

Luburua plantation (69 km). N2. Matarai was used as a prison cave during the war. (See "Matarai Prison Cave, New Ireland" this number.)

Panamana village (76 km). N3. Baum cave. The walking track from here to the west coast is reported to pass near this cave. It is on the third range.

Logogon village (86 km). N4. Purio (Nimphidu) cave. This cave was used as a shelter during the war. The old fire site and beds cut into the floor can still be seen. When we visited it, we found a human bone in the cave. (Bourke, 1970) (See Fig. 2)

N5. Lamis cave. This cave is half an hour's walk from Logogon, and the entrance is located in a low cliff face. (See Fig. 2)

N6. A small cave adjacent to Lamis.

The villagers report burial caves several hours' walk away, and deep shafts in the hills half a day's walk away. There is a strong resurgence near the village.

Medina High School/village (88 km). N7. There is a small cave used as a water supply in the village grounds. (See "Two Water Supply Caves, New Ireland" this issue.)

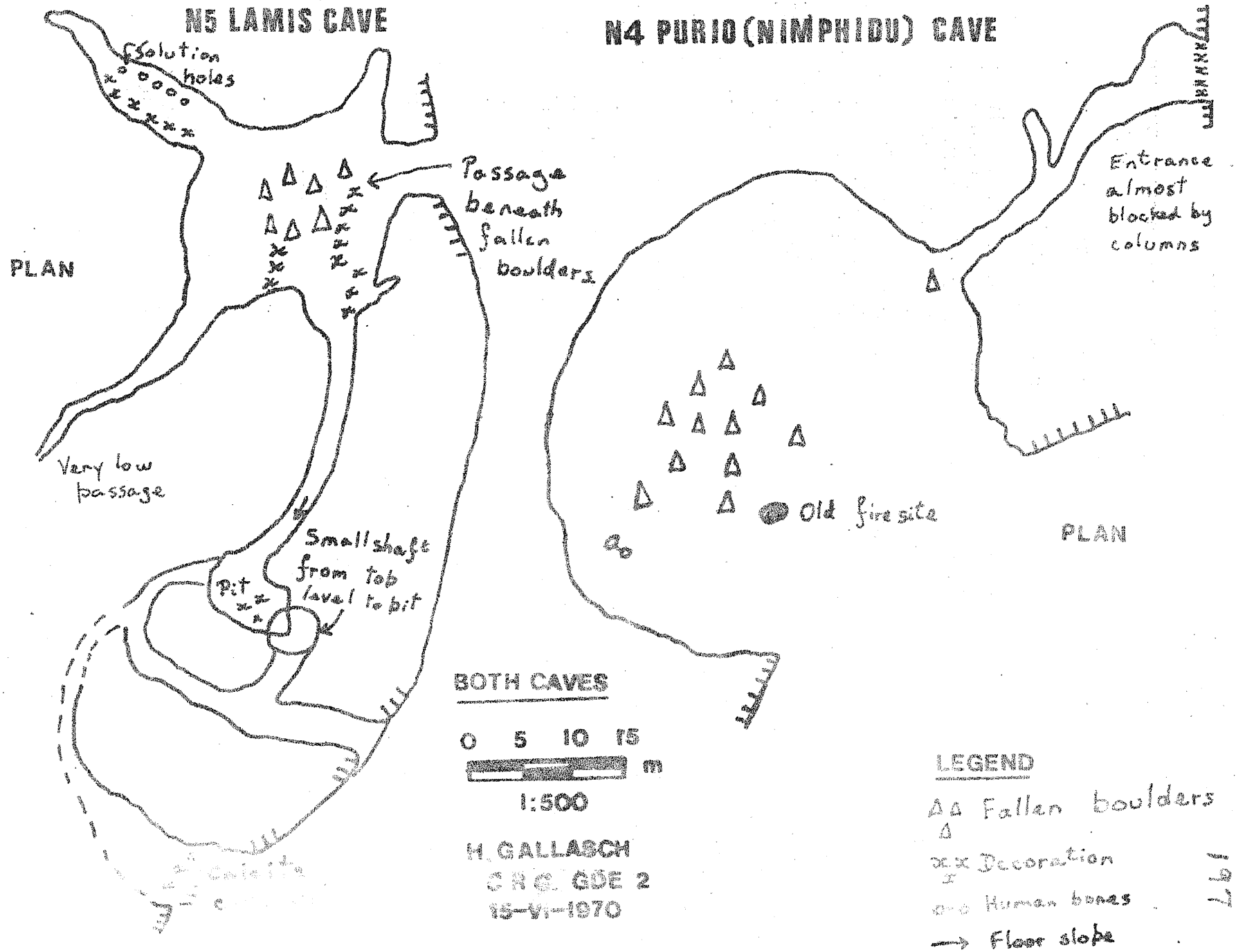
N8. Matapara cave. A large impressive cave at the back of the High School. (See "Matapara Cave, New Ireland" this number.)

N9. Bolof cave. Fossils have been collected from this cave near Medina according to the villagers.

Burial caves have also been reported from this area.

Fissoa plantation (92 km). A very large cave is reported at the back of the plantation.

FIG 2


N5 LAMIS CAVE
Solution holes
Passage beneath fallen boulders
PLAN
Very low passage
Small shaft from top level to pit
Pit
N4 PURIO (NIMPHIDU) CAVE
Entrance almost blocked by columns
Old fire site
PLAN
BOTH CAVES
0 5 10 15 m
1:500
H. GALLASCH
C.R.C. GOE 2
15-VI-1970
LEGEND
Fallen boulders
Decoration
Human bones
Floor slope

Fatmilak village (109 km). A river cave and a dry cave are reported.

Lamussong village (137 km). River cave reported.

Konobin village (145 km). Caves reported in hills.

Konogusgus village (170 km). Two caves with streams in them from which people obtain water when working in the gardens. There is also a cave in the hills where the villagers hid from the Japanese during the war, and there are other caves in the mountains.

Bumbuve village (180 km). N10. Pamp cave. (See Fig. 3) A stream which crosses the road is followed through pandanus. A five minute climb brings one to the entrance. The stream effluxes as a waterfall from the mountain side. The entrance is 2-3 m high but the cave divides and becomes smaller inside. One of the two passages inside eventually becomes too small to follow, and the larger one is blocked by a rock fall from where the stream issues. The complete length of the smaller passage is decorated with stalactites and beautiful straws.

Kantembu village (176 km). N11. A large pot called Mamarabin occurs at a place called Lamout Massang. The pot is several kilometres in from the main road, and is said to be a circular pit, 200 m across and 30 m or more deep. Caves are said to lead from the bottom of this pit and come out at the top of the mountains. (See "Stori Bilong Tumbuna - Cave Legends from New Ireland", this issue.)

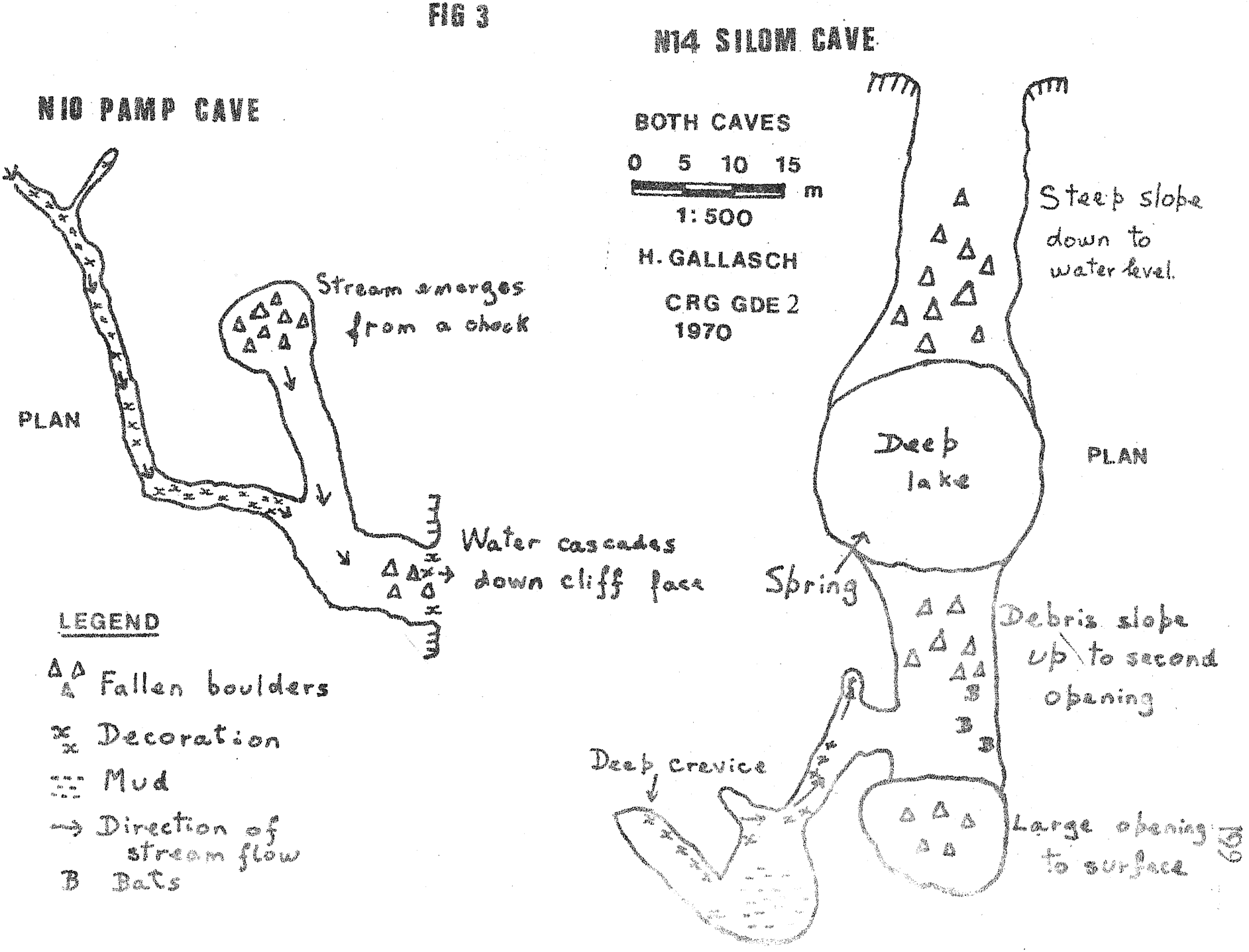
Near Kantembu there are two other caves in which the people sheltered during the war.

N12. In the limestone cliff on the beach there are a number of small caves called Buang Kalubu.

Silom village (197 km). N13. Several hundred metres towards Kavieng from Silom cave (N14), there is a cave entrance 2 m from the road edge. The small hole opens into a large chamber.

N14. Silom cave. This cave is across the road from the site of the former Government Rest House on a prominent bend in the road. (See Fig. 3) From the road a well worn track leads down into a doline, at the base of which a steep boulder-covered slope goes down to an underground lake. It is from here the village people obtain their water. The deep water can be skirted by wading through thick mud on one edge. A boulder-strewn slope leads up to a large vertical sided opening to the surface. A branch passage was followed until progress was halted by a deep crevasse. Water entering the further side of this chamber flows as a stream into a sump which

FIG 3


N10 PAMP CAVE
PLAN
Stream emerges from a chock
Water cascades down cliff face
N14 SILOM CAVE
BOTH CAVES
0 5 10 15 m
1:500
H. GALLASCH
CRG GDE 2
1970
Steep slope down to water level.
Deep lake
PLAN
Spring
Debris slope up to second opening
Deep crevice
Large opening to surface
LEGEND
Fallen boulders
Decoration
Mud
Direction of stream flow
Bats

emerges under the underground lake. Good stalactite and stalagmite decoration occurs in the inner section of the cave while bats and flying foxes live in the larger initial cavern.

Bulu village (202 km). Caves reported by P.M.S.S. (1960). An underground river resurges near the village but cannot be entered.

Lokon village (204 km). N15. There is a cave entrance near the aid post.

Karu village (221 km). N16. Several kilometres along the road that crosses to Konogogo on the south west coast, there is a river cave containing several hundred metres of passage. (See "Caves of the Namatanai Area of New Ireland", this number.)

Loloba village (226 km). N18. Loloba cave is behind the village in a cliff and contains remains of human skeletons some 27 m in from the entrance. There are two large caverns connected by a squeeze beneath a mass of fallen boulders (Gallasch, 1974a).

N19. Bonamai cave. Consists of several small, low connecting chambers and contains fragments of human bones (Gallasch, 1974a).

N20. Komebe is a small cave about 40 m from the beach. It goes straight into a low cliff for about 30 m and is no higher than 1 m. Formerly used as a burial site (Gallasch, 1974a).

Belik plantation (230 km). N21. A surface stream enters a large cavern and can be followed for some distance before it disappears through a log choke. (See "Caves of the Namatanai Area of New Ireland", this number.)

Kolonoboi village (234 km). N22. Umarah is a river cave containing a series of rock carvings. It is about 100 m long. For a fuller description and map of the cave and engravings, see Gallasch (1974b).

N23. Kistobu cave is downstream of Umarah and the same stream runs through it. It also consists of a simple stream passage about the same length as Umarah. (See Gallasch, 1974b)

At least one large pothole also occurs in the bush near Kolonoboi but it has not yet been visited by us.

Kenapit plantation (236 km). N24. A cave called Marabunge-Tumaduit is located near the plantation house. (See "Stori Bilong Tumbuna - Cave Legends from New Ireland", this issue.)

At least one other cave occurs on Kenapit plantation, about 50 m from the main road.

Bakan village (240 km). Small caves occur in the low limestone cliffs just inshore from the present coastline. There is an underground river also (P.M.S.S., 1960).

Ramat village (242 km). N25. Katasalong is a former burial cave inland from the village. Shall beads and human bones have been found inside. P.M.S.S. (1960) reported an underground river at Ramat.

Ramat plantation (244 km). In low limestone cliffs near the main road several small caves occur a few metres above sea level. Their development may be due, at least partly, to wave action at a former sea level.

Between Pire village and Bopire plantation, a cave is reported to occur in the cliffs near the beach.

Bo village (258 km). A deep pothole is reported 1½ hours walk from the village on the track to the west coast.

In the hills above the Sae river between Bo and Namatanai there are a number of small caves, and a larger one (N26) some 14 m long and 2 m high. When first visited by the informant, this cave contained a wooden figure about 1.5 m tall.

Napunta village (inland from Namatanai). There is a burial cave near here in which a stream has eroded into the former stream bed leaving ledges on each side. These ledges have been used for laying out the bodies, commencing at the back of the cave and going towards the entrance.

CAVES ACCESSIBLE FROM THE NORTH EAST COAST (SOUTH OF NAMATANAI)

Rasese village. N27. Lokabar is near the village. It is still used for burials, especially of very old people. Instead of just laying out the bodies as was done formerly, they are now sometimes encased in wooden boxes. The small entrance is well hidden by flat stones.

Before the Rasese people moved down to the coast they lived in the mountains and buried their dead in two caves, the locations of which are only known to two men. As in the burial cave at Napunta, the bodies were placed on ledges.

Mageh plantation. Within the coconuts, there are several perpendicular sided dolines.

N28"Mageh No. 1 cave". One stream from the undulating plateau has worn a gully and enters a large cave. In one branch a collapse has opened another entrance to the surface. The main stream passage

quickly becomes too low to follow. (Refer to "Caves of the Namatanai Area of New Ireland", this issue.)

N29. "Mageh No. 2 cave". In the hills behind Mageh plantation about 45 minutes walk from the last of the coconuts, a large cavern can be entered from the side of a hill. This cave houses a large bat population and contains appreciable quantities of guano. (See description in "Caves of the Namatanai Area of New Ireland", this issue.)

Sohun 2 village. N30. Kabase cave occurs in the bush a kilometre's drive and 20 minutes walk from the Sohun Primary School. It is about 400 m long with a consistent downward slope. (See "Caves of the Namatanai Area of New Ireland", this number.) There are other caves behind the village.

Hilalon plantation. On the edge of the plantation near Poronbus village, there are several small caves near the coast, said to be only some 20 m long.

Nokon village. Caves reported by P.M.S.S. (1960).

Huris village. Caves reported.

Samo village. Caves reported by P.M.S.S. (1960).

Kapsel village. N31. Matanbek cave has two entrances, a stream and 100 m or more of passage. It is several kilometres inland from the village. It has been used for burial, and human bones and teeth have been found in it.

Muliama village. Caves reported. Said to have been used by the Japanese during the war.

CAVES OF THE LELET PLATEAU-SCHLEINITZ RANGE

Cave depth potential is up to 1400 m. Descriptions of 31 caves in the inhabited area of the plateau are given in this number (see "Some Caves of the Lelet Plateau, New Ireland"). These caves were all visited in a small area in only five days, so it can be presumed that there are many thousands of unexplored caves in the mountainous centre of the island.

CAVES ACCESSIBLE FROM THE SOUTH WEST COAST

There is less information from here compared with the other coast, probably because access is more difficult.

Kaut village. NS1. A guano cave which consists of two chambers and a number of small grottoes. The cave penetrates the cliff for

nearly 400 m (Hutchinson 1941).

Lulur village. There is a vertical cave here.

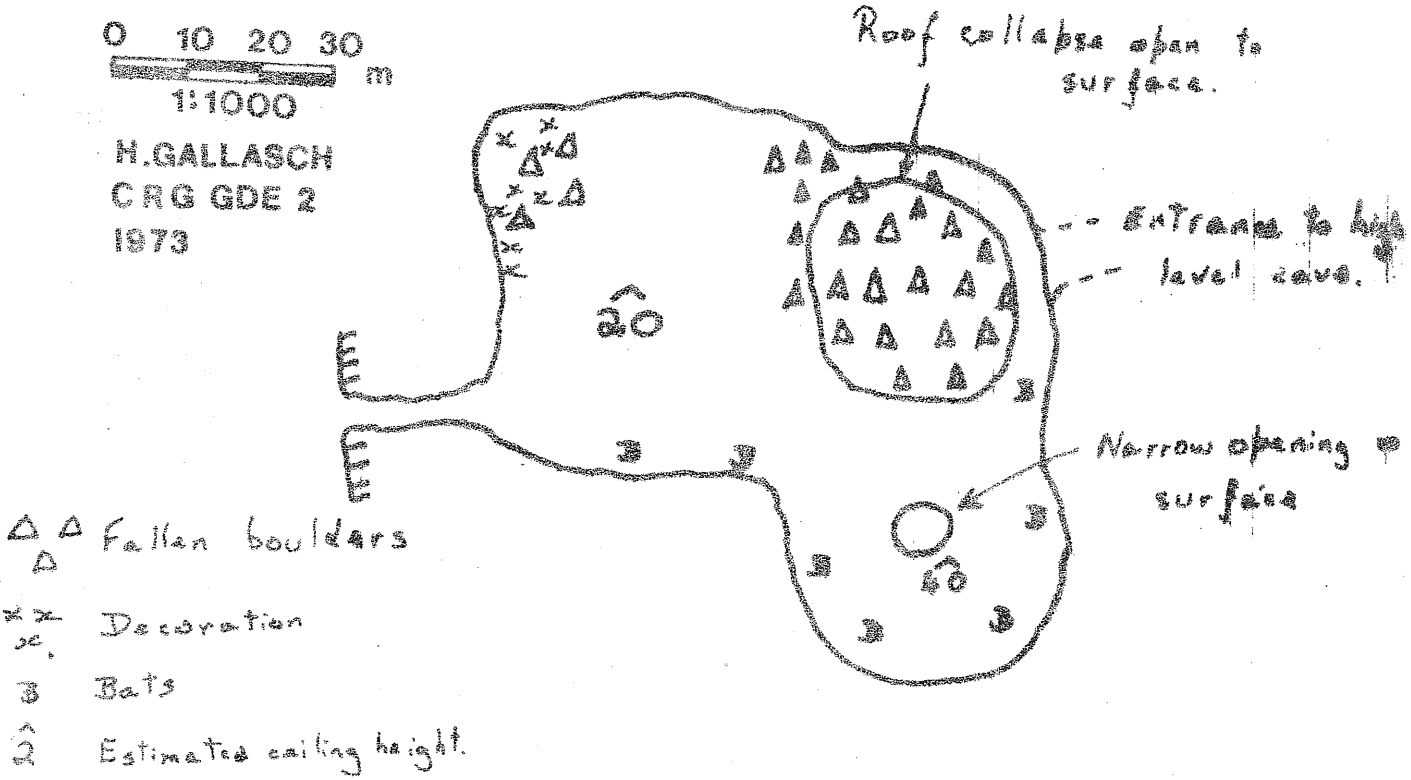
Panamafei village. NS2. A deep pot situated near the village which is in the middle of the island. Large trees cut into the hole are said to fall down and disappear.

NS3. There is another cave near a clump of bamboo, somewhat down the hill from Panamafei. (Refer to article "Stori Bilong Tumbuna - Cave Legends from New Ireland", this issue.)

Lasiliba school. NS4. Leangnivu cave. (Fig. 4) Across the road from the school a track leads through swampy bush for approximately 100 m to the base of a limestone cliff. A small entrance passage opens on to a large chamber. This adjoins another much larger chamber where a large rood collapse admits daylight to much of the chamber. Many small bats inhabit the large chamber and guano deposits cover much of the level floor. An opening to another cave is situated at a higher level on the side of the collapse section. Various Chinese have removed small quantities of guano for private gardens.

FIG 4

LEANGNIVU CAVE NS 4



NS5. Mandok cave. Near Lasiliba. Guano has also been collected from here.

Panemeko village. NS6. There is a burial cave not far from here which is entered by descending a rope from the top of a cliff several hundred metres high.

Mesi village. Several kilometres inland from the village on the track that goes to Lenkamin village on the Lelet Plateau, there are a number of rock shelters under large limestone blocks at about 300 m above sea level.

NS7. One overhang is 15 m long, 6 m deep, and up to 2.5 m tall, and contains eight beds made from saplings. There is a fireplace between each bed and the next. This is commonly used as an overnight camp for people walking between the plateau and the coast.

Kalili plantation. Main Division. A cave is reported.

THE SMALL ISLANDS

Corraline limestone occurs on almost every island, so caves probably exist on most islands. We have no definite information although caves are reported from Lihir Island.

CONCLUSIONS

In this article we have reported about 70 caves and provided information on locations for many more. This means that there are now more reported caves from the New Ireland District than from any other district, including the Southern Highlands, Milne Bay and Chimbu Districts where there are also many reported caves.

Most of these have only been explored by three cavers in a limited number of trips. With limestone so very extensive in the district there must be innumerable more unexplored caves, especially in the mountains. Some of these are perhaps very deep, some large, while others undoubtedly have interesting legends associated with them.

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JAPANESE TUNNELS ON THE GAZELLE PENINSULA

During World War II a large garrison of Japanese troops occupied the Gazelle Peninsula of New Britain. They constructed extensive underground installations to shelter from allied bombing. Many thousands of man made caves are still to be found on the Gazelle, as well as in other areas in N.G. The following extract is taken from "The Allied Campaign Against Rabaul and Interrogations", United States Strategic Bombing Survey (Pacific Area) No. 75; Naval Analysis Division, 1946, Washington.

"By March, 1944 most of the Japanese installations were underground. 350 miles of tunnels and caves, ranging from simple dugouts to extensive and labyrinthine facilities with timber-shored walls and supported roofs. There were 8 hospitals which by January 1944 were also underground. They were equipped with complex medical and surgical and x-ray, and laboratory facilities. Seven smaller hospital units were underground. A total of 5,400 patients were thus cared for."

* * *

CORRECTION VOLUME 2 NUMBER 2

The reference Lommell (1966) was omitted from the reference list of the paper "Notes on Rock Art and Burial Caves of the Singganigl and Kwinigl Valleys of the Chimbu District". (Niugini Caver 2 (2): 163-180)

It is: Lommell, A. (1966). Prehistoric and Primitive Man. Paul Hamlyn, London.

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STORI BILONG TUMBUNA - CAVE LEGENDS FROM NEW IRELAND

H. Gallasch *

Because of the large areas of cavernous limestone on New Ireland, many of the inhabitants have lived in the close vicinity of caves. Prior to European colonization a large proportion of the population lived in the foothills or mountains. Here caves were visited to hunt for flying foxes, and these may have provided a significant proportion of the meat in the diet of some peoples. Often particular caves were chosen as burial caves in which to inter the bodies of the dead.

With colonization and a cessation of warfare, most of the population settled on the coast. Here also caves were present. At almost every village along the east coast road of New Ireland, informants can tell of caves. Some caves are well known to many of the people whereas others are known to a few or perhaps only one person. Some caves appear to be public property while others are looked on as the property of one person or family. Perhaps the cave may have been found by some men on a hunting trip and is known to no other people, and in some cases, care is taken to hide the cave from unwelcome visitors.

The caves have been of varied and often essential use to the villagers. Often they have been a prime source of fresh water, particularly during the dry season. Sometimes the water is obtained from within the cave, other times the supply issues as the efflux from a cave, while most commonly the supply is a resurgence pool or creek issuing from a drowned cave. Meat is obtained from the flying foxes and in some caves scaffolding has been erected to facilitate the flailing down of these animals. During times of war, the caves have also offered shelter, particularly during the period of the Japanese occupation, and some of the larger caves have been occupied by whole communities for many months. Evidence of this occupation is still present. Finally, cave burial was one of the major methods of disposing of the bodies of the dead.

It is not surprising therefore that many of the caves have stories or legends telling about their formation or use by ancestral beings. A number of the stories from New Ireland featured by Beier (1972), for example, make reference to caves. The following are a selection of tales recounted in various villages about caves in their vicinity.

Kantembu village. Several kilometres in the bush from the main road, in the vicinity of Kantembu, a large pothole called Mamarabin occurs at a place called Lamout-Massang (N11). It is said to be a circular pit, 200 m across and 30 m or more deep.

* D.A.S.F., Keravat, E.N.B., P.N.G.

The people before used to cut long lengths of bamboo and splice three or four together, then lower this pole into the pit. They would climb down this to hunt the flying foxes in the caves at the bottom of this large hole. They would kill hundreds of the flying foxes until the flying fox 'masalai' started flapping his wings with a loud slapping noise. This was a warning and the hunters had to leave immediately or suffer the consequences. Once, when no one was left at the top of the bamboo pole, the pole fell over while the hunters were collecting flying foxes. These hunters perished there.

In the limestone cliff on the beach near Kantembu village there are a number of small caves called Buang Kalubu (N12). Legend says that many years ago a woman from Kantembu visited Tabar Island where she stole some shell money, 'mis', and returned with it to Kantembu, thus bringing it to the mainland of New Ireland for the first time. The men of Tabar were angered and with their slings slung stones at her, the stones penetrating the cliffs to form the caves.

Kolonoboi village. Near the house on Kenapit plantation, there is a cave called Marabunge-Tumaduit (N24). Many years ago a wild man named Subalanglang-Urungta lived in this cave with his pigs. One of the village men became angry because Subalanglang did not give him a pig and he 'talked cross' to Subalanglang. Thereupon, the wild man climbed a tall tree and called upon the rains to come down. Heavy rain commenced to fall and in the darkness the man lost his way back to the village and was drowned.

Panamafei village. Somewhat below the village in a large hollow, is a clump of bamboo. Near here there is a cave (NS3).

Many years ago a large wild pig lived in this hole. This pig captured a young girl and took her to live with him in the cave. Any men venturing near the cave were chased away by the much feared pig. The men from the neighbouring village, to placate the pig, would prepare food and place it in a basket at the cave entrance. The pig would then emerge from the hole and tear the basket to bits, after which the woman would come out and collect the food. One day the men hid in the bamboo and when the pig emerged to tear the basket of food, they had placed there, they speared and killed the animal. It was only then that they found the woman in the cave and they took her with them back to the village. From her were born the children who founded that particular clan.

REFERENCE

Beier, Ulli (1972). When the Moon Was Big. Legends from New Ireland. Collins. Hong Kong.

* * *

MATARAI PRISON CAVE, NEW IRELAND

R. Michael Bourke *

Matarai cave (N2) is located in slightly hilly country on Luburua plantation about two kilometres north of the main road. I visited it on 29th July 1972 with guides Loko Tokamit, Matagal Tomoko and his wife Betty from Lakuramau village. We explored the cave and surveyed it to Grade 4 standard. There are 131 m of passage. There are three chambers with a small stream in one section. (See map) Bats were noted. It was used as a prison for natives by the Japanese in World War II and we were told stories about this time, and features of the cave relevant to their occupation were pointed out.

These stories were told to us by Loko and Matagal who were domestics for Japanese officers during the war. Hence they had access to the cave. Any villager found near it without good reason would have received the severe treatment the Japanese handed out, such as being tied to a coconut palm or held by four men and whipped with a wet whip, receiving either 20, 40 or 100 lashes. Our guides' stories were emphasized by demonstrations of bowing, whipping, rifle drill, marching, etc., and they could recall the commands in the Japanese language as well as the names of some of their wartime masters.

At the start of the war, village people used the cave to hide from the Allied planes when they bombed and strafed the Japanese and villagers. The bombs and bullets did not discriminate and village people were also killed along with the new invaders. Then the Japanese found the cave and it was used as a prison and also as a residence for the prison commander. Villagers suspected of assisting Allied spies or "bikheds" were interned in one of the chambers.

The prison chamber, which is 30 m long and at its greatest dimensions is 8 m wide and 9 m tall, has a mud floor and a single entrance which was guarded by a pair of guards. Two timber entrances were constructed, one very small and the other larger. The prisoners were forced in through the smaller one. If they were found guilty they also left via this one, whilst the fortunate few found not guilty left via the larger entrance. Even then, it was not to return free to their village, but rather to work in the extensive food gardens that fed the Japanese garrisons. Inside the chamber, prisoners' hands were sometimes fastened to poles so their feet did not touch the floor. They were fed a tiny piece of sweet potato daily by the native policemen. Otherwise they would be crowded together in the floor, their ribs protruding through starvation and their hands and legs swollen from the suspension treatment. A smoky fire burnt continuously at the back of the chamber so the prisoners were blinded by smoke.

* D.A.S.F., Keravat, E.N.B., P.N.G.

Na MATARAI CAVE, NEW IRELAND

LEGEND

Earth floor.

Path outside cave

Stream

P Post of commander's house

Escape route

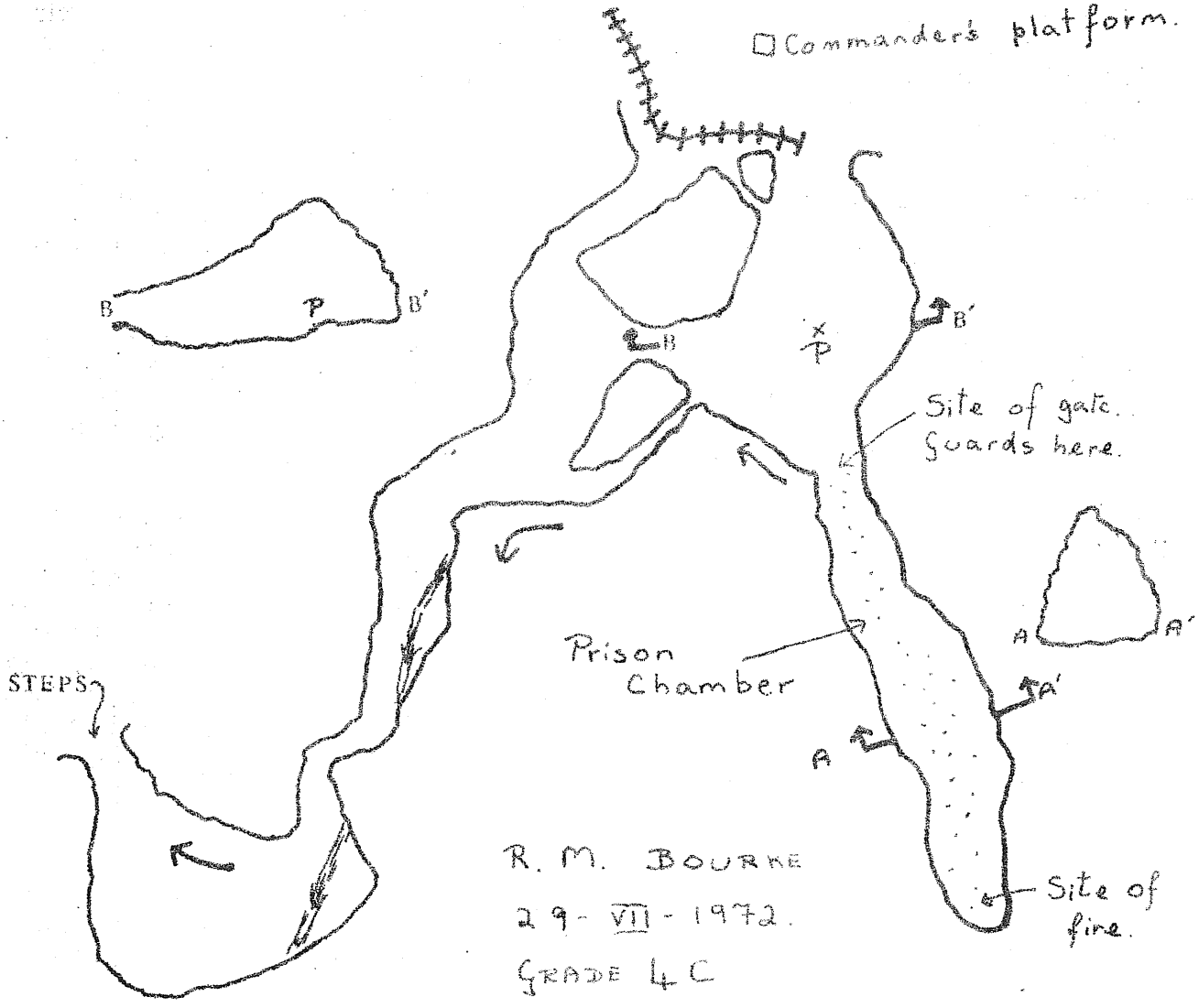
0 20 40 60 ft

0 6 12 18 m

1 : 480

N

End of vehicular road
Assembly area



R. M. BOURKE
29 - VII - 1972.
GRADE 4C

The commander's house in the entrance chamber of the cave was built on a platform made from koronas (corraline limestone). One of the posts is still standing.

The court sat in part of this cave and was conducted by two officers and sentence passed by the commander. Those marked for execution were taken to a pit several hundred metres from the cave and died by the sword. A croton (a decorative shrub) now marks the pit which can still be seen. The bodies were covered with earth in a graveyard near the main road. It was claimed that so many men died during the war years that every village had many widows by the war's end.

Outside the cave is a small platform made from stones to which the commander was carried by two Japanese youths. It was from here that he spoke to the assembled soldiers, native police and perhaps prisoners or villagers. The villagers would be ordered to repeat "America, English, Australia namba ten. Japan nambawan." Failure to repeat this or use of the salute instead of bowing resulted in punishment. A stone path leads to three cave entrances from the assembly area and the end of the vehicular road. Guards were stationed along the path and inside the cave entrance as well as outside the prison chamber. Any prisoner who failed to bow respectfully to every guard was brutally helped on his way or beaten in the small of the back with rods.

The commander's house also served as the warning centre for air raids. When Allied planes were sighted by watchers in the ranges, the message was telephoned to the cave and the warning to take cover ("belo") was shouted out from the cave entrance and relayed to the soldiers and villagers who would flee into the jungle.

One day, a mixed race prisoner who was interned because of his race, escaped from the prison chamber past the two sleeping guards. He crawled in the dark deeper into the cave from the commander's chamber for 45 m. Here he saw the light from another entrance and escaped from the cave to the ranges where he successfully hid from the Japanese. The guards were beaten for their carelessness. It was a month after this that the planes dropped their leaflets saying that the war was over. The soldiers destroyed as much equipment as possible before they were interned at Namatanai before being tried for war crimes in Rabaul or repatriated to Japan. The sound of guns firing off ammunition went on for a day and night before the Allied troops arrived. The surviving prisoners were released.

Today one can view paths and platforms that still remain. The prisoner who escaped now works in Kavieng. Stories from the war concerning the cave, or of natives who would put a man in prison to get his wife, or tales of the hard life as a carrier are told vividly by the older men while the younger generation listen and watch in awe.

* * *

THE CAVING SCENE

Central District. Since the last edition of N.C., Fred Parker and Mike Noone have run three trips to Javavere and one to the Surinumu Dam area. Fauna collection and introduction to caving for U.P.N.G. students were the objects of the trips. Plenty of students turned up, but they weren't really keen, so there is little chance of a caving group getting going at the Uni.

The "dolines" marked on the map in the Surinumu Dam area turned out to be blocks of rock - not even limestone.

David Holdsworth has been visiting and recording some rock painting on the Sogeri Plateau lately.

Chimbu. Kev Wilde took a party of 7 from Goroka on an introductory trip to the Porol Range in March. Caves visited were Obondoyonaminge and Irapui. The trip was an introductory one to get the highlands' caving scene on the move again. The party picked up some info on new cave locations and stories.

Chuave was visited in July by another party of four. Visited were Kaimomo, Nola, Angunga and Kiroro Weraro caves. Angunga really has a lot of potential according to Kev. They were stopped a short way inside by a pitch estimated as 80 m.

Mary Jane Mountain has been working on an archaeological dig at Nombi cave at Chuave.

Caving in the Chimbu sounds expensive - the villagers are demanding anything up to $10 per cave. Better than on Bougainville at any rate - expatriates are not even allowed to Nenduma in the Kieta area.

East New Britain. Michael Bourke found a new, small cave in July on Londip plantation near the mouth of the Warangoi river. The cave houses an old Japanese gun guarding St. George's Channel. This is the first recorded cave from this area.

Expeditions are fashionable lately. The British one for '75 is well into the planning stage and a small booklet has been produced. Kev Wilde is on the planning committee and has been sending wads of material to the U.K. One of the members (one Howard Beck) is now living in Mt. Hagen. The expedition's patron is the Duchess of Kent. Late news is that the expedition may be delayed through shortage of funds.

A U.S. expedition known as the American-New Britain Expedition is also in the planning stage. It is hoped that the National Geographic Society will be backing the trip. It is a 35 man, six

month, $125,000 job. Target area was still not decided in June, but the Nakanai Mountains and Whiteman Range areas of New Britain or the Hindenburg Wall were being considered. There are already 100 potential starters in the U.S. and Canada.

Not to be left out, another Australian show is being mooted - this time to the Lelet Plateau of New Ireland with the Raulei Range of New Britain as a second choice. Plans are vague still, but an ex-Brisbane trip for mid '75 is in the wind.

Manus has been one of the most neglected areas cave wise to date. Geoff Francis is doing something to remedy that. So far, Geoff has visited and surveyed Loniu and Nge-Pelimat caves on Los Negros Island and he has plans for exploration in central Manus.

New Ireland. In April Alan Keller and Michael Bourke did a ten day trip to the Lelet Plateau. In five caving days theyknocked up 30 caves, five of which were over 30 m deep and four of which they were unable to bottom because of lack of gear. The area is most promising for really deep holes.

Early August found Hal Gallasch doing a very brief trip to a new cave at Silom 2 village south of Namatanai. It was 400 m long and sloped downwards all the way.

* * *

SOME CAVES OF THE LELET PLATEAU, NEW IRELAND

R. Michael Bourke *

Why the Lelet? Recently Alan Keller and I spent ten days on the Lelet Plateau looking for caves. Our motivation was not simply to find caves, for there are many more accessible caves around, but to find deep caves, particularly caves too deep for our limited resources. The Lelet limestone is up to 1400 m thick, drainage is underground, and the water appears as resurgences on the north east coast (Hohnen, 1970) no more than15 km from any part of the plateau. Hence, possibilities for very deep caves appeared most favourable.

Our trip. We flew from Rabaul to Namatanai on 20th April 1974 and then took a bus to Konogusgus village on the north east coast. From here a five and half hour walk brought us to Lowatkana village on the plateau. We had six days on top, five of which were spent caving, three days around Lowatkana and two around Lenkamin village. We left the plateau from Lenkamin,walking to Kalili plantation on the south west coast in seven hours. A copra boat returned us to Rabaul, the entire trip taking ten days. We were not equipped to explore to any great depth as we were carrying only one 36 m nylon rope and a limited amount of abseiling, prussiking and general gear.

* D.A.S.F., Keravat, E.N.B., P.N.G.

FIG 1. LELET PLATEAU, NEW IRELAND

About the plateau. The plateau is located 50 to 80 km north west of Namatanai and is in the centre of the island. (See Fig. 1) The true plateau is smaller than this and lies at 1000 m to 1400 m altitude. However the area to the north east is also known as the Lelet and this is where the villages are. The four villages of Lowatkana, Limbin, Lenkamin and Kaluan are at 900 m - 1000 m altitude and are within a few kilometres of each other.

Access is from Dalum, Konogusgus or Lasigi villages on the north east coast and Kolube or Kalili plantations on the south west coast.

Geologically the area consists of tertiary Lelet Limestone which is up to 1400 m thick (Hohnen, 1970). Tertiary volcanics bound the area on the south west. There are several faults on the plateau. Hohnen (1970) describes the plateau surface as "completely covered by closely spaced, low rounded conical hills, which rise 30 m to 100 m above the interspersed sink-holes or dolines". This cone karst is the classical humid tropical karst type and is also known as cockpit karst. The topography on the higher parts of the plateau is probably more rugged than in the area of the villages.

Caves we explored. We were guided to all caves by local villagers who were keen to show them to us. They know of many more caves near their villages that we did not visit. Caves 1 to 6 are located south and south west of Lowatkana village. Caves 7 to 13 are a few kilometres north of this village; cave 14 is a few kilometres to the north east; and caves 15 to 19 are a bit further out to the north west. Caves numbered 20 to 24 are located from just east of Lenkamin village to a few kilometres south of the village; caves 25 to 30 lie a few kilometres south west of the village to a few kilometres north east of it.

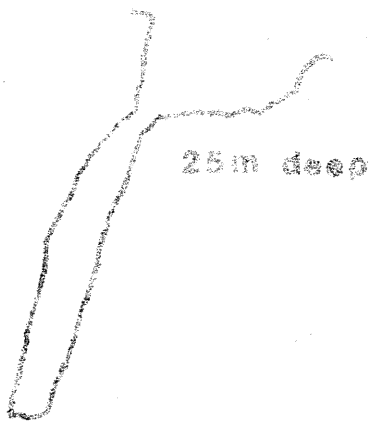
Generally only caves 9 m deep or more were recorded, but a few others with special features have been included. As in many places in P.N.G., cave names are in fact area names, so it is possible for one name to apply to several caves if they are very close. In general cave development was vertical rather than horizontal; they were not very muddy; stream passages were common, but not flowing water; and the rock tended to be sharp. The village people believe the large caves are the home of "tambarans". These are small invisible men who move around at night. Caves we did not bottom and those more than 30 m deep have been marked with an asterisk. The prefix L is used for caves on the plateau.

L1. Lowatkana. Located 100 m south of Lowatkana village in the bottom of a doline. A pothole 25 m deep orientated NW-SE. (See Fig. 2)

L2. Loronang. A fissure cave 5 m deep with a drop going off from the eastern end. Two hundred metres west of L1 at the bottom

FIG 2.

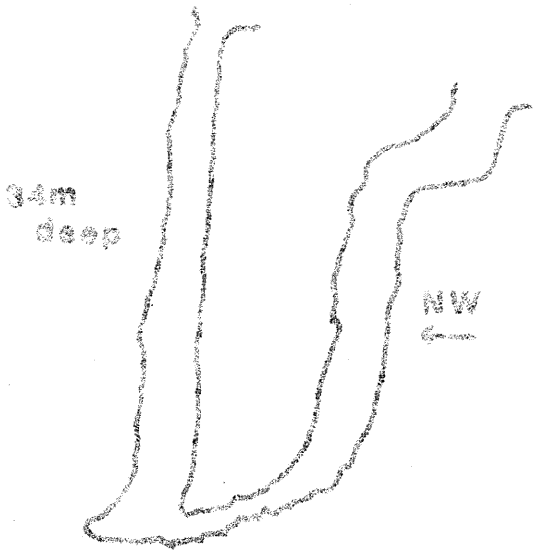
L.L. LOWATIKANA



NW - SE LONG. SECT.
R.M. BOURKE
22-IV-1974

PLAN

L.S. LEMBEBE

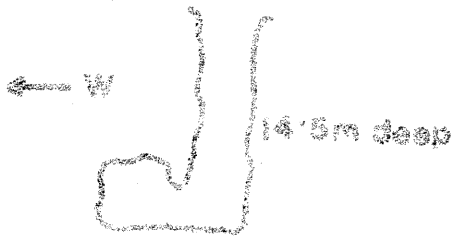


NW-SE LONG. SECT.
R.M. BOURKE
22-IV-1974

FLOOR PLAN

L.A. BUMBULUP

E-W LONG. SECT.

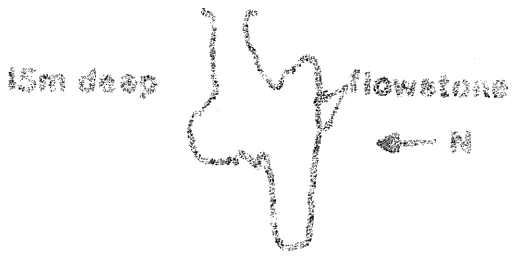


A. KELLER
22-IV-1974

ALL CAVES
GRADE 2

5 10 15 m
1:500

L.B. LABAIVU



N-S LONG SECT.
R.M. BOURKE
24-IV-1974

of a doline.

* L3. Lembebe. 100 m west of L1. Consists of two shafts that connect at the bottom. The deeper shaft is 34 m deep which is also the depth of the cave. Orientated NW-SE. (See Fig. 2)

L4. Bumbulup. 1 km south west of Lowatkana village. A shaft 14.5 m deep on the side of a hill. Our guide found it by the classical method of almost falling through the vegetation into it. (See Fig. 2)

L5. Selanit. A hole 10 m deep with a small stream flowing into it. Blocked by vegetative debris. Near L4.

L6. Selanit. A steepsided doline 14 m deep near L5. The floor is 15 m long by 7 m wide.

L7. Lawariskul. Located about 1 km north of the village on the side of a hill. Just east of the track to Lasigi. A cleft running NE-SW 11 m deep, 12 m long and 4 m wide.

L8. Labaiyu. About 1 km north of the village and 100 m west of the Lasigi track. Cleft 9 m deep, 15 m long and 5 m wide running NE-SW.

L9. Labaiyu. Several hundred metres east of track and near L8. Cave is 15 m deep and one wall is decorated with flowstone. (See Fig. 2)

L10. Labaiyu. Small cave 6 m deep located in stream bed near L9.

L11. Labaiyu. Small cave 11 m deep in stream bed next to L10.

L12. Danis. Just west of L9, 10, 11. Vertically walled doline 12 m deep, 30 m long and 8 m wide.

* L13. Danis. A deep cave on the side of a hill adjacent to L12. There is a 41 m pitch which is free except for the top and bottom few metres. Inside the cave there is a large chamber decorated with stalactites and a few stalagmites. (See Fig. 3)

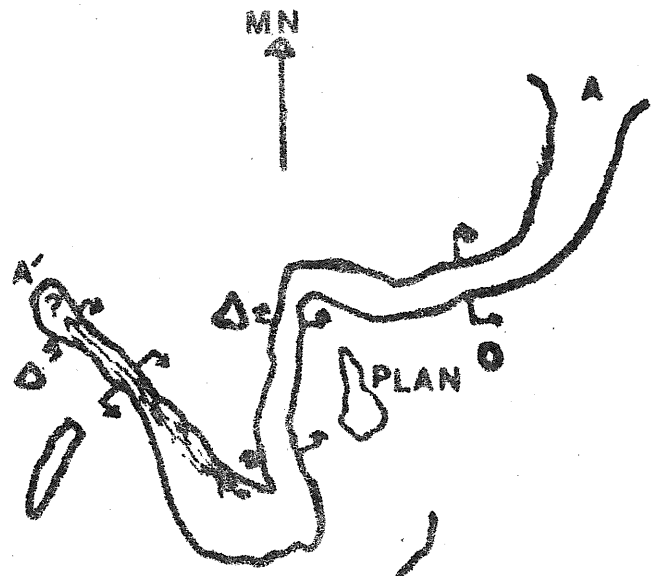
L14. Lovon. A few kilometres north east of Lowatkana village and on top of a hill adjacent to a pig hunting track. A simple shaft 10.5 m deep and 3 m by 1.5 m at the base.

L15. Muras. Several kilometres north-north west of Lowatkana village in a creek bed. A vertically walled doline 9 m deep, 12 m long and 5 m wide.

FIG 3

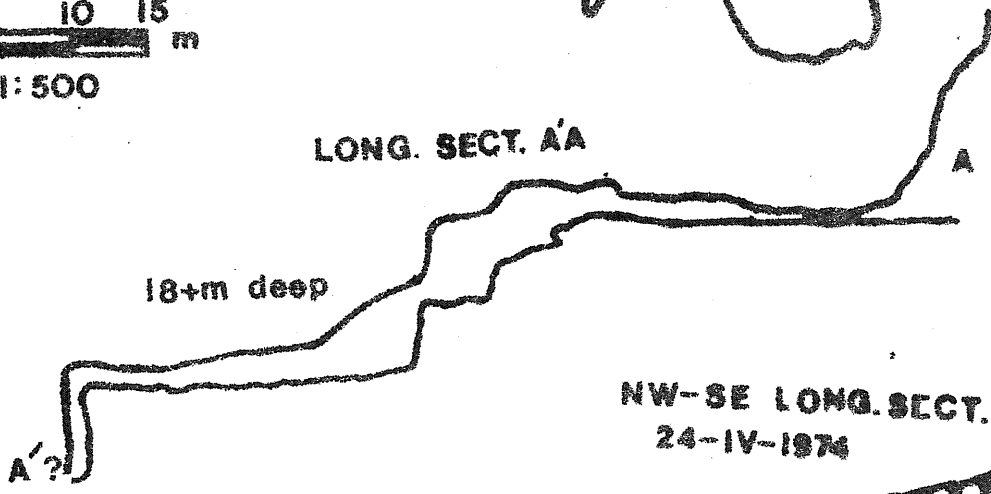
L19 MUSUMURAS

25-IV-1974

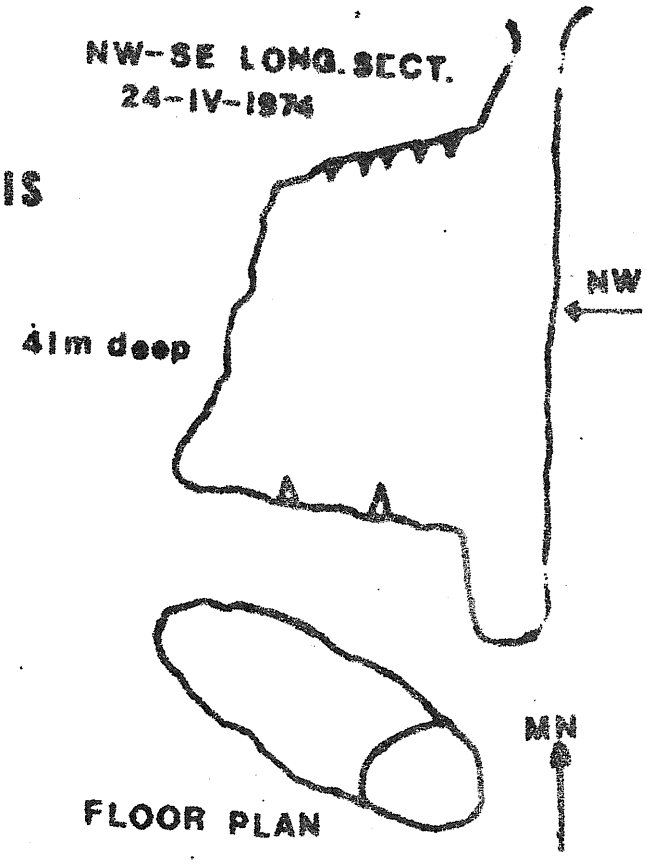


ALL CAVES
GRADE 2
R.M. BOURKE

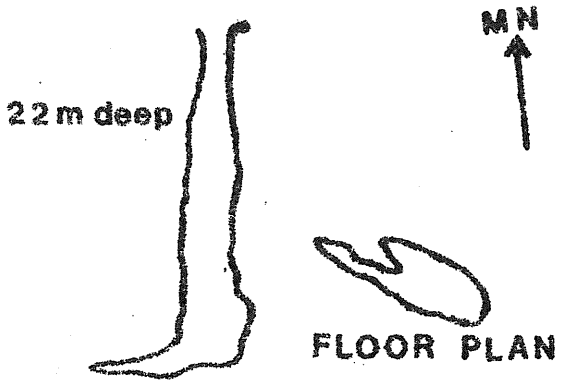
0 5 10 15 m
1:500



L 13 DANIS



L 17 BATUMORIS



E-W LONG. SECT.
25-IV-1974

* L16. Etis. Just north west of L15 in creek bed. A shaft 1.5 m in diameter and at least 24 m deep. We only climbed down for 8 m because of very sharp edges all the way. We wanted to use our rope on other caves also!

L17. Batumoris. West to north west of L15 and L16. A shaft 22 m deep with about 11 m of passage at the bottom. There is a stream passage that is blocked off. (See Fig. 3)

L18. Angolomon. Just west of L17. A shaft 9 m deep on the edge of a doline with 5 m of passage at the bottom.

* L19. Musumuras. West of L18 in a doline. Consists of short horizontal passages connected by vertical drops. We explored it to a depth of 11 m and for a length of 59 m but were stopped by lack of gear at a 7 m pitch. The entrance looks most unpromising and the cave starts with a 17 m crawl. Passage dimensions are small. A good sporting cave where we spent a few hours underground. The location corresponds with a stream marked as going underground north west of the village on the 1:250,000 map. (See Fig. 3)

The villagers know of many more caves around Lowatkana. For example the councillor, Lepan, wanted to show us one near the United Church and Martin had another one for us in the area of L19.

L20. Kanulumu. A small cave a few hundred metres east of the Lenkamin school. The entrance leads to a slope that goes to the end. There is a daylight hole inside. It is 12 m deep, 15 m long and 6 m wide.

L21. Metliki. A few hundred metres south east of L20. The entrance is in a creek bed that would take a lot of water at times. The entrance passage is horizontal and small. The cave is 11 m deep with one chamber and a few passages. A stream channel at the bottom is blocked.

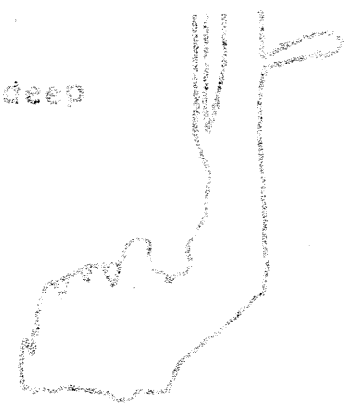
Near the cave entrance is a small grotto a few metres deep. There is a stalagmite inside and two small stone walls. It is said that Jesus himself made the grotto and placed the stones, and that he told the people to make a singsing at the grotto to make the taro gardens grow well. The people do this.

L22. Mesangasang. A few kilometres east of Lenkamin. A small cave 10 m deep. The entrance is at the end of a stream bed. Inside there is a dry stream passage about 12 m long.

L23. Lawarivanggasu. A few hundred metres south west of L22. A shaft 18 m deep leads to a 45° slope and a well decorated chamber 8 m long by 6 m wide at the bottom. A small horizontal cave connects with the shaft a few metres from the surface. Depth is 25 m. (See Fig. 4)

FIG 4

L 23 LAWARINGBRACH



NE-SW LONG. SECT.
A. KELLER
20-IV-1974

L 25 CANIMELAWOW

NE-SW LONG. SECT.
← NE
R.M. BOURKE
27-4-1974

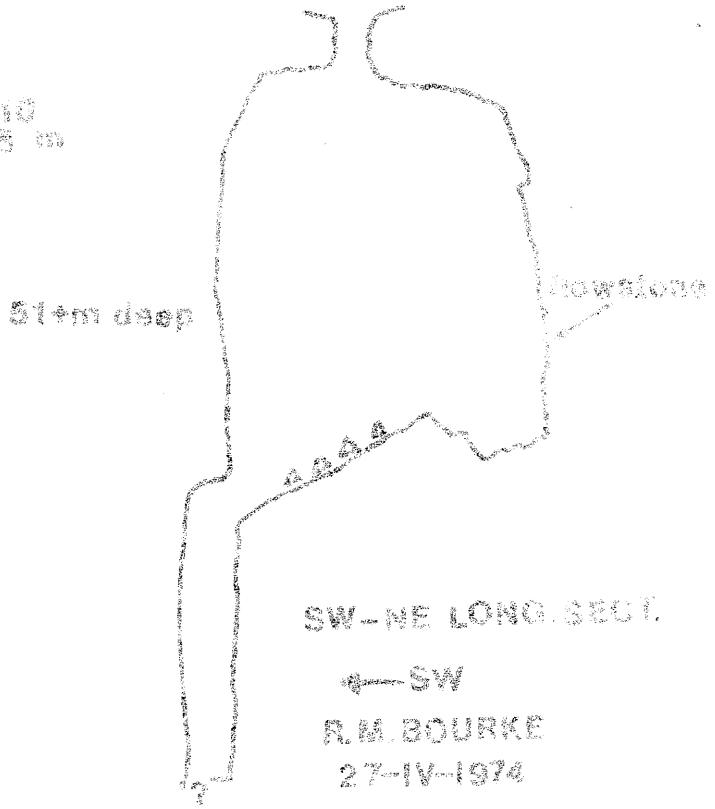
L 26 PYTHO

SW-NE LONG. SECT.
← SW
A. KELLER
27-IV-1974

ALL CAVES
GRADE 3

0 5 10 m
1:500

L 27 AWAITBURRBUM



SW-NE LONG. SECT.
← SW
R.M. BOURKE
27-IV-1974

L24. Lamlad. A few kilometres south of the village and west of L23. Situated at the bottom of a doline. The cave is 7 m deep, 7 m long and 3 m wide. It is used by the old guardians of the pigs as a water supply. There is a system of poles in the cave which act as walkways and supports. These are somewhat rotten - as I found out! The water is collected from drips at the back of the cave by walking on a ledge and on the timber walkway.

* L25. Canimelavow. A few kilometres south west of Lenkamin and several hundred metres east of a house with a concrete tank stand. Situated in a gully. Depth was estimated as 34 m. It was descended for 16 m only because of lack of rope. We had been promised that this hole would be too deep for our rope - and for once our guides were right. A bolt at the ledge 16 m down would be useful. (See Fig. 4)

* L26. Putbo. A few hundred metres east of L25 on the side of a hill. A shaft 38 m deep with two pitches and a chamber halfway down (See Fig. 4).

* L27. Awatbumbum. A few kilometres north east of the village. This was our deepest cave. Depth was estimated at 51 m but the cave was not bottomed because of lack of gear. The entrance is a shaft 2 m in diameter that opens into a large chamber decorated with flowstone. The entrance pitch is 27 m and is free all the way except the top few metres. Spinning on the prussik out was a problem. At the bottom of the pitch a scree slope goes down about 6 m to the top of a shaft which was estimated at 18 m deep. The shaft was not descended. A bolt would be needed at the top of this pitch. (See Fig. 4)

L28. Buangkum. Few hundred metres south of L27. A small well decorated horizontal cave with a chamber 8 m by 9 m and an 8 m long crawl. There are many stalactites inside. A swallow's nest was found right inside.

L29. Muras. A few hundred metres west of L28. A small horizontal cave 15 m by 5 m and 4 m high. There are two stone walls inside and a small wall across the entrance said to have been made by tambarans. Inside there are numerous bones believed to be those of tambarans. Some could be human bones. We were told that a small blocked hole is the home of a spirit.

This is a special cave because it is the home of many tambarans. The bones are used to work love magic. If a man wants a certain female to desire him, he approaches our guide, Lakuna, who performs magic by mixing a small bone fragment with coconut oil. The oil is smeared on to the face before a singsing and the woman is charmed. We were assured that the magic is so powerful that it would even work on a European woman. Magic fee is four dollars.

L30. Muras. 200 m east of L29. Small cave 5 m deep with a dog's skeleton at the bottom.

L31. Lemerukluk. Several kilometres east of the village. We did not visit this cave. The guides said that there is a very strong draught coming from the entrance and that the cave is deep.

What next? Our hope was to find enough deep caves to justify a full scale expedition to the area. I do not feel we have done this. Nevertheless, the area is most promising. In five caving days we explored 30 caves, five of which were over 30 m deep (34 m, 34 m plus, 38 m, 41 m, 51 m plus) and four of which we were unable to bottom because of insufficient equipment. The next step is probably a trip with a small mobile team of about four cavers. The area around Lowatkana is not very promising. That around Lenkamin would be worth going back to, considering we found two caves we were unable to bottom on our last day, and the village people speak of another cave with a strong draught. This area probably corresponds with the fault line marked on the geological map and there is a scarp to the south east that may be the edge of the fault.

It would be worthwhile operating on the uninhabited true plateau to the south east of the villages which is 1100 to 1400 m above sea level. There must be some very deep caves there! The Lelet is fairly accessible, needing only a day's walk to the villages and another up to the high area if access was from the north east coast. Carriers would be a problem for an expedition. The track from the south west coast is shorter but is very steep and goes from sea level to 1200 m altitude in only seven kilometres as the balus flies.

REFERENCE

Hohnen, P. D. (1970). Geology of New Ireland. Bureau Mineral Resources Record 1970/49.

* * *

THE NEW CONTRIBUTOR

Alan Keller was the leading vertical caver in Tasmania for a number of years before coming to Papua New Guinea in 1971. He has caved on New Britain and New Ireland.

* * *

A.S.F. CONFERENCE

BRISBANE

27-29th DECEMBER, 1974.

* * *

CAVES OF THE NAMATANAI AREA OF NEW IRELAND

H. Gallasch *

Caves abound in the Pleistocene-Recent limestones north west and south east of Namatanai on New Ireland. Basically they appear to be of two types:

Type 1. Coastal caves which can be entered from an opening in the cliff of upraised coralline reef limestone, and

Type 2. Single channel stream caves which occur in undulating country or foothills some distance from the coast.

Type 2 caves can be differentiated into (a) those which can be entered from an efflux opening, usually those higher in the foothills; and (b) those which can be entered where a stream or former stream went underground (influx cave).

Other cave types may occur in the mountains behind Namatanai but difficulty of access has so far precluded exploration in that area.

COASTAL CAVES (Type 1)

These are usually of limited size and occur in the most recently upraised reef limestone. Two factors would appear to be involved in their formation: (i) subsurface coastal drainage; and (ii) wave action.

Along the north east coast of New Ireland in the Namatanai region the upraised reef forms a cliff of varying height. Wave action in former times has resulted in overhangs and small caves, a number of which can be seen from the road. Percolating water has resulted in abundant stalactite formation in some of these overhangs. In addition, much of the drainage is subterranean with water resurgence occurring as springs near the present sea-water level. In former times this water resurgence occurred in the vicinity of the upraised limestone cliff when this was the coastline. This drainage aided by wave action resulted in the relatively shallow but sometimes roomy caves along the coast.

Caves of this type have been described near Loloba village (Gallasch, 1974a) and occur on Kenapit plantation, near Bakan, Ramat and Rasese villages and on Ramat plantation. About ten of these small caves have been explored but many more have not yet been visited. Because of the proximity to most villages, these caves have often been used as a burial place for the dead. The bodies were placed on ledges starting at the back of the cave and progressing towards the entrance. In some villages, these caves are still used as burial places, particularly for the bodies of old people.

EFFLUX CAVES (Type 2a)

These are not very common as most drainage resurges at or near the coast as openings. Several do occur at the base of the Lelet Plateau (Pamp cave is a good example - see "Caves of the New Ireland District", this issue.) Karu cave is also of this type whereas Mageh No. 2 is a modified form.

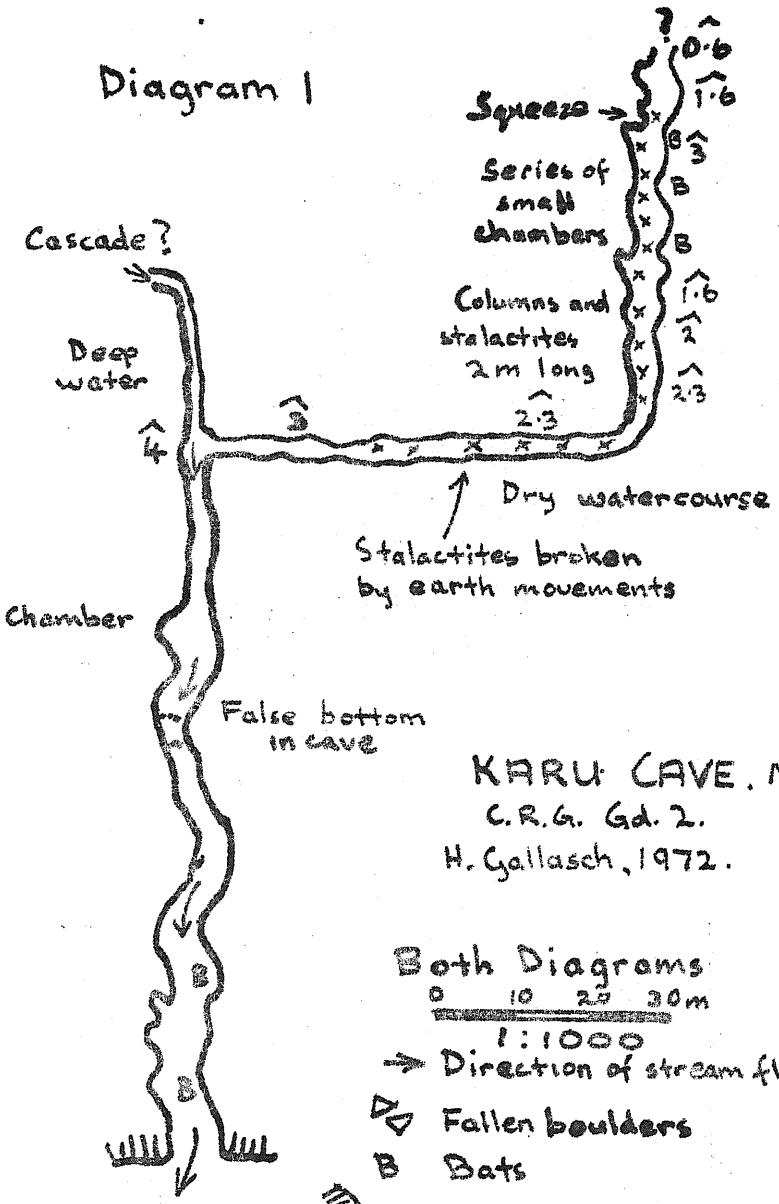
Karu Cave (N16). A cave is situated within 150 m of the road which crosses from near Karu village to Konogogo on the north west coast. To date, the local name for the hole is not known and provisionally it has been called the Karu cave. From near a major bend in the road, at the base of the mountains, a slope leads down to a stream. This is followed upstream for about 80 m to where it emerges from the hillside. The stream can be followed along a passage way averaging 5 m high and 3-7 m wide. At one place there is a false bottom, the stream having eroded under a ledge of the limestone. At some 80 m from the entrance a branch passage leads off to the right. (Refer to Dia. 1) From this point the stream had worn a narrow channel between smooth sided walls. Due to the depth of the water, this tunnel was not followed any further. The branch passage is at a somewhat higher level than the current stream bed and would appear to have been the initial route of the stream. It was followed for 110 m until the roof height decreased to 0.6 m. Throughout its length, through squeezes and small chambers, the passage is decorated with stalactites and columns. Many of these had an average diameter around 15-30 cm and had been broken by earth movement but had subsequently rejoined.

"Mageh No. 2 Cave". (N29) As the local name is not yet known, this cave has been called Mageh No. 2, being situated in the foothills about 45 minutes walk from the back boundary of Mageh plantation. No defined paths ran near this cave, and it can only be located using local village people as guides. The entrance in the side of the hill opens immediately into a large chamber, heavily populated by bats and flying foxes. (See Dia. 2) A large portion of this cave would appear to result from roof collapse into an underground stream. A steep climb down over boulders slippery with water and guano ends at a small pool of water fed by a trickle coming in from the right side of the chamber. Everything is covered by thick deposits of guano. A short climb up the right hand side of the chamber leads into a small solution tunnel which can be followed as a steep crawl for about 36 m. Various small roof openings drain water down into the main chamber from which it flows as a seepage on the opposite side of the cavern.

INFLUX CAVES (Type 2b)

Influx caves are relatively common in the undulating country between the coastal cliffs and the foothills. Some surface streams

Diagram 1



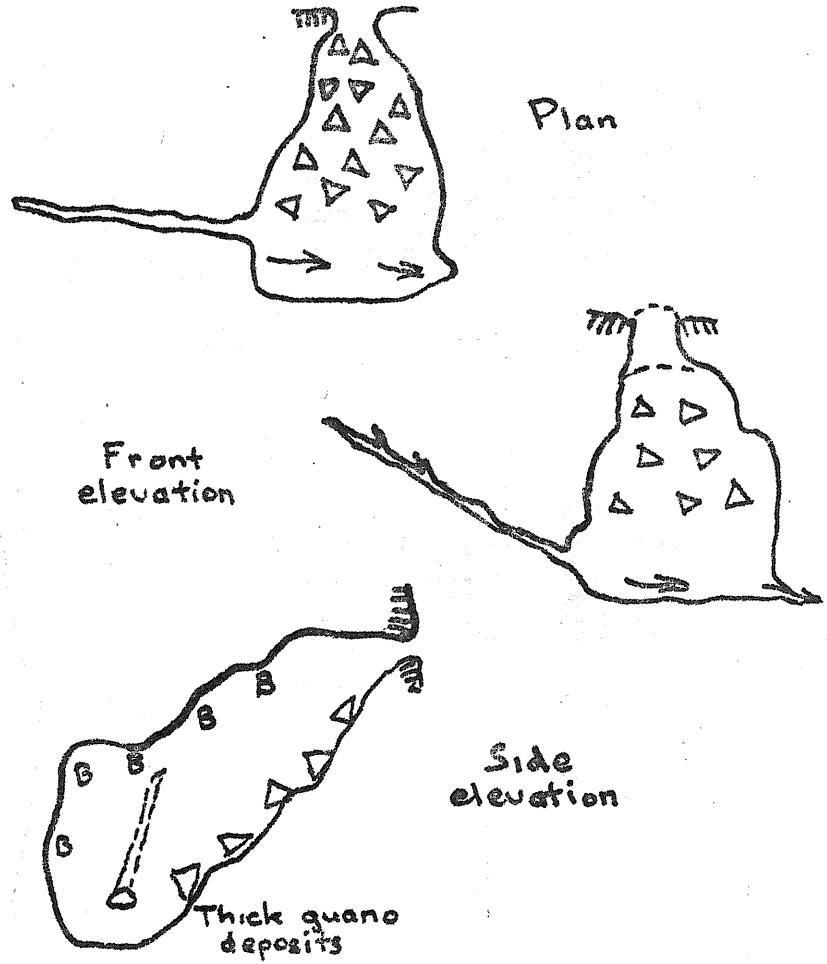
KARU CAVE. N16.

C.R.G. Gd. 2.
H. Gallasch, 1972.

Diagram 2

MAGEH No. 2 CAVE. N 29.

C.R.G. Gd.2. H. Gallasch. 1973.



Both Diagrams

0 10 20 30m

1:1000

→ Direction of stream flow

Fallen boulders

B Bats

Entrance

x x Decoration

from the mountains and foothills are prevented from reaching the coast by a barrier of the uplifted coralline limestones which form the coastal cliffs. These streams have typically eroded a steep gully and then become subterranean. Some of the cave entrances at the bottoms of the gullies are large and quite impressive with massive hanging stalactites and festoons of creepers, ferns and shrubs. Bats can usually be seen flying around the entrances and it is popular sport for local village people to flail down flying foxes as they emerge from the cave. In some cases the path of the underground stream to the coast can be discerned from the line of large doline structures. Caves of this type are Umarah (Gallasch, 1974b), Belik, Mageh No. 1 and Kabase caves.

Belik Cave. (N21) This cave occurs on Belik plantation and can be entered from a steep gully about 1 km from the coast. A series of impressively large dolines leads to an estuary on the coast. From the gully a perennial stream flows over boulders into an entrance 15 m wide and some 11 m high. About 10 m of limestone overlays the entrance. Quite conspicuous near the entrance is the differentiation of limestone types. The more recent strata comprise koronas type porous coralline limestone which is bedded on dense fine grained partially metamorphosed limestone.

For most of its length the cave forms a large chamber about 10 m high and 10-16 m wide, following the winding stream path. (See Dia. 3). Sections are extensively decorated, with stalactites up to 4 m long. About 150 m from the entrance a small chamber to the left of the passage is mainly filled with earth and rock from a roof collapse. This is immediately beneath the first of the dolines seen on the surface. The stream which has only had a moderate fall up to this point passes through a log choke in the floor and can be heard churning down a cascade or waterfall below the passage.

"Mageh No. 1 Cave".(N28) Situated towards the back of Mageh plantation, the entrance to this cave is very similar to that of Belik cave, occurring at the extremity of a steep fully. The initial chamber averages 8 m wide, 8 m high and is about 36 m long. From this point, a steep slope leads into a smaller chamber at a higher level which opens through a small pot to the surface. The stream which follows the left wall of the main chamber continues through a smaller passage way for approximately 40 m. (See Dia. 4) At this stage, the roof has lowered to within 50 cm of the floor.

Kabase Cave. (N30) This cave occurs several kilometres further down the coast from Mageh. The vehicle track into Sohun Primary School can be traversed by 4-wheel drive vehicle for about 1 km through the village gardens. From the end of the cut road, a 20 minutes walk along hunting trails into the low limestone hills brings one to the entrance of Kabase. Unlike the previous mentioned caves, the entrance is fairly inconspicuous, being in a small

Diagram 4

MAGEH Na1 CAVE. N28.

C.R.G. Gd. 2.

H. Gallasch, 1973.

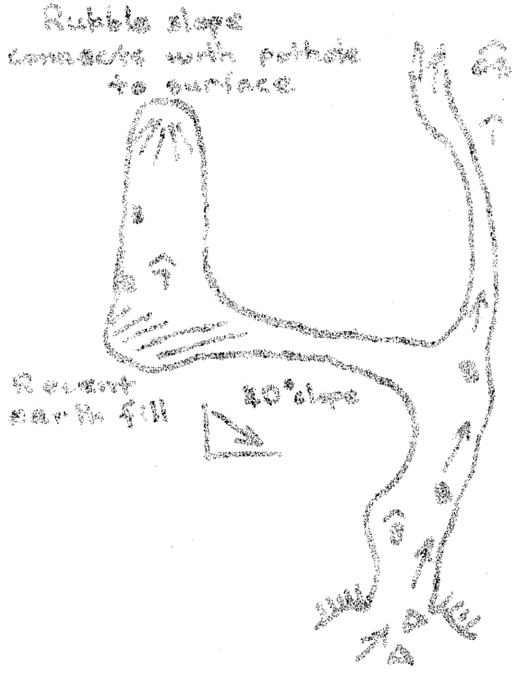
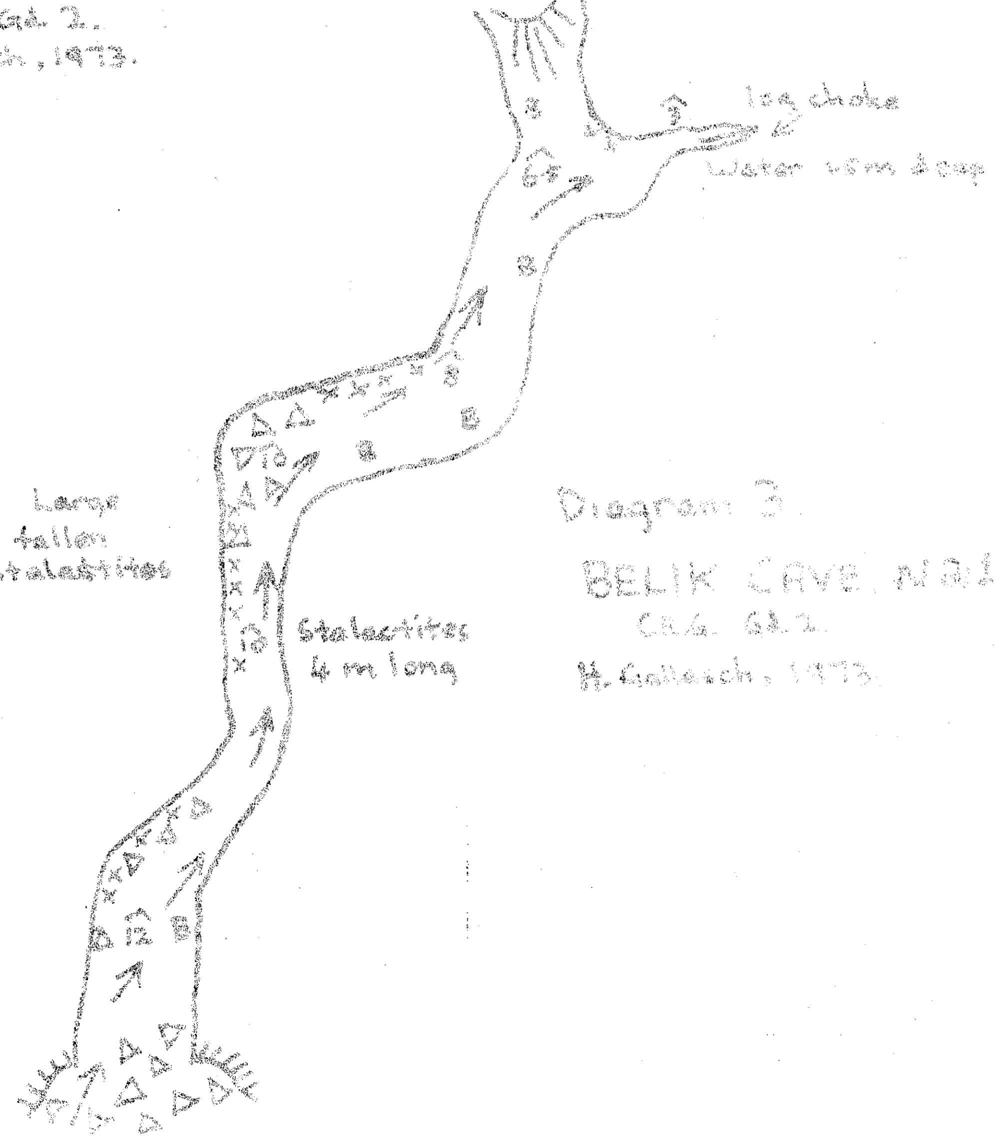


Diagram 3

BELIK CAVE. N21.

CRG. Gd 2.

H. Gallasch, 1973.



Both Diagrams

0 10 20 30 m

1:1000

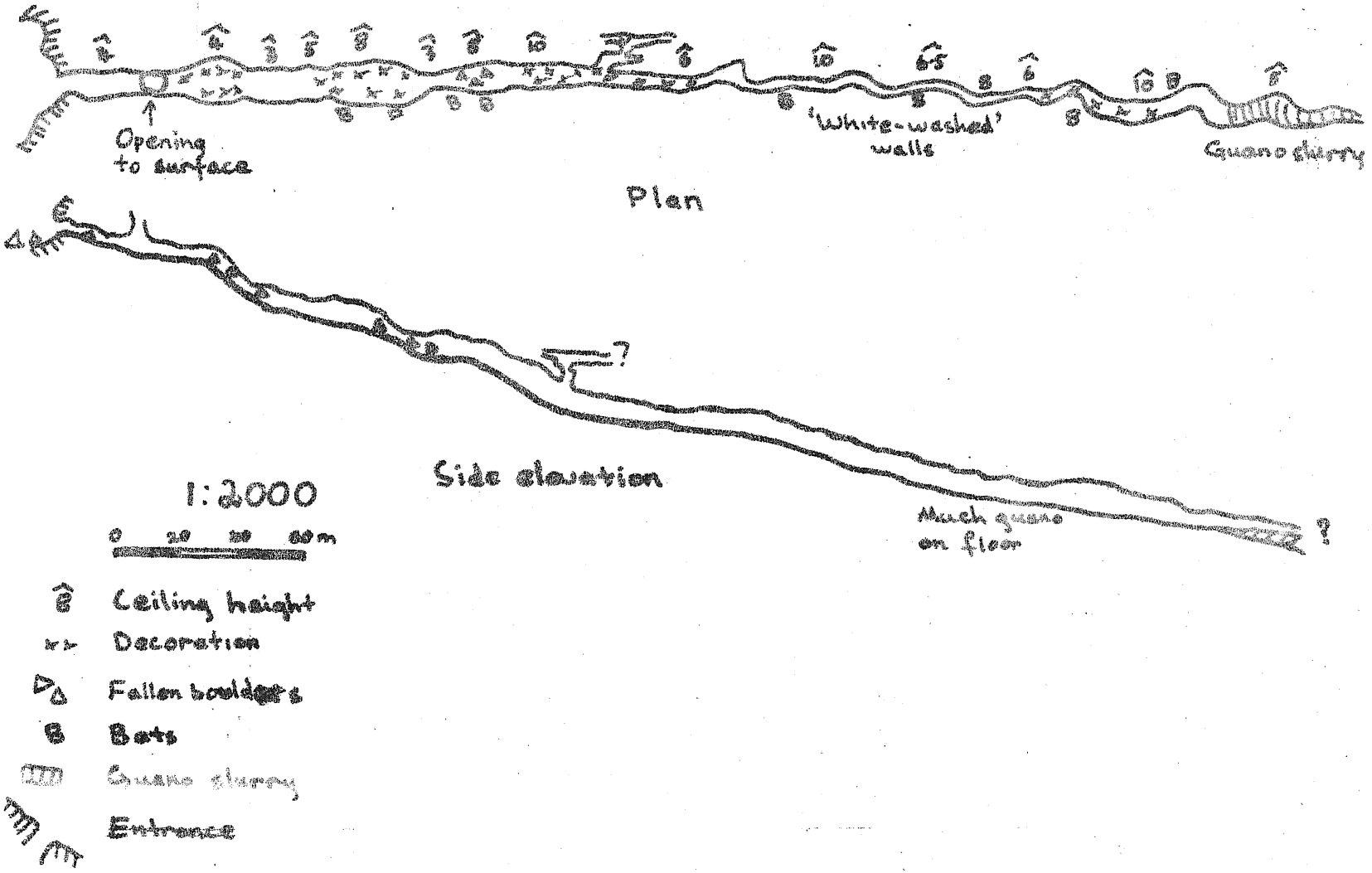
- Direction of streamflow
- Fallen boulders
- Decoration
- Ceiling height
- Earth fill
- Bats
- Entrance

Diagram 5

KABASE CAVE. N30

C.R.G. G4.2.

H. Gallasch, 1974.



depression concealed by tall trees. The entrance, behind several fallen limestone blocks, leads down into a chamber which has an opening to the sky. From here the cave slopes steeply downward, the spacious passage being well decorated with stalactites and wall accretions. For about 180 m the cave continues as a succession of chambers up to 12 m wide and 8 m high. Many sections are beautifully decorated with calcite formations and throughout there is a large bat population. The cave has a consistent downward trend, the slope varying from about 10^{o} up to 45^{o}. Near the extremity of this section an opening in the left wall leads up to a small solution passage at a higher level, (See Dia. 5), not explored.

For the first 180 m, cave formation comprised solution and collapse processes but after this, the smooth walls indicated only solution and stream action. Many of the walls appeared as if they had been plastered and white-washed. For much of its length, this section was only 2-4 m wide, but began to widen considerably at the furtherest point reached. In spite of the narrowness of the passage, the roof varied between about 6 and 10 m high. Here also bats were very numerous and at times we had to shield our faces as they came careering past. The further in, the thicker the guano got, until at about 400 m from the entrance it prevented our passage. Here water mixed with guano formed a quick-sand like slurry around 1-1.5 m deep. By clinging to crevices in the wall, a point was reached where further along the tunnel this slurry could be seen coming to within 1 m of the roof of the cave.

Although obviously this had been an influx stream cave, it appears that the stream is no longer active and the presence of water in the lower reaches may be an indication of the current water table having been reached. The size of the passage at the end indicates former continuity but this appears now to be sedimented up. In spite of this, the length (400 m) and depth (around 100 m) make this the longest and deepest recorded cave in New Ireland.

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MATAPARA CAVE, NEW IRELAND

R. Michael Bourke *

The cave (N8) is located at the back of Medina High School on the north east coast some 90 km south of Kavieng. The nearest village is Medina, with a vehicular road going to the cave from Lonagon village a few kilometres up the road. The owner is Seniele who lives at the back of the High School, and he likes visitors to get his permission to go to the cave.

It is well known locally and has often been visited by groups of expatriates, as well as the local villagers. Hal Gallasch and I visited the cave in June 1972 and I published a trip report in which I wrongly called it Mongop cave (Bourke, 1970). In November 1972 Yvonne Chisholm and I revisited the cave accompanied by five boys from Medina village: Riwas, Sova, Esarum, Pokawa and Demas, who helped to survey the cave to Grade 4 standard.

The cave is rather impressive. It is basically a single chamber 308 m long, and up to 60 m wide and 43 m tall. Depth from the lowest point in the floor to the daylight hole in the ceiling was estimated at 52 m. The entrance is a walk in type, 5 m wide. The cave is dry and decorated with numerous stalagmites and columns. At the back the chamber becomes much smaller and is packed with columns. There are several daylight holes in the ceiling. The main feature of the cave is a daylight hole towards the back. Twenty-five metres above the floor, daylight streams in through the hole and the trees in the forest above are contrasted with the dull inside of the cave. Total passage length is 362 m.

Unfortunately, vandals have been active and names of students from the nearby high schools decorate the walls. The owner is concerned about this and has disallowed the students from visiting the cave. He is considering charging admission as a business venture.

The cave is populated by numerous flying foxes and insect eating bats, particularly horseshoe bats. On my first visit I collected a couple of spider-like animals from inside. Fossils have reportedly been collected from the nearby Bolof cave.

REFERENCE

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* D.A.S.F., Keravat, E.N.B., P.N.G.

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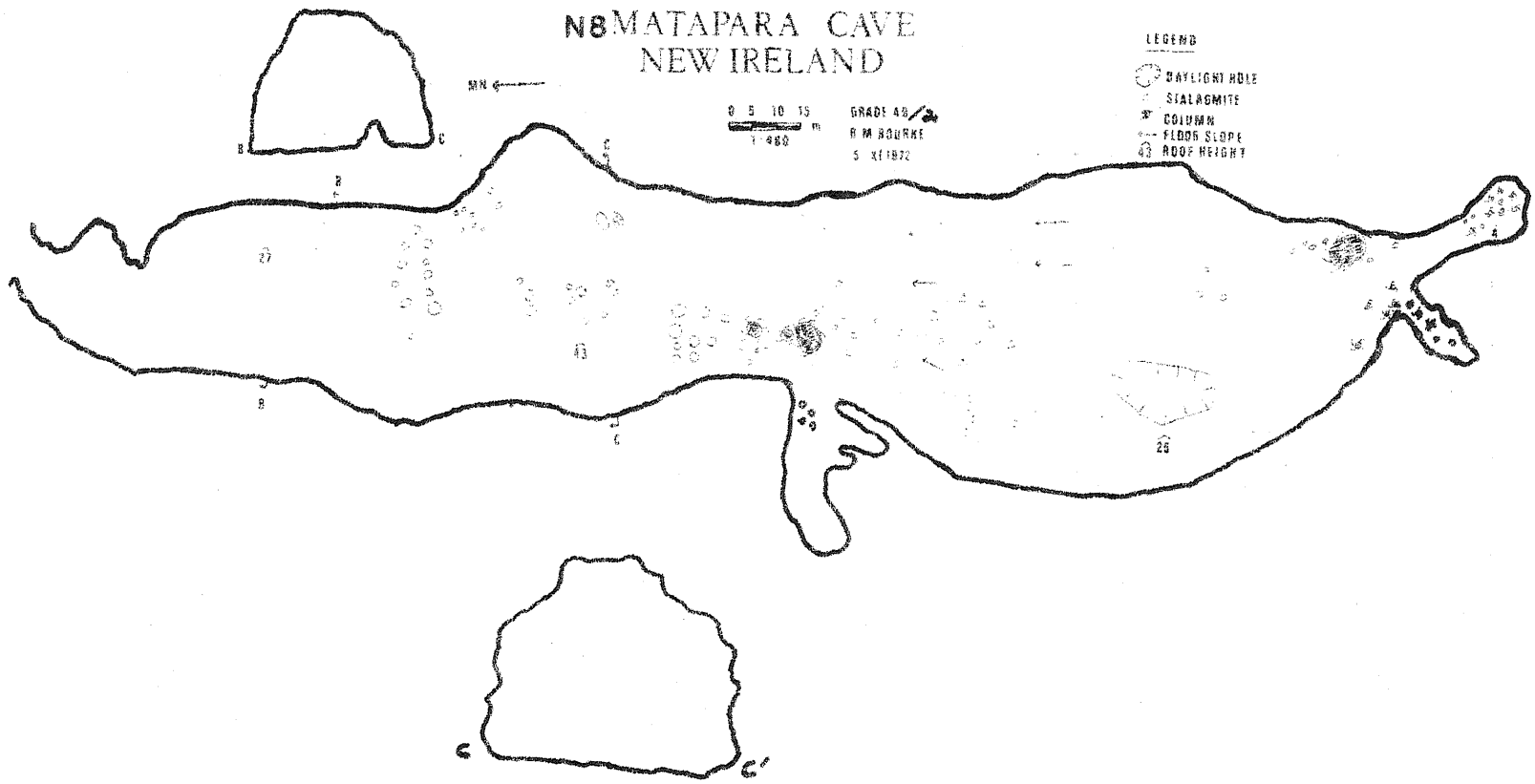
N8 MATAPARA CAVE
NEW IRELAND
MN
0 5 10 15 m
1 480
GRADE 4B
B M BOURKE
5 XI 1972
LEGEND
DAYLIGHT HOLE
STALAGMITE
COLUMN
FLOOR SLOPE
ROOF HEIGHT
B
C
B'
C'
26

TWO WATER SUPPLY CAVES, NEW IRELAND

R. Michael Bourke *

New Ireland is subjected to regular dry periods when water shortages occur. The problem is aggravated because much of the drainage is underground. To overcome the shortages, village wells are being sunk. But in some places the problem is avoided by obtaining water from caves where underground streams flow through them. Two of these were visited and mapped on 20th October 1973, by Michael Bourke, Kathy Carman and Jean Schafferius. They are described here. People also obtain water from caves at Konogusgus and Silom villages and at Lenkamin on the Lelet Plateau. No doubt caves are used for this purpose elsewhere on the island.

Liga Village. The village is 5 km south of Kavieng just before Utu High School, and the cave (N1) is 100 m west of the main road. The entrance is 13 m wide and 2 m high and is situated on one side of a shallow collapsed doline 16 m in diameter and 3 m deep. From the entrance there is a 4 m drop to the cave floor, half of which is occupied by a pool of water. The pool averaged 1 m deep when visited, but is deeper in the wet. At the back of the cavern the pool is about 5 m deep and the passage can be seen continuing underwater. The cave is decorated with stalagmites and stalactites.

Outside the cave, part of the floor of the doline was concreted by the Japanese during the war and a concrete wall erected at the cave entrance. (See map) Two pumps were sited on the doline floor. The water was pumped to a storage tank and thence to Kavieng and Utu. The equipment was removed to Kavieng after the war by the Allies, according to the village people.

The villagers now obtain their water from the cave and there is a "tambu" on washing in it. The polished rocks inside testify to the use the cave receives.

Medina High School. The water supply for the school is pumped from a stream in a cave (N7) on the school grounds. The cave entrance is located in the bottom of an irregularly shaped doline 15 m in diameter and 10 m deep. Concrete steps provide access to the bottom of the doline. The cave entrance is 11 m wide and 3 m high. A stream of approximately 0.2 cumecs flows into a pool in the entrance cavern from a small passage. Another small passage 16 m long leads off the cavern and ends in a rockfall.

Water is pumped from the pool into a pumphouse in the doline, and then to a storage tank on a nearby hill. The supply is said to be constant, even in the severest drought. Water from the cave reappears about 100 m away to form a lagoon that flows into the sea a few hundred metres away.

* D.A.S.F., Keravat, E.N.B., P.N.G.

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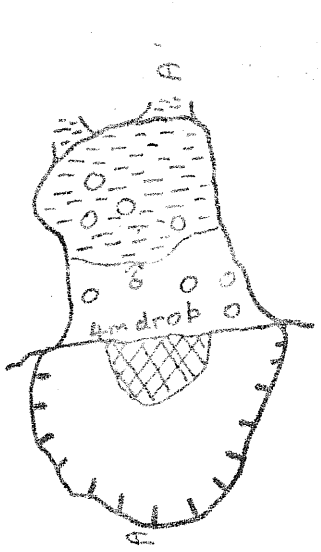
N1 WATER SUPPLY CAVE, LIGA VILLAGE, NEW IRELAND

1:500.
0 5 10 m
R.M.BOURKE.
20. X. 1973.

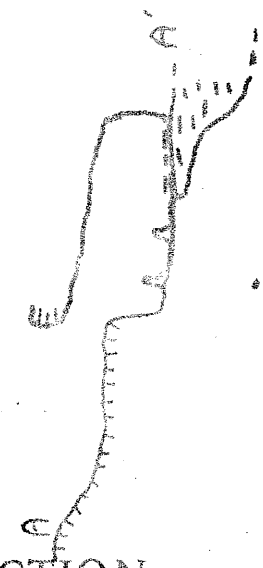
LEGEND.
- Water
- o o Stalagmites
- Doline edge
- Concrete
- ^6 Roof height in metres

N

GRADE 4B.



PLAN

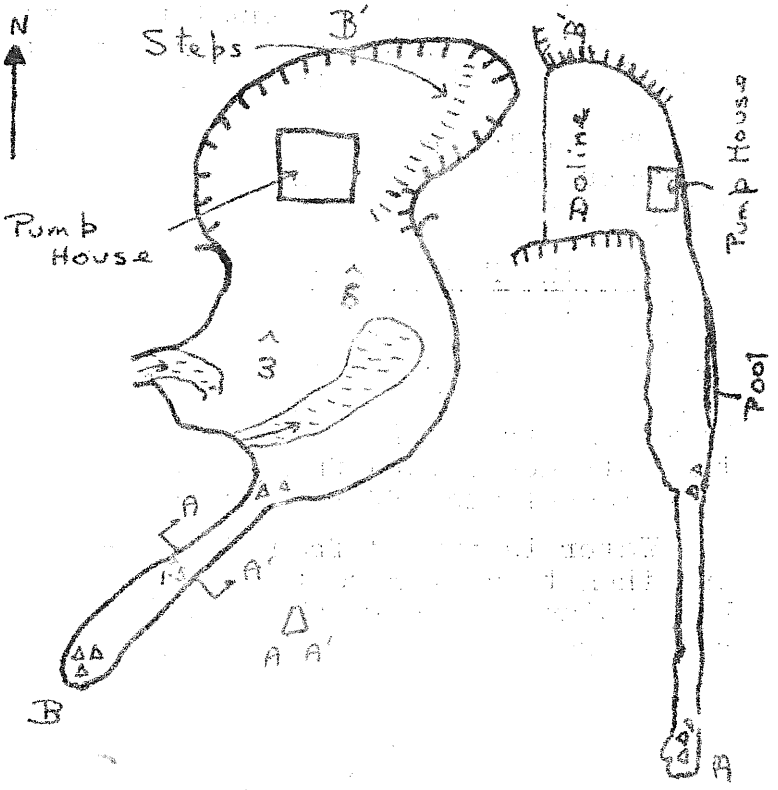


SECTION

N7 WATER SUPPLY CAVE, MEDINA H.S., NEW IRELAND

1:500
0 5 10 metres
R.M. BOURKE
20. X. 1973
GRADE 4B.

LEGEND
- Water
- Doline edge
- ^1.5 Roof height in metres
- Boulders



PLAN

SECTION