

## CAVING IN WESTERN SAMOA

Lance Stewart

While flicking through the pages of a book one day, I came upon a reference to some caves which had been occupied by humans for a while.

According to J.D. Freeman "The Falemaunga Caves" (Journal of the Polynesian Society Vol. 54, pp 86-97, 1944), "On the northern side of the island of Upolu, in the Samoan group, about six miles inland from the township of Apia in a south-westerly direction, there are situated a number of lava-tunnels known as the Falemaunga caves. According to tradition these caves were used by the Samoans as a place of refuge during the Tongan invasion; there is still extensive evidence of their prolonged human occupation."

"The entrance to both the tunnels is formed by a collapse in their original ceiling. This collapse pit is almost circular, and measures approximately 50 feet (15m) in diameter. It has divided what was once a single tunnel into two distinct sections — one to the north and one to the south. The entrance to the north cave lies 25 feet (8m) below the rim of the collapse pit, and is extremely confined being only 4½ feet (1.4m) in height and 3 feet (1m) in width. The cave could thus be entered by only one person at a time, and would prove quite impregnable to direct enemy attack. The north cave is 1,408 feet (429m) long, and terminates in a large rockfall of relatively recent origin. The width of the tunnel is at first very regular and averages 25 feet (8m), but beyond 850 feet (260m) from the entrance there is an amphitheatre of considerable size which forms the centre of a series of branches. The first branch is very confined, however, and proceeds for only 150 feet (45m). The second branch goes toward the south-west but at a distance of about 250 feet (75m) from the amphitheatre, the tunnel takes a sharp turn to the north. From here on its course is very uneven and rough. This branch was followed for about 1,150 feet (350m) beyond the amphitheatre, at which point the danger of falling rock caused the exploration to be discontinued. The tunnel was extremely confined at this juncture, and there is no definite evidence concerning the distance it extends beyond this furthest point reached.

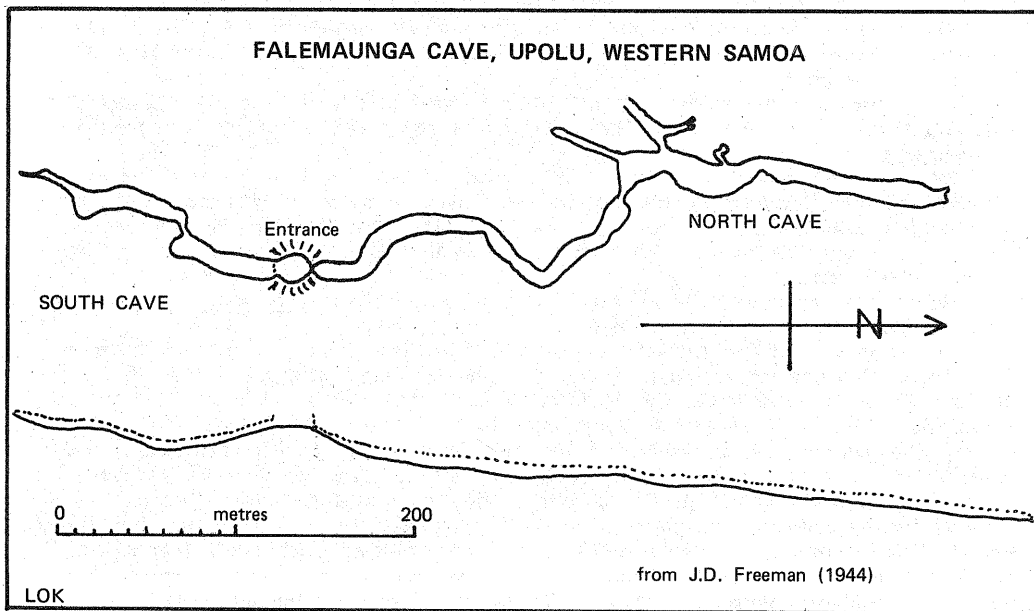
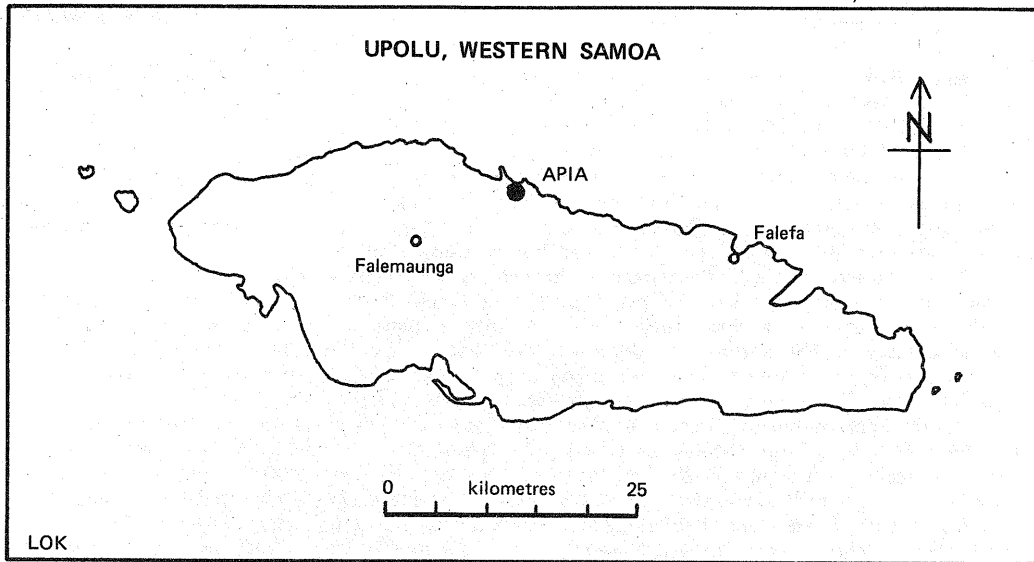
"The maximum width of the main north tunnel at the amphitheatre is 56 feet (17m). The height of the north cave varies from 4 feet (1.2m) at the entrance to over 30 feet (9m) near the amphitheatre.

"The entrance to the south cave, in contrast to that of the north is over 30 feet (9m) wide and about 20 feet (6m) high. The south cave is 513 feet (156m) long, and there is no branching.

"Neither of the tunnels is in its primitive state, for there has been much falling in of the roof and sides. Nowhere do the roof and sides seem to be the original ones, and lava stalactites are absent. There are, however, small stalactites 1 to 2 inches (25 to 50mm) long of a soft white earthy material evidently arising from the weathering of the superincumbent rock.

"Both of the caves are now inhabited by numerous pe'ape'a (*Collocalia francica*), a species of swift; and by many small bats.

"The caves still contain abundant evidence of human occupation. In both of them are to be found elaborate systems of platforms. 152 platforms were recorded, 129 in the north cave and 23 in the south cave. The platforms are all built up to a height of from 2 to 3 feet (60 to 90cm). This has been necessitated by the uneven nature of the floor of the tunnels. The platforms are constructed in the main from pieces of fallen lava-rock. In most cases only two retaining walls have been built, for wherever possible, advantage has been taken of the natural contours of the tunnels. In the centre of each tunnel there is a carefully formed pathway. The pieces of lava-rock composing the walls have been neatly and securely fitted together and upon excavation these walls proved to be over 2 feet (60cm) thick. The surface of the platform consists of fine lava rubble, and closely resembles the floor of an ordinary Samoan fale (house). The surface of some of the other platforms, however, merely consists of a rough mosaic of large pieces of lava."



It was this description and another, (J.D. Freeman, "The Seua Cave" Journal of the Polynesian Society Vo. 52 No.3, 1943), plus a verbal account of several other caves including one with a river coming out of it, that provided one of my main reasons for going to Western Samoa to look at caves early in 1974.

Before I arrived in Samoa, I had teamed up with a Californian traveller named Brian Silverthorne and we both stayed at the house of Henry Lambert in Apia. Henry gave us a great deal of help and we are very grateful to him.

Henry was working for a man whose brother was the person who owned the land the cave was under, and by a round-a-bout route we finally met the Mr. S.V. MacKenzie who had assisted J.D. Freeman and his party in 1941.

The caves were discovered and explored by Mr. H.H. Schroeder early in 1914, and later visited by members of the N.Z. Expeditionary Force which occupied Western Samoa in August 1914; by Dr. J. Allan Thomson, Director of the Dominion Museum, N.Z. (now the National Museum) in 1920; and by J.D. Freeman (assisted in his survey by Mr. J. Radford and Pilot Officer J.D. Coulter and in his excavations by 3 Samoans) in 1941 and a final inspection in 1943. Mr. MacKenzie did not inform us whether anyone had been there since, but we got the impression that no-one had.

Brian and I had a few problems getting to the cave. It seems that Samoans are very polite people. They will do, or say, anything to please you. For example, if you ask a question with a choice in it, they may just answer "Yes" or they'll probably give you an answer they think you'll like, but not necessarily the correct one. Likewise, if you ask them to accompany you, they may or may not want to, but they'll say yes. Then at the appointed time they will come up with an excuse not to go, or they just won't appear. Thus it was with Mr. MacKenzie. The first day we were supposed to go with him to the cave in his pickup truck. This was arranged by phone. Later he rang up and said his wife had put a needle through her thumb and had to go to hospital (all she needed was a band-aid!). We agreed to go the next day - Wednesday.

A friend of Henry Lambert's, a man known to us only as Lem, had expressed no interest in going on the Tuesday, but he came to us on the Wednesday and asked if he could go. We were glad to have him along. When we went to get him just before leaving, he said he felt sick and didn't want to go. 30 seconds later he changed his mind again and decided to come. I spoke again to Mr. MacKenzie by telephone. The pickup truck was now out of the picture. It seems he no longer had a vehicle. He said we could catch a bus to within a mile of the cave. When we arrived at his place two hours later, he said he thought we were bringing transport and that there were no buses suitably timed! It was becoming obvious that Mr. MacKenzie didn't really want to go to the cave.

On Thursday 21 March, Lem came to Brian and I and said he knew where the caves were and could take us there! Why hadn't he told us earlier? We set off from Apia carrying the necessary gear and some un-necessary gear. Lem had a gun with which he hoped to shoot some flying foxes, and in case of anything nasty in the cave. I didn't believe him on the last point.

We walked 2 miles (3km) then caught a bus for 2 miles (3km), walked a bit further and finally hitched a ride on a pickup truck. Pickup trucks are a vital bit of the transport system in Western Samoa. At any time you can see them travelling around, overflowing with relatives and friends going someplace. The crowd on this truck thought our trip a great joke because they couldn't really understand why anyone would want to go underground.

The truck let us down at a junction in the road and we walked the final 1½ miles (2½km) to the cave. Lem didn't seem too sure just where to go and Brian and I had horrible visions of wandering the Samoan bush and never getting anywhere. Another problem of caving in Samoa is that many people may know of the presence of a cave, but they know it by a different name. So it was with this one. All the locals kept saying something else and we didn't know if we were on the right track or not. We had to listen very

carefully to Lem's English or we would miss the point. (That's another problem — understanding Samoan English).

Finally we got to the Falemaunga Caves. A Samoan youth named Dominico, who lived with his family 300 yards (300m) from the cave came with us to show us the entrance and then came into the cave with us.

What a collection of people. Old Lem in his jungle jacket and boots, carrying an airline shoulder bag with a thermos of tea, a torch and a .22 rifle; Dominico wearing only tattered trousers and no shoes; Brian Silverthorne wearing tee shirt and shorts with white socks and street shoes and carrying a torch; Myself in shorts and shirt wearing battered and ripped basketball boots on my sockless feet, carrying a duffel bag and a Tilly pressure lantern. A really diverse bunch of people. Dominico was a really wild character who made the trip much more enjoyable with his yells and laughter. He was really eager to please. We could understand only a tiny amount of his English and I think even Lem had trouble understanding his Samoan.

The cave was impressive for its size, although as Freeman's article said, there had been so many rock fractures that original features were no longer visible. Brian and I were a bit disappointed in the stone platforms, mainly because they weren't too obvious due to the large amounts of fallen rock all over them. Some of the stone walls weren't too obvious either, but we could see in a few places, obvious signs of human work. I suppose you have to be archaeologically minded to get full value out of the remains.

The cave had hundreds of bats in it. I hadn't been so close to bats before, so I was taking photographs madly, to capture them in flight and at rest. In certain narrow places they passed us like a cloud, they were so thick. Lem and Dominico saw that I was very interested in the bats and next second they were catching bats whenever they could, with Dominico laughing and yelling everytime he caught one. We took 12 home to Henry's place and measured them. They had an average wingspan of 7 to 8 inches (18 to 20 cm); body length of 1½ inches (4cm); and an average weight of 0.2 ounce (6g).

We also managed to catch and photograph a cave swift. It was about as big as a sparrow, black and white in colour and it sat in a nest of woven mosses about 3 to 4 inches (8 to 10 cm) deep and 2½ inches (6cm) wide, which was attached to the wall. When these birds fly, they emit a noise that sounds like a geiger-counter, so I presume they navigate by a type of echo location.

I was disappointed that we couldn't explore the cave fully and look into every hole, but we just didn't have adequate lighting (one of the torches was broken by this time) and the day was getting on, so we left the cave with a better appreciation of what to expect in other caves in Samoa.

#### INVESTIGATION OF THE PIULA CAVE POOL

About 15 miles (24km) east of Apia on the north coast, not far from a place called Falefa is a Samoan Mission School. Under the cliff here, directly below a church, is a drowned lava cave that serves as a bath and swimming hole to the local people. The water in the cave is fresh, cold and crystal clear, and the place is a minor tourist attraction because of that and the scenic beauty of the spot.

There are two chambers open to the air. These chambers are both about 40 yards (40m) long and run roughly parallel. One is set back about 20 yards (20m) from the other, due to its presence in a cliff headland. Both chambers are connected by an underwater tube about 6 feet (2m) long and 2 feet (60cm) high.

The first time I visited here on March 19 I was accompanied by Brian Silverthorne from California, a Canadian traveller named Byrnie and a Samoan youth named Jason. While Brian and Byrnie swam around, Jason and I dived through the connecting tube into the

second chamber. We swam towards the sump, but found that there was so little light coming from the entrance, that we couldn't see where the cave was going or how deep the water was.

Later I tried swimming in slowly, keeping my eyes constantly upon the bottom while breathing through a snorkel. This enabled me to get an idea of the depth and direction of the cave but once again I was defeated by lack of light and couldn't tell if the cave ended where the roof touched the water or whether it went on. By looking back towards the entrance underwater, the whole chamber was clearly visible through the crystal clear water. It shone a bright, mystical blue and one could see a few freshwater fish swimming around.

Because I considered the walk-in entrance to this second cavern to be the result of a rockfall, and because of the connecting tube between the two chambers, the freshwater fish, and the flow of water that was sufficient to keep the seawater out, I was convinced that the cave must go on. According to local rumours, no-one has succeeded in free-diving the cave although many have tried. Apparently one man went in and never came back. This, I put down to dramatic myth.

On Thursday 28 March, I returned to the cave with my diving mask and an ordinary torch. A quick swim to the end led me to a duck where I came up in a small roof cavity about 4 feet (1.2m) by 6 feet (2m). About 4 feet (1.2m) below the surface here, the cave continued on further than my torch would show and I considered it worth while to come back with aqualungs and underwater torches.

On Saturday 30 March, I returned for the third time. I was accompanied by Keith Gordon and Rob Davies who run a diving gear hire shop in Apia. Keith and I swam in while Rob waited outside. We went slowly as far as we could swim, so that I could iron out any problems with my aqualung which I wasn't used to, and then we carried on into the submerged section of the cave.

Keith was running out a string so that we could follow it back if we disturbed too much silt. The passage was about 10 feet (3m) wide by 6 feet (2m) high. The roof especially, and the passage slightly, appeared to be going down. The thick pile of silt appeared to get deeper as we went in. About 40 yards (40m) in, the silt pile sloped down steeply. The roof had been getting lower and lower and at this point there was only about a 2 foot (60cm) gap. Keith and I hesitated to go in, because we knew we would disturb the silt and may not be able to get out too easily. I looked behind to see just how much silt we had disturbed and I couldn't see a thing. The whole cave was a muddy blur of disturbed silt. We decided by signals to go out then, because we knew we didn't have adequate gear or experience, so we followed our string out to the entrance.

Rob, Keith and I explored the two ante-chambers thoroughly but found nothing of interest except Rob and Keith saw a movement in the silt at one point. They were of the opinion that it was a water inlet and therefore a spring. So it appears that the water in the Piula Cave Pool may come from a spring and not a stream resurgence as I hoped. There are two other springs in the close vicinity. The cave could possibly be explored further but I don't think it will go very much further than Keith and I went.

There are lots of other lava caves in Western Samoa, known and unknown. I didn't have time to check into all the ones I heard about - including two that were supposed to be bigger than the Falemaunga Caves, one which a bulldozer driver found that had human remains in it and another that apparently had so many bats in it, they looked like a rising smoke column when they flew out. So if you feel like combining a holiday in the tropics with a caving trip that is not too hard, Western Samoa could be the place.

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