

A photograph of a narrow, rocky river gorge. The river flows through a deep, dark canyon with steep, moss-covered rock walls. In the foreground, a person is navigating a section of rapids, using a long wooden pole to balance themselves on a large rock. Another person is visible further upstream on the left bank. The water is turbulent and white with foam. The overall scene is lush and green, with various plants and ferns growing on the rocks.

# Goa Kali Maru:

Papua Caving  
Trip Report (2023)

by Giacomo Grison

# Old Maps Revealing Uncharted Caves

In August 2023, I embarked on a journey to reach an uncharted cave system hidden in the jungle west of the Cyclops Mountains near Jayapura, in Indonesia's easternmost province of Papua. The existence of this cave is hinted at through satellite images of a relatively small river which originates in the Cyclops Mountains, and which subsequently flows through dense tropical rainforest into the Pacific Ocean. Images show that, some kilometres prior to reaching the ocean where a village named Bukisi is located, the river disappears underground and re-emerges after about two kilometres further to the west.

I first read about this river and the possible existence of a cave in a paper published in 2019 by the Italian cave explorer Andrea Benassi who, with academic rigor, reviewed the state of caving explorations in New Guinea's western half.<sup>1</sup> Compared to the island's eastern half which belongs to Papua New Guinea, Western New Guinea has seen far fewer caving expeditions despite its great potential, possibly due to the political tensions and security challenges which have affected the region since it became part of Indonesia in 1969. Something fascinating I learned from Benassi's paper is that Dutch military explorers in the early 20th century, when Western New Guinea was under Dutch colonial rule, drew impressive maps that serve a great purpose for planning modern-day caving expeditions. One of these maps covering Papua's northern coast indicates the presence of an underground section of a river, at the time known as the Armo River, identified by the initials O.L. (Onderaardsche Loop, subterranean river).<sup>2</sup>

Between 1910 and 1915, a Dutch military expedition led by Colonel F.J.P. Sachse explored the areas surrounding Jayapura (then named Hollandia) and mapped the Armo River in its full length except for its underground section. The expedition photographed a large cave entrance, where the river is seen disappearing into darkness.<sup>3</sup>

The Dutch named this the "Armo Tunnel," which is briefly mentioned in Benassi's paper as being unexplored as of 2019. I found no further information about this cave, and there are very few references to the river itself. The purpose of my trip was to reach the village of Bukisi and navigate the Armo River upstream to ascertain the existence of the cave and whether it would be explorable.



41. Riviertunnel van de Armo R. (Noordkust).

<sup>1</sup> Andrea Benassi (2019), West Papua Cave Index, Cronache Ipogee n. 2/2019.

<sup>2</sup> Topographic maps, Dutch military explorations, scale 1:1000000, years 1914-1919 - Australian National University.

<sup>3</sup> Verslag Van D. (1920) Militaire Exploratie van Nederlandsch Nieuw Guinee 1907-1915, Landsdrukkerik.

# Arrival in Bukisi Village and Initial Challenges

I embarked on my journey to Papua alone but was assisted throughout the trip by an independent Papuan guide and now friend of mine named Marius. Venturing off the beaten track in Papua without a guide would, in my opinion, be unwise and dangerous due to the significant linguistic and cultural barriers with the local population. Even in larger cities like Jayapura, English is spoken by only a small minority of people.

In an attempt to make my visit as smooth as possible, I arranged a trip for Marius to Bukisi two weeks prior to my arrival, with the aim of informing the locals in advance about the purpose of my visit. Marius was welcomed by the village chief and the people in Bukisi appeared enthusiastic about my upcoming trip.

I landed in Sentani after a long journey and spent two days in Jayapura overcoming jet lag, stocking up with food supplies, and sorting out the mandatory police permit required to leave the city. Obtaining the permit went smoothly thanks to the help of Marius and together with him and Lauren, a friend of his who worked as our driver, we began our journey to Bukisi. The village can be reached within approximately half day from Jayapura with a combination of a bumpy road travelling up to the small port of Depapre and a speedboat ride for the remainder of the trip. The journey by sea offers spectacular views and we observed many small sea caves along the coast, though we did not stop to investigate.

Upon our arrival in Bukisi, we were welcomed by the locals and set up camp in the property of a very kind elderly man. As we entered the village, I was taken by surprise by the number of wild boars and piglets roaming around the stilt houses.



Bukisi village consists of around 60 houses built on a strip of land between the Pacific Ocean and a lagoon, surrounded by sandy beaches and hills covered in lush vegetation. Living conditions remain poor, although the Indonesian government has recently installed solar panels which provide electricity to some houses and to a local primary school.

Despite the warm welcome in Bukisi, intense discussions began later that evening between members of the village. I soon learned that the Armo River is now known to the locals as Kali Maru (river Maru) and that there is indeed a cave in the jungle which is a sacred place for the villagers. Locals call this cave Goa Kali Maru (cave of the river Maru) or Goa Kelelawar (cave of the bats).

Two of Bukisi's clans, named Dosay and Sasarai, own the land where the cave is located, and my arrival apparently fuelled some disagreements between the clans about whether I could be granted access to their land.

I was told that no one other than the villagers had ever reached the cave's entrance (the locals were unaware that Dutch explorers had done so over 100 years earlier), and I learned from Marius that some of the clans' members were fiercely opposed to the idea that an outsider should be given permission to access the area. Marius joined the discussions, his face turning increasingly tense and worried. It became clear that my plan to embark on the journey up Maru River the following day would not work out.

Benassi warns of the "exhausting negotiations" often required in Papua when requesting permission to transit on someone's land, a situation that gets increasingly more complex if access to a sacred cave is on the table for discussions. I was now experiencing this reality first hand, as hours turned into days, and I struggled to cope with the long and uncertain wait. Patience and persistence however paid off. As the days went by, Marius and I sensed that the mood was improving among Bukisi's inhabitants, who were getting accustomed to our presence.



After four days of discussions, an agreement was finally reached among all the parties involved. To my surprise, various people who had previously opposed my plans were now enthusiastically

helping to load tents, food supplies, and my caving equipment into the canoes. Others who had never been to the cave's entrance said they would join us on the journey. We then set off at dawn on the following day, a party of 16 members including Marius and Lauren, with eight canoes.

## Journey Into the Jungle

Kali Maru offers breathtaking views of unspoilt beauty with its pristine waters meandering through dense tropical rainforest. As we paddled upstream along the river accompanied by the singing of butcherbirds and New Guinean cicadas, the valley became steeper, the water's current grew stronger, and we were forced to stop a few times to lift the canoes above some semi-submerged tree trunks blocking the way.

After approximately three hours of paddling from Bukisi, we reached some rapids and left all but one of the canoes on the shore. With an impressive ability, four men lifted the one canoe upstream through the rapids. They said the canoe would be helpful for fishing and to venture inside the cave's entrance. In the meantime, I followed the rest of the group up a steep climb to bypass the rapids and we regrouped on the other side. We loaded the heavier bags into the canoe and one man continued paddling along the river, which now looked easier to navigate, while the rest of us proceeded on foot through the jungle.

It was very hot and humid, and I was sweating in my long-sleeved shirt which was meant to keep mosquitoes at bay, stopping every now and then to remove leeches crawling up my legs. I took a few breaks to also filter water from small streams and resurgences in the forest. We hiked for some time alongside the river, occasionally crossing its waters, until we finally reached the lower entrance of Maru Cave where the river emerged from darkness into daylight. The cave's entrance is triangular in shape, approximately eight metres high, and many fish could be seen swimming

in its clear waters. It is a place of stunning beauty and I felt incredibly excited to be there after having dreamt of that moment for so long.

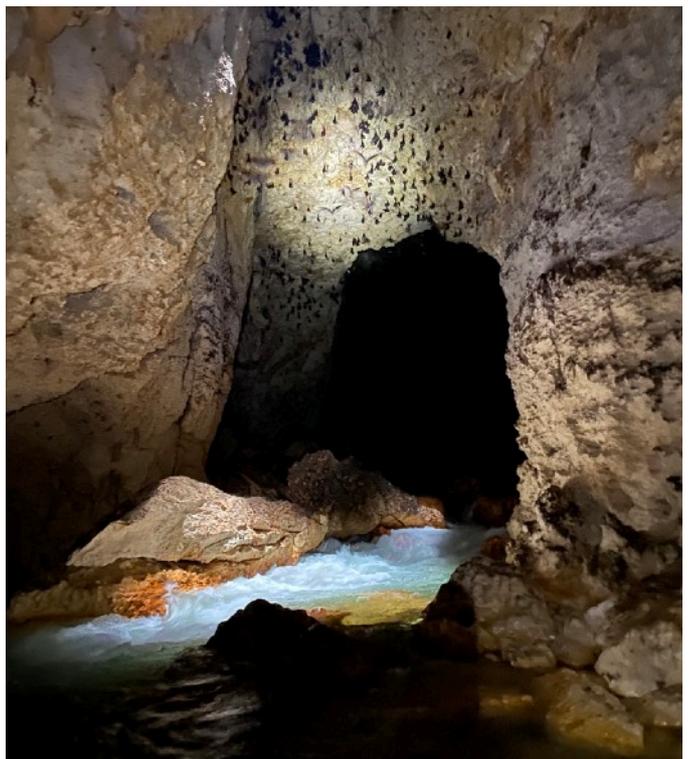
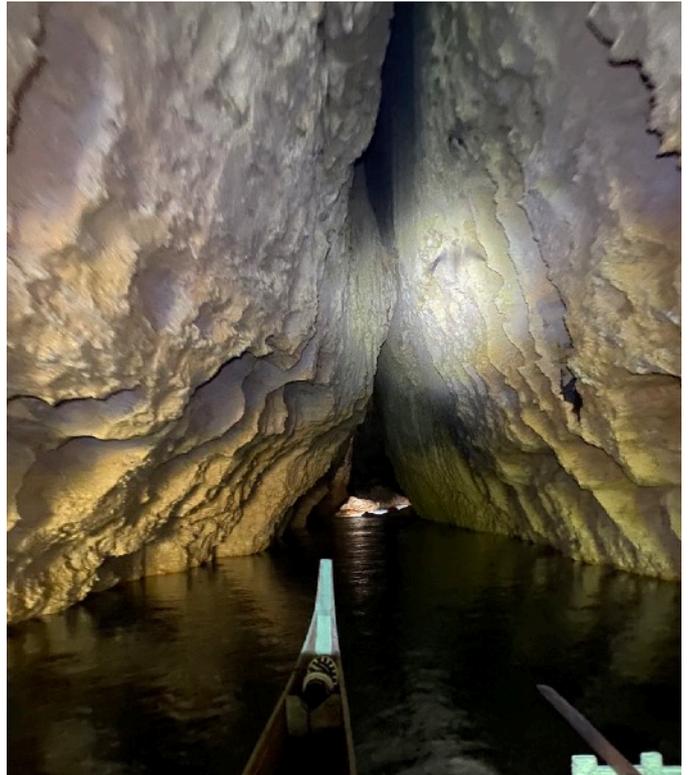
# Dangerous Waters in Goa Kali Maru

Bukisi villagers cleared an opening in the forest on the right bank of the river and we began preparing camp. After setting up my tent, I walked back to the river where I had left my caving gear. As I pulled some equipment out of the bag, including ropes, cliffhanger hooks, carabiners, bolts and hammer, some of the locals approached Marius and asked him to let me know that no tools were allowed inside the cave other than flashlights. They argued that the equipment might damage the rocks and alter the cave, something they could not allow given its sacred status. I understood and complied with their rules but managed to negotiate wearing a wetsuit and caving helmet for safety. I began swimming towards the cave's entrance where the canoe was floating, tied to a rock. I climbed into the canoe and paddled into the mouth of Maru Cave while Marius and the locals watched from the riverbank.

The shallow water at the cave's entrance quickly became deeper and I continued along a gallery for approximately 150 metres. This reminded me of the entrance to the Zelške Jame cave in Slovenia's Rakov Škocjan, though smaller in size. I slowly progressed into the cave and noticed a colony of hundreds of flying foxes hanging just a few metres from me. My presence disturbed them, and they began squeaking and flying deeper inwards, some of them accidentally hitting my helmet and one grabbing the side of the canoe with its claws.

From the entrance gallery I suddenly emerged into an impressive chamber approximately 30–40 metres in height, illuminated by sunlight penetrating through a shaft in the roof. Here, roaring water flows into the chamber with great strength from the depths of the cave, which continues upstream in a large gallery at least 20 metres high, with hundreds more flying foxes hanging from the walls. As the thundering river flows downstream across the chamber, it forms a Y junction: most of the river disappears to the right into a deep sump, while a

smaller part of the water runs into the entrance gallery on the left and emerges from the cave's lower entrance. Upon witnessing the frightening sump, I recalled something the locals had told me a few days earlier: after major storms, tree trunks were sometimes seen being washed up in the ocean next to the village from an underwater tunnel. This now made sense as I observed that most of the river's waters continued their flow underground, instead of exiting from the lower entrance of the cave.



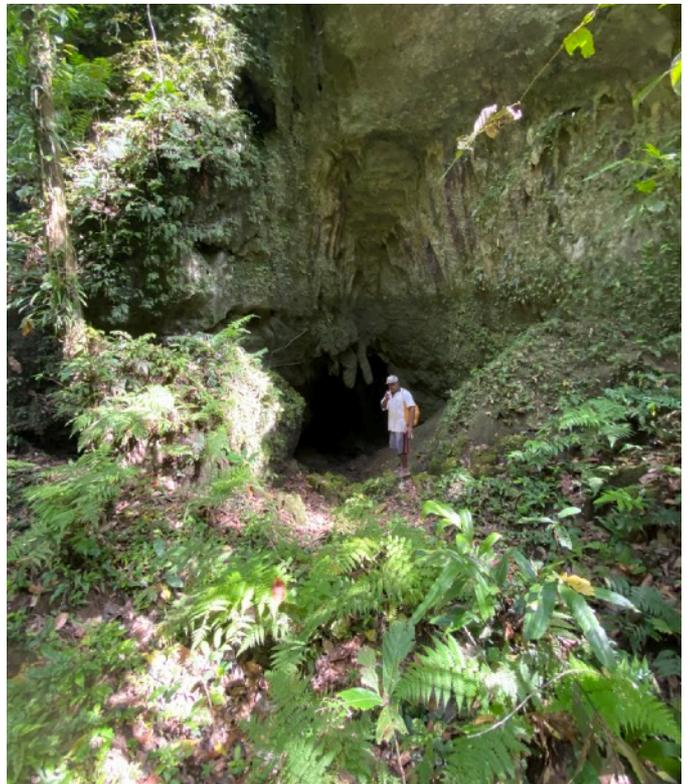
I got off the canoe in the calmer waters of the entrance tunnel and swam towards a group of rocks covered in bat guano. From there, I noticed that the way forward required crossing the river to reach some rocks on the other side. This crossing required swimming for some metres into deep and turbulent water flowing towards the sump. I entered the water at a point where I spotted some rocks that I thought could aid the crossing. As I attempted to reach the rocks on the other side, I was swept away by the strong current and found myself floating in the direction of the sump. I vigorously swam towards the left and, with the help of some rocks at the edge of the sump, I managed to pull myself out of the strong current and swam back to the canoe.

## Side Galleries and Hike to the Upper Entrance

I re-emerged from Maru Cave's lower entrance and paddled towards the camp, where the others were waiting for me. I shared my excitement with the group, showing some of the pictures and footage of the majestic underground scenery. The villagers looked enthusiastic, and Marius told me they were happy that, for the first time, someone outside of their clans had entered the cave. It was now early afternoon and sunny, and I asked if we could push on further to the cave's upper entrance. I soon realised that most members of the party had not been to the upper entrance themselves and were not sure of the path to follow and the time required to get there. Luckily, two older men named Christ and Adolof, whom I later learned are veteran hunters of the Sasarai clan, said they knew the way.

While the rest of the group remained at the camp, Marius and I followed the two hunters through the dense forest. We walked for approximately 30 minutes along a dry riverbed until we reached another cave entrance, about three meters high with some formations. I ventured inside, followed by Christ, and we walked into a very muddy and

slippery gallery for perhaps 200 metres until a sump that continues in the direction of Maru Cave. There were some frogs in the water and many small bats flying around. From this sump, a dry passage can be followed to the left into a muddy meander, initially easy to follow, though after about 100 metres the passage becomes lower. Christ stopped there and I continued crawling in the mud for a while, with bats nervously flying all around me. The passage looked rather uninviting, and I realised it would be a very dangerous place to find myself in the event of a sudden surge in water levels. The low meander continued further but I decided to turn around, also in consideration of the tight time window we had to reach Maru Cave's upper entrance and get back before darkness.



Entrance to the side tunnels from the dry riverbed

Outside of the cave, the two men explained that during floods, water from Maru Cave flows into this smaller cave, which becomes completely impassable, and the dry riverbed we had followed until that point turns into an active stream. This clearly suggests a connection between the two caves, which are in close proximity. We took a short break at the cave entrance and then continued hiking towards Maru Cave's upper entrance.

The path forward became steeper, and I struggled to keep pace with the two hunters who were jumping in flip flops from one slippery rock to another while waving their machetes and smoking cigarettes. Occasionally, they stopped to assess the best way forward in the dense jungle, but they never gave the impression of being lost.

After another hour of hiking at a fast pace, we heard the distant sound of thundering water, and my excitement grew as we descended a very loose path down the hillside. Maru River suddenly appeared in front of us.

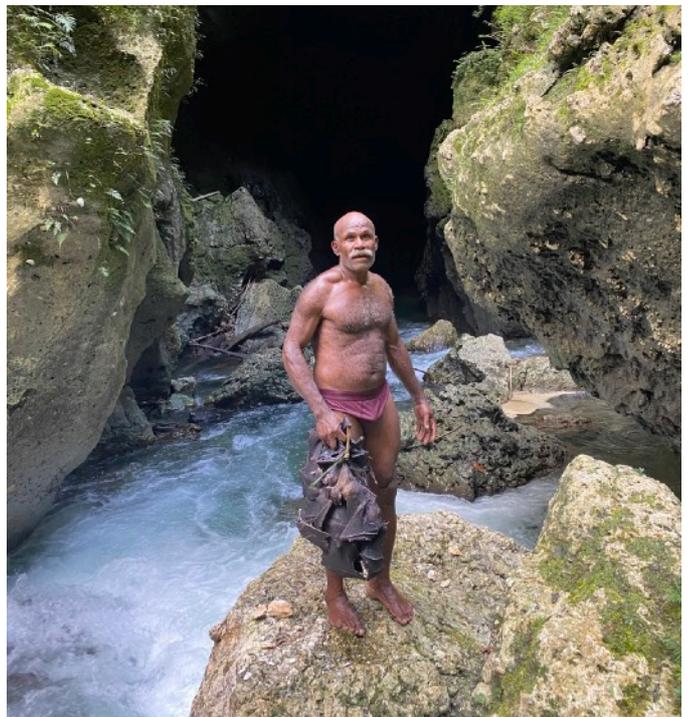
## Sasarai Veterans Hunting in the Darkness of the Cave



Goa Kali Maru's upper entrance offered a very different sight from the tranquil scenery of the lower entrance: I observed the river flowing with great force down some rapids, surrounded by vertical walls over 100 metres high and covered in vegetation, and disappearing inside an opening at least 30 metres high and 15 metres wide.

This entrance was reached and photographed over 100 years ago by Colonel Sachse and his party. As I stared at the impressive mouth of the cave, I wondered whether the Dutch explorers had been led to this point by Christ and Adolof's ancestors. I learned from the two men that this entrance has been jealously protected by the Sasarai clan for generations and that very few, even among Bukisi's inhabitants, have seen it. I felt incredibly privileged to be allowed there.

The men took their long hunting spears and ventured towards the cave, wearing nothing but their underwear and headlamps. They did not allow us to follow them and explained that this section of the cave is a sacred hunting ground for their clan. We sat on a rock and watched in awe as they crossed the rapids, carefully balancing themselves in the current with the help of their spears and some sticks. They reached the other side and free climbed with great skill onto a ledge approximately ten metres above the river. From there, they disappeared inside the darkness of the cave. Swarms of flying foxes soon began flying by the hundreds outside of the cave and into the jungle, offering a memorable sight. Christ and Adolof reappeared a few minutes later, covered in guano and each holding half a dozen of dead flying foxes. They said they would cook them later that night.



## Summary of Findings and Exploration Prospects

I asked the two men if I could venture inside the following day, but they said they would need more time to consider. They looked happy that I was there and said maybe they would grant me permission to venture inside on my next trip, though I would only be allowed to wear underwear and a headlamp in accordance with their traditions. They recalled that years earlier they had journeyed quite far inside the cave during hunting sessions. They thought that traversing from Maru Cave's upper to the lower entrance would be a dangerous undertaking due to some exposed climbs and river crossings, and that it would require several hours. Due to some translation difficulties, it remained unclear to me if Christ and Adolof had themselves made this traverse, but they sounded confident that traversing the cave was possible.

We hiked back to the camp and arrived after dark. I thanked Christ and Adolof for the incredible experience and they disappeared into the night, while I re-joined the others around the fire and retired to my tent after eating some rice. The following day we agreed with the group to head back to Bukisi. Prior to leaving the camp, one of the villagers paddled to the entrance of Maru Cave and paid respect to the cave with some prayers. We then began our journey back and stopped several times along the way to explore some side streams and small resurgences and to take pictures. We reached the village in the late afternoon, where we were welcomed by the locals and shared stories about our adventure.

In the remaining days of my stay in Papua, Marius, Lauren and I visited other communities in nearby areas and hiked in the forest from a village named Kendate, scouting for possible cave entrances and overnighing in the jungle. These attempts were not successful, except for a small cave we found near a town named Demta, and locals in the town told us of a larger cave in the forest known to them as Ambora. We could not locate this cave and ran out of time but will possibly pursue this lead next year.

Goa Kali Maru has by far exceeded my expectations revealing itself to be an impressive and challenging cave. Equally impressive is the fact that the locals have courageously ventured into at least some of the cave's sections for hunting and fishing. The cave system has at least four entrances, namely the upper and lower entrances, the shaft which enters the chamber near the lower entrance, and the smaller entrance leading to the muddy galleries that are connected to the main course of the underground river through a sump. Christ and Adolof, the two veteran Sasarai hunters, estimated the main course of the underground river to be approximately two kilometres long, an estimate which is in line with what has been revealed by satellite images of the area. This, coupled with the few hundred metres of side tunnels connected with the main cave through a sump, would bring the total length of the cave to approximately 2.5 kilometres. Such length, if confirmed, would place Goa Kali Maru as the fourth- longest known cave in Western New Guinea, based on the review of other caves in the region compiled by Benassi in 2019.

The true length of Maru Cave is likely to be far greater as the river continues underground from the chamber near the lower entrance all the way into the ocean, with passages big enough in size to allow for large tree trunks to be carried through during floods. This section nonetheless is impassable due to the sump and strong water currents. Changing weather is a notable hazard and should be carefully monitored when visiting the cave. Papua is one of the world's rainiest regions and thunderstorms arrive with very little notice. One morning in Sentani we were caught in heavy rainfall that flooded parts of the town. The Sasarai hunters told me that they have witnessed the cave suddenly flooding even in good weather, most likely due to distant thunderstorms in the rainy Cyclops Mountains where Maru River originates.

Obtaining permission to venture inside the cave's entrances from the Dosay and Sasarai clans remains the major obstacle in the exploration of Goa Kali Maru. I am currently cultivating good relations with the clans in the hope that I will be granted full access on my next trip planned for 2024, though this prospect remains uncertain. Venturing inside the cave from the upper entrance appears to be the most promising option, although caving without appropriate equipment and with nothing but underwear and a headlamp – in accordance with the Sasarai hunters' traditions would make such exploration a challenge. The muddy, low crawl in the side galleries is also worth revisiting with more time as the passage continues beyond the point where I turned around. Similarly, the dangerous river crossing in the chamber near the lower entrance is worth another attempt. Despite the ban on most caving equipment enforced by the locals, the crossing could perhaps be safely undertaken with the help of sticks, natural anchors, and some teamwork.



From this crossing, I could clearly see the large gallery progressing upstream with passages of notable size.

One final note is that any attempt to access the cave without the full consent from the locals is strongly discouraged. Maintaining good relations with Bukisi's inhabitants is key to any further explorations of Goa Kali Maru and the surrounding areas.

