

Journal of  
British Speleological Association

# CAVE SCIENCE

IMPERIAL COLLEGE EXPEDITION  
TO THE  
KARST OF PERU

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## Imperial College Karst Research Expedition to the Peruvian Andes, 1972

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# Caves in Peru

L. W. Tunbridge

## The Caves of Tingo Maria

The cave of Lechuzas is a few kilometres from the town of Tingo Maria in the tropical forests of the Monzón valley. It is reached from the Tingo — Cerro de Pasco highway (a very dusty dirt road) by way of a suspension bridge and well maintained dirt track. The cave is exposed in an overgrown vertical cliff face, up which a series of wooden steps have been erected.

The entrance chamber is large being some 250m long and 15 to 30 metres wide, and light from the entrance reaches all parts except the innermost. The floor is covered in guano from the rare guácharo (steatornis) bird. This guano floor is alive with cockroaches and millipedes. In the darker parts, the cover of these animals is so dense that one cannot help but tread on several with every footfall. On entering these regions the guácharos make a tumultuous screeching and thrash about in the dark fetid air above. The noise, smell and atmosphere of the cave is overpowering, encouraging a great sense of relief on departure. Local people informed us that the tropical cave disease, Histoplasmosis, can be contracted there; the symptoms of this disease, which may be fatal, are caused by the growth of fungus in the lungs. We terminated our visit when a group of tourists arrived complete with face masks — they turned out to be medical students.

The inhabitants of Tingo Maria, at certain times of the year, visit the cave to look for the chicks of the guácharo; the fat derived from these is used for cooking. The cave is also popular with tourists; during our visit of only a few hours several parties arrived and inspected the near interior of the entrance chamber.

We surveyed and explored the cave in several visits due to its unpleasantness. The section from the survey shows the general slope of the floor to be towards the entrance. Therefore there may have been some late vadose development; the presumably thick cover of guano on the floor meant that we were unable to find an obvious river channel. The high domed roof near the entrance is indicative of a phreatic origin and possible later enlargement by collapse. There are several blocks on the floor which have obviously come away from the walls and roof. However, growth of stalactites and stalagmites, which generally appear dry and dead indicate that this has not happened recently.

The innermost section on the survey (figure 5.1) shows the typical "letter box" shape of the further reaches of the cave, perhaps showing the original form before collapse. The considerable development of flowstone at the end of the cave indicates a relatively recent deposition phase from a high inlet in that area. There are several likely looking ways on beneath this, all apparently descending. However they appeared to be blocked by guano and were very uninviting. We explored the area above the flowstone more fully but were unable to find a way on. Earlier we had been informed that a way existed to an underground river; though local stories should always be taken with a proverbial kilogram of salt, there may be some foundation to this story and the way on may be known locally.

Basically the cave would appear to have been an old resurgence for the same river that now flows out some 50m away. In this respect it is very similar to Huagapo. Its abandonment would have been caused by cutting down of the main river valley

into which the cave water flows. There would, therefore, be reasonable prospects of finding, or digging, a way on from the main chamber, and of diving the resurgence. Furthermore, the sink may be enterable or at least diveable.

The local keeper who arrived with the visitors book told us that several kilometres away a large river sank into the ground. He believed that the rather cloudy river which issued from the sumped resurgence at the base of the cliff face was the same river. The sink was a good day's march, according to his calculation, and we were not prepared for this; so, unfortunately we were not able to confirm his story.

Judging by the water leaving the resurgence, about one cumec, which was considerably greater than that from Huagapo, and very cloudy (indicative of quick flow through the cave system), there must be a considerable development of cave system in this area, almost certainly of greater importance than Huagapo. Once a way on is discovered there must be considerable scope for exploration by any team suitably equipped for the conditions.

A further "cave" reported in this area, and also very popular with tourists, could not be visited due to lack of time. However a reasonably reliable local informed us that this was only a very narrow and steep gorge and not a true cave.

The area around Tingo Maria is obviously karstic and there may be many other caves known. However the dense tropical jungle would make exploration difficult. Added to this there is the unpleasantness of the heat, insect life and cave disease. This leads to the suggestion that although the potential in this area is great, the effort would be more enjoyably spent in the more temperate sierras where there is ample work to be done.

### **Caves and Caving in Peru**

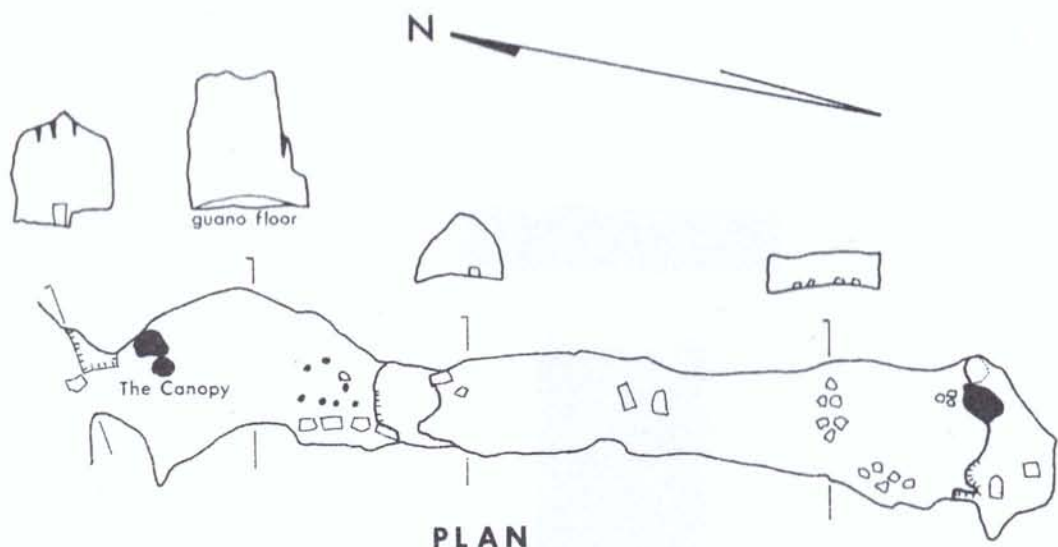
Unfortunately there is little "native" cave exploration in Peru, though Huagapo had been visited and partially explored by Peruvians in 1969; this appears to be the only Peruvian caving trip. Most of the locals still believe that there is no oxygen in caves and the report of the Huagapo expedition specifically mentioned that the air was wholesome. We did, however, learn of other expeditions from abroad. One of these, from Poland, explored Huagapo to the sump only six months before us. They had spent some time exploring caves near Cuzco and said that Huagapo was the longest cave (that they knew) in Peru. They also visited the entrance series of la Sima de Milpo, which they believed was the deepest cave in Peru.

The book "Cavernas, Grutas y Cuevas del Perú" by C. Garcia Rosell, (available from Talleres Gráficos, P. L. Villanueva S.A., Jiron Yauli 1440-50, Chacra Rios, Lima for about \$2) lists many caves in Peru. Most are more of archaeological interest than speleological and it is very difficult to distinguish rock shelters from true caves. Most of the reports indicate that the caves were not explored further because of the darkness. The book constantly refers to Antonio Raimondi, a famous Italian geographer who explored most of Peru and noted many caves.

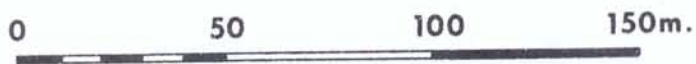
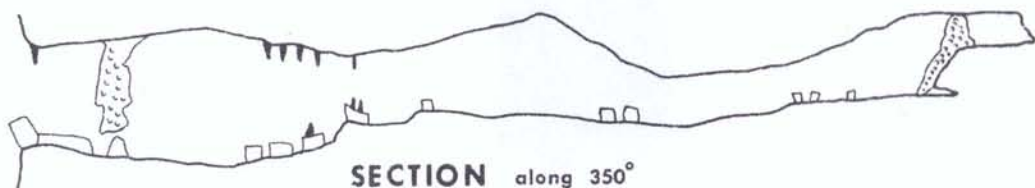
Rosell notes six caves of particular interest; from the north to south these are:-

1. La Gruta de Uscopisco which lies about 20km to the south of Hualgayoc (see figure 1.1.). The steatornis bird is found here, as in the caves of Tingo Maria. The cave has three chambers and continues beyond these down a pitch or slope. Raimondi visited the cave in 1868. "The floor", he said, "was flat and crossed at the bottom of the pitch by a meagre streamlet". This chamber is about 40m wide by 10m high. Raimondi followed the streamlet past large boulders along a





PLAN



## LA CUEVA DE LECHUZAS

TINGO MARIA, PERU

800m. a.s.l.

Surveyed to C.R.G. grade 3d

I.C.K.R.E.P.A. September 1972

steeply inclined floor until it cascaded down a second pitch, about seven to eight metres deep. Raimondi noted in his diary that the underground river could be more than five kilometres long.

2. La Caverna de Tingo Maria (see this report).
3. Sansón Machay, near Cerro de Pasco at an altitude of 4,500m a.s.l. This cave appears to be more of archaeological interest and is noted for its content of bones which include human remains, and bones of the extinct species *Scelidotherium* and *Leptocephalum*. However, it does not appear to be completely explored and may be of speleological interest.
4. La Cueva de Huagapo (see this report).
5. La Gruta de Huarari, in the neighbourhood of Livitaca. This cave was also visited by Raimondi who called it a beautiful work of nature. The entrance is fairly low and once inside large stalactites hang down forcing one to proceed bent double. The cave then widens out and divides into two branches. The gallery on the right appears to go on but becomes very narrow.
6. La Cueva de Toquepala, near Moquegua. This cave appears to be of interest because of cave paintings, believed to be at least 7,000 years old. The drawings, of animals such as guanacos and deer-like species, are in red, ochre and black. The cave measures seven metres deep by five metres wide. It has been superficially explored, "constituting an enigma in the study of Peruvian pre-history."

The map in Rosell's book shows that caves are known virtually all over Peru, though especially in the mountains; presumably the desert and jungle deter cave explorers or the formation of caves. However, the main difficulty is in determining just how important the caves are speleologically. Large rock shelters are granted as much description as important caves such as Huagapo, though the systematic exploration of caves in a particular region selected from this book may be rewarding for future visitors.