

Travel

Grotte de Fontrabiouse: highest altitude show cave in France

Garry K. Smith

Member of ACKMA and Newcastle and Hunter Valley Speleological Society (NHVSS)

All images by author

At 1,530m ASL, Grotte de Fontrabiouse (pronounced - Font-ra-boose) is the highest altitude show cave in France. While there are no huge chambers, this cave is jam packed with an amazing quantity of speleothems of all shapes and sizes. Its chance discovery and astounding beauty make it a must see if you are in the south of France.

Location and discovery

Set in the Pyrenees mountains close to the ski fields of Formiguères and Les Angles, this cave system was originally discovered by chance when blue marble was being quarried for material to construct the nearby Matemale Dam. The naturally exposed limestone (marble) surrounding the quarry has almost no signs of fluting nor other solutional weathering as is typical of other karst areas. The narrow discontinuous band of Devonian limestone runs from the Pic du Mèrens in Ariège to Villefranche de Conflent, a distance of approximately 45 km and has a thickness of several hundred metres. Much of the limestone is capped by granite and forest of the Capcir region.

At the time of the quarry operation, speleologists had not been drawn to the area despite there being the raging fountain that gushes from vertical fractures to the north of the limestone, below the elevation of the quarry. The spring, Fontaine Rageuse, (English translation meaning Angry Fountain), has a non-constant seasonal flow and the opening not large enough for cavers to enter. The nearby small village was named after the spring (Henri 2019), however there was no indication of a cave in the area of the quarry.

Blasting at the quarry during 1958 exposed a 20 m deep hole. A constant breeze of cold air gushed from the exposed hole, indicating there was a considerable cave below. A rope was lowered down the shaft and the first to descend was Armand Girona, the head miner of the quarry (Henri 2019). He explored 300 m of cave passage.

Speleologists mounted multiple day expeditions and an uncomfortable underground camp was established. They found extremely well decorated passages, clear pools of water lined with crystals, a flowing underground river (water temperature 5°C), fossil beds, high vaulted galleries and a spacious passage up to 40 m diameter (Henri 2019). In many places the cave walls intersected shale beds and in other places crumbly Silurian schist, being the edge of the limestone. Our tour guide told us that speleologists have now discovered and surveyed around 11 km of passage much of which contains beautiful decorations.

The cave was first opened to the public in 1983 and a new entrance excavated in 1990-91, enabling through tours to traverse the 950 m of well decorated passage.

The Cave Tour

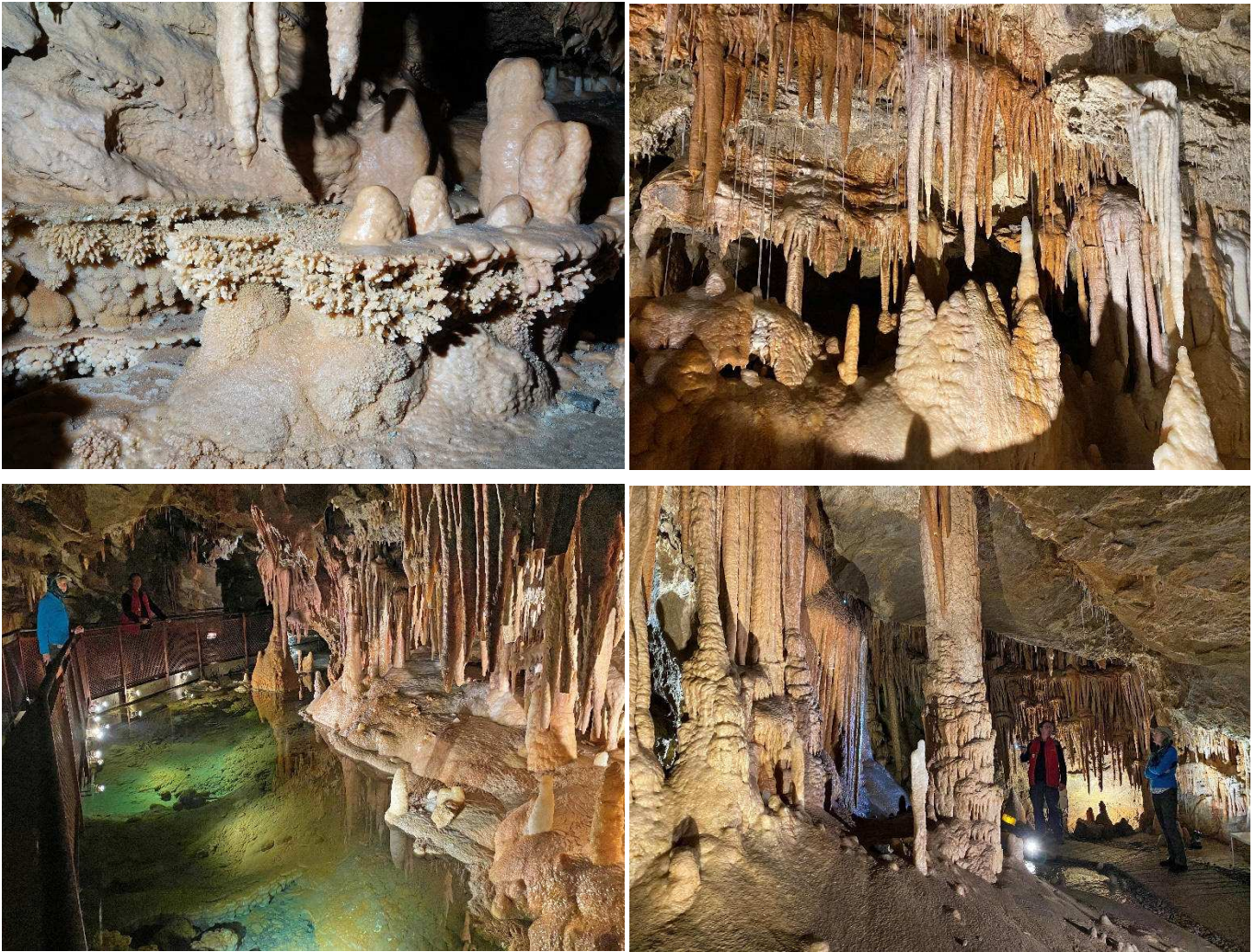
Our tour starts at the reception building (built in 2010), with a short walk up past the abandoned quarry where the first entry to the cave was made. There is now a concrete slab over the original blasted entrance. The track continues up the hill to the right of the quarry. Here the excavated tunnel entrance is concealed by a concrete bunker fitted with a metal airtight door.

When the metal door is first opened we are greeted with a strong blast of chilled air. Inside a steep 70-step metal staircase, lit with strip lighting leads down to the first cave level.

Within ten metres of the door, our guide points out several frogs that have taken up residence in the excavated tunnel. At the bottom of the stairs one is immediately surrounded by calcite speleothems of all description ranging in colour from translucent to pure white through to dark orange and red. Our guide tells us not to touch formations as they can easily be damaged.



Image: Reception Centre at Grotte de Fontrabiouse



The tour continues along the passage with our guide pointing out various speleothems and features mentioned on our hand-held audio guide. There are aragonite flowers, dog tooth spar pool crystals, straws up to two metres long and even a butterfly shaped speleothem to name a few. A tastefully lit, crystal clear emerald green two-metre-deep pool next to the track contains stunning pool decorations. Most of the concrete path is reasonably flat with only a couple of spots to duck under low hanging stalactites. Further in we descend another 70-step metal ladder to a lower level that is at the approximate level of the excavated cave exit.

As my partner and I were the only two on the tour at the time, it was easy to take photos although I needed to hurry a little as the tour is normally one hour, however the guide was very patient with my photography and we were only a little over the hour.

We had talking handsets which provided commentary in English, once each station number was punched into the device, however I found most of the cave description talking about speleothems which looked like: a shark, jellyfish, angel's hair, a ghost, organ pipes, flowers, a butterfly etc, etc. This is probably OK for the average tourist, but not very informative if one wants to know more. So after hearing the commentary of just a few stations, my partner took over listening to the audio guide and just told me if there was something of technical interest while I took photos.

Our guide did speak some limited English, however my partner spoke French, so was able to translate some of the technical questions, which I had about the cave. Obviously being in a French show cave, I would not expect the guide to deliver his tour spiel in English nor any other language, so the talking handsets are very helpful for tourists speaking other languages. The audio handsets are available in English, Spanish, Catalan and German.

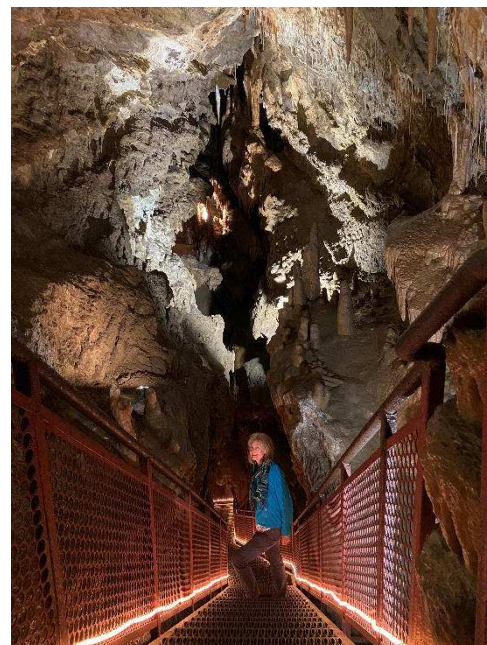
At one point I was horrified to see our guide play a tune by tapping a number of stalactites with the back of his knuckles. I had visions of one breaking off during the performance, which he obviously was well practiced at and played for every tour.

Most of the track is concreted and well graded, however there are two flights of stairs containing 70 steps each. The steep stairs would certainly be an obstacle to people with impaired mobility.

At one point our guide points up to the original entrance now blocked (by concrete) 20 metres up a shaft where the first opening was made into the cave. It must have been a big thrill for those first exploring this cave to descend into such a wonderful place. However, the force of the quarry blast which first exposed the cave, had obviously caused the breakage of some stalactites in the passage directly below the shaft. This would be expected as a consequence of the blast.

Toward the end of the tour, our guide points out a pit that has ropes dangling down into some lower passages. He said that this is where speleologists descend to explore another 10 km of passages not open to the public.

Then a little further on there is a human skeleton mannequin wearing an old helmet and carbide light. Our guide points this out as a caver who did not make it. This would certainly get a good laugh from the average tourist.



The tour finishes at an exit door that opens into the bottom level of the cave's reception centre. A short flight of steps brings us to the ticket sales counter and shop selling a range of souvenirs, rocks (fossils and crystals – thankfully no speleothems), wine, biscuits and a small selection of snacks.



Management issues from an outsider's perspective

There are very minimal barricades to protect speleothems from being touched or damaged by tourists, so one can only hope that the decorations remain in pristine condition into the future. One saving grace may be that most of the delicate decorations are just out of reach of the average tourist. However, there are plenty of speleothems which tourists brush past or duck under, so discolouration or damage will occur in this cave over time. The lack of fences and protective barricades from a photographic and aesthetic point of view is excellent.

The playing of tunes on the stalactites, sets a very bad example for the general public who are told at the start of the tour not to touch the formations (called concretions by the guide). Over time the stalactites which are being thumped to make a tune will become discoloured if they don't break first. This practice of tapping stalactites to play tunes, I thought had been discontinued years ago by the tour guiding fraternity, but it appears not so. I just hope these stalactites don't end up like many others used in the past to play music in other caves around the world.

Our guide explained that as we pass each section of the cave the lighting turns off after three minutes to reduce the likelihood of lampenflora. I could not ascertain quite how this worked as some areas we were in more than three minutes, so there must be motion sensors that I could not see. Whatever the system, it is working as there was not the slightest sign of lampenflora throughout the cave.

The cave temperature was around 6°C which is quite cold for a show cave. I saw no advertisement to tourists to wear warm clothing. We were warned in advance by a previous tourist to take warm clothing which we certainly needed, or my knees would have been knocking together before the end of the hour-long tour.

Photography with or without a flash, is permitted which is great as one can come away with captured memories of the experience. I will say that our guide was very accommodating in allowing me to take photos on the run. It may have been a little different if there was a large group on the tour.

Alternative tours – visitors are also offered cave tours with a step back in time theme, using only the light of carbide (acetylene) lamps. Each adult is supplied with a portable carbide lamp and for safety children under the age of 12 years are supplied with a helmet with a battery-operated headlamp. I can't really comment directly on this tour as I did not experience it, however if I draw on experiences from other similar tours (Smith 2012), I would expect to see a lot less of the cave using this type of lighting. Also, if in a large group, there is the possibility of singed clothing from the naked flame shooting out the front of the lamps. I do have concerns that fumes and soot emitted from these lamps may cause long term issues in the cave.

Site Management

The original marble quarry site and its operation was owned by the Fontrabieuse community and when the cave was discovered they (as owners) took care of its development and managed it up until 2010.

Through an arrangement called, "Delegation of Public Services" the town passed the management over to a private company to run the commercial operation (for an annual rent as well as a fee on entries). Since 2010 the developed part of the cave has been managed by Societe D'Exploitation Touristique De Sites Naturels (SETSN) roughly translates into English as "Company for tourist operation of natural sites". The company (created in 1987) has been in business for 35 years and specializes in the management of historic sites, monuments and similar tourist attractions.

Getting to Fontrabieuse

Pretty well the only way to get to Fontrabieuse is drive yourself. We approached from the east via Perpignan, Prades and Mont-Louis along the N116 highway. This highway is in good condition, most of which has a speed limit above 90 km/h, until reaching Villefranche-de-Conflent. From here the N116 begins climbing steeply up the beautiful valley alongside the Tet River to Fontpedrouse. The road then becomes extremely windy with hairpin bends and gradients up to 10 degrees as it snakes for 10 km up to Mont-Louis and a further three kilometres to La Llagonne. The last 19 km to the cave is along a wide-open valley with very few climbs and relatively straight road. Local drivers can be impatient and will overtake on blind corners if you don't drive fast enough.

Tourist information advertises the cave with driving times of 30 minutes from Font Romeu, 20 minutes from Mont Louis and 10 minutes from Les Angles.

If you have time on route, it is worth investigating the old towns and villages with narrow cobblestone streets and well-preserved building surrounded by fortified stone walls, many dating back to pre-1600s.

Tickets and opening hours

The cave is open daily to visitors from 2nd January to 1st November (the last day of All Saints' holiday) and from 5th to 30th December. Opening hours are between 10.00 – 12.30 and 14.00 – 17.30. Like most shops and businesses in France, the caves reception centre/ticket office/shop is closed between 12.30 – 14.00. When open the caves shop sells coffee, hot chocolate, and soft drinks with a small selection of snack food.

Tours times are: 10.30, 11.30, 14.30, 15.30 and 16.30.

Ticket Cost: Adults €13.50, <18 yo. €12.00, <13 yo. €7.80 and <5 yo Free, Student and Pensioner >65yo. €11.50, **Carbide lamp tours:** Adult: €19.90, Youth (14–17 years old), €17.90, Child (under 14 years old) €15.90. Not suitable for toddlers. Equipment provided: Acetylene lamps and electric head torches for under 12 yo.

Web Site: www.grotte-de-frontrabieuse.com – Tickets can be purchased online

Address Rue des Soulanets, 66210 Fontrabieuse.

Phone +33 (0) 468309555,

Email: fontrabieuse66@gmail.com,

Other high altitude show caves in Europe

The Wendelstein Höhle (pronounced ven-dell-styne hooler), in the far south of Germany at the eastern end of the Bavarian Alps has a natural cave entrance at 1,711 m ASL, making it the highest altitude show cave in Germany (Smith 2013).

Eisriesenwelt (pronounced ice-ree-sen-velt) in the Austrian Alps is reputed to be the largest ice cave in the world. However, in reality this cave is a limestone cave, which contains ice decorations all year round. The main entrance is approximately 1000 metres above the Salzach Valley at an elevation of 1,641 m (Smith 2012).

Acknowledgment – Thankyou to Katerina Fulton for checking this article.

References

Henri S. (2019) FONTRABIOUSE A man: Jean Bernoles - A cave: Fontrabieuse, Bibliography Archives personnel (salvayre@orange.fr.) Contribution of the Departmental Archives Services.

Smith G.K. (2012) Eisriesenwelt Ice Cave, ACKMA Journal 87, 16- 20.

Smith G.K. (2013) Wendelstein Höhle (Cave), Bavaria, Germany, ACKMA Journal 92, 29-31.