

## ARGENTINA CAVE REPORT

*by Tim Francis*

Richard has already recounted the story of this year's trip to Argentina in a previous article, so this report will briefly discuss the caves that we explored. The primary objective of the expedition was to survey Cueva Federación, a new discovery found during last year's conference. Secondary objectives were to visit the other caving areas around Malargüe. In particular a large strip of gypsum is found in the foothills of the Andes, roughly parallel to the Chilean border. Several caves have already been recorded suggesting that the gypsum in Argentina is a promising cave-bearing rock. The caving areas are located several hours drive from the nearest 'tarmac' road and are not accessible during the winter months due to snow.

### POTI MALAL

South West of Malargüe, close to the Chilean border, is the small valley of Poti Malal, a tributary of the Rio Grande. The gypsum in this area is notable for the impressive entrance of San Agustin and the recent discovery, Cueva Federación. Although we spent only two half days in the valley it soon became apparent that there is potential here for further discoveries.

San Agustin is essentially a large collapse feature that has resulted in a rubble ramp that descends as far as the water table. Opposite the entrance ramp is a huge boulder slope that ascends into the hill as high as the entrance. In periods of wet weather the floor is covered by water. There are no side passages and no realistic possibility for extensions.

The focus of our visits to Poti Malal was to undertake a survey of Cueva Federación and explore leads left from 2000. Typically for gypsum the cave begins with a loose, bouldery entrance. Beyond the choke is a large chamber littered with rocks and dominated by one large boulder on the left. The only exit from this chamber is a descent through boulders on the left-hand side. At this point the character of the cave changes and the passages are low sandy crawls. The draught in Federación is particularly noticeable in these crawls but is lost in an area of chokes above the T-junction. The choke can be climbed into, directly above the T-junction, to access a steeply inclined rift. No way at the top was apparent and the choke could only be followed in a loop that rejoins the sandy crawl further back.

To the right at the T-junction is Galeria Mendip. This extremely sharp, and in places rather tight, passage can be followed for approximately 100m until the way on is impassable. At several places there are voids in the choke on the left-hand side but none can be followed far. An effort with a hammer and crowbar might extend this fault-controlled passage further. Much of Galeria Mendip is well decorated.

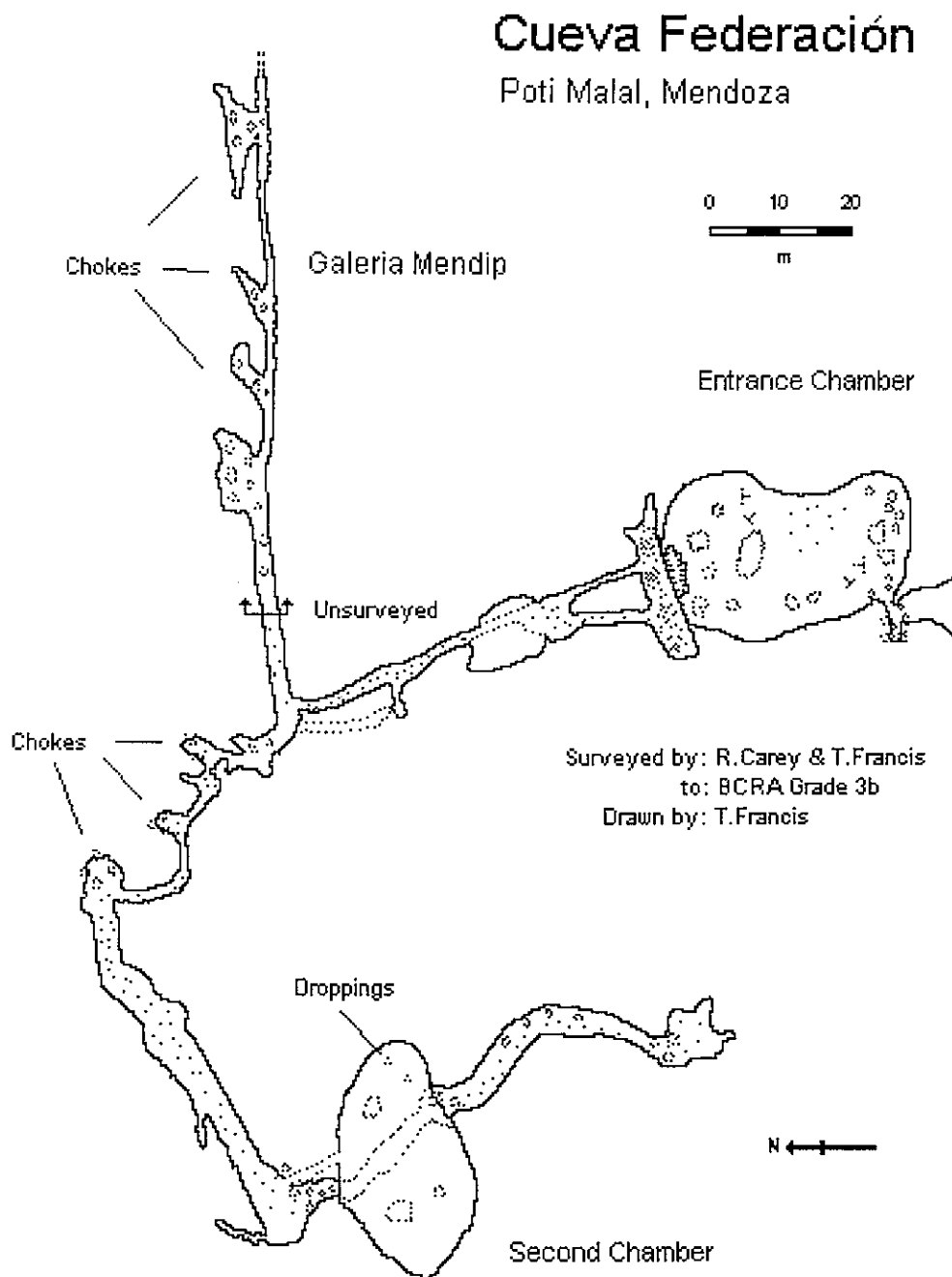
Turning left at the T-junction a low passage enters an area of boulder chokes. These are passed by descending a squeeze hidden behind a boulder on the left and wriggling along a flat out sandy crawl. The area beyond the squeeze was a new discovery for 2001. The choke can be accessed at several points but we found no obvious way on. After 30m the crawl pops out into some fine stooping-sized passage. The small passages on the right hand side are blind. Inevitably the passage ends in another boulder choke. This is passed at floor level to regain walking-sized passage.

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The choke is easily climbed at this point to enter the Second Chamber. This is slightly smaller than the entrance chamber and is similarly boulder-floored. The presence of animal droppings suggests that there may have been an entrance at this point in the past, now blocked by boulders. The survey does indicate that this chamber lies not far from the valley side. A second route into the chamber (unsurveyed) was forced through boulders to a connection with the passage below. Continuing along the main passage, the cave has developed into a fine meander: not what we were expecting in gypsum. This abruptly ends in yet another choke. Immediately beyond this choke is a small chamber with a floor of damp sand. There is a slight draught here but the choke could not be passed at roof level. Around the walls of the chamber is a tide mark that indicates that in wet weather it may half fill with water.

The cave length is 350m including roughly 100m of passage in Galeria Mendip left unsurveyed.



The only other notable cave in the Poti Malal valley is Doña Palmira. Although only 20m in length this cave is extremely significant. It is located on the valley side just above the level of the river. Immediately inside is a large sump (undivided) which suggests that there is a flooded phreatic layer in the valley. Above the sump is a short length of fine phreatic passage, stooping-sized in height, with a small vadose trench. This is blocked after a short distance but the vadose trench looks diggable.

Other spelæological features were noted in the valley. A possible fossil resurgence was spotted immediately below the entrance of Federación. This draughts slightly but was only given a cursory dig. However further down valley is an active resurgence with water emerging from a bank of soil. Above Federación we briefly looked at the hillside. The gypsum here is extremely weathered and there are small caves associated with faults and weathering. One did have a strong draught but needs a bit of digging out. From the top of the ridge we were able to look down on the next valley which also contains gypsum. This has not been looked at and may be worth a visit.

#### PINCHEIRA

Nearer to Malargüe, to the west, is small outcrop of gypsum at Pincheira. This was worth the visit if only for the impressive scenery and in particular the picturesque weathered rocks at Castillos de Pincheira. The outcrop of gypsum, much of which is being quarried away, contains a number of small caves. Most are extremely loose and dusty although in places they are well-decorated. We visited four or five just to get a flavour of the place. There is little potential for large cave development here, and the landscape was reminiscent of the hillside above Poti Malal.

#### LAS LEÑAS

The gypsum can be accessed again further to the north near to the ski resort of Las Leñas. The area is notable for some hot springs and the Pozo de Las Animas. The latter are two large water-filled holes in the lateral moraine of the Rio Salado valley. Due to the atrocious weather we virtually did not leave the car but did note one cave by the roadside. The road was poor so we did not drive much beyond the resort. With hindsight I think this area would be worth further investigation.

#### CUEVA DEL TIGRÉ

This was the only lava tube that we visited this year. The cave is used as a wild show cave due to its close proximity to the road and easy walking sized passage. Our interest in the cave was to see if we could follow the huge draught at the end. Four hours were spent digging out a sand-filled tube. Digging conditions were horrendous. The basalt was extremely sharp and the visibility was virtually zero as we stirred up huge clouds of dust. Fortunately we had come equipped with a bag of dust masks. Excellent progress was made but we were unable to break through. The dig ended under an area of boulders with airspace and a howling draught. More passage here is a certainty!

Above ground we headed off across the featureless lava plain to see if we could find another entrance. After a couple of hours under the blazing sunshine we called it a day. On a previous day we had driven around looking for a cave that a local farmer had spotted. As is always the way with these things, the location description didn't fit the topography. But bearing in mind the huge expanse of basalt in the area related to the El Payan volcano, there are undoubtedly more lava tubes to be found.

#### BARDAS BLANCAS

Near to Malargüe there is a relatively large area of Jurassic limestone which contains the Cavernas de Las Brujas. Brujas has been converted into a showcave and the limestone hills surrounding it form part of a reserve. There is no access to Brujas for cavers or the promising limestone behind it for exploration. Hence we were restricted to exploring some of the outlying fragments of limestone that top some of the hill tops around the reserve. These fragments are too steeply bedded and too thin to contain significant lengths of passage. Despite this we did find a couple of small caves with one surveyed to a length of 24m.

#### CONCLUSION

Of all the cave-bearing rocks near Malargüe, the gypsums would seem to hold out the best prospect for large cave development, although lack of good roads means that the best way forward would be to camp at Poti Malal for several days to maximise use of time. At present the most promising area of limestone that lies behind the back of Cavernas de Las Brujas is off limits to cavers. There is undoubtedly considerable scope for further lava tube discoveries, although exploration of the remote basalt scrub will be difficult.