

Liangshan 2006

Hong Meigui Cave Exploration Society Reconnaissance Expedition to Sichuan and Gansu, People's Republic of China

July-August, 2006



In Ke Deng Cun Dong, Yanyuan County, Sichuan, P.R.C.

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Check <http://hongmeigui.net> for online version, enhanced maps, surveys, etc

Contents

Summary.....	5
Expedition members.....	5
Leibo.....	6
Site Records.....	7
Yanyuan.....	8
Site Records.....	14
References.....	29
Wudu.....	30
Site records.....	31
References.....	32
Administration.....	33
Logistics.....	33
Accounts.....	34

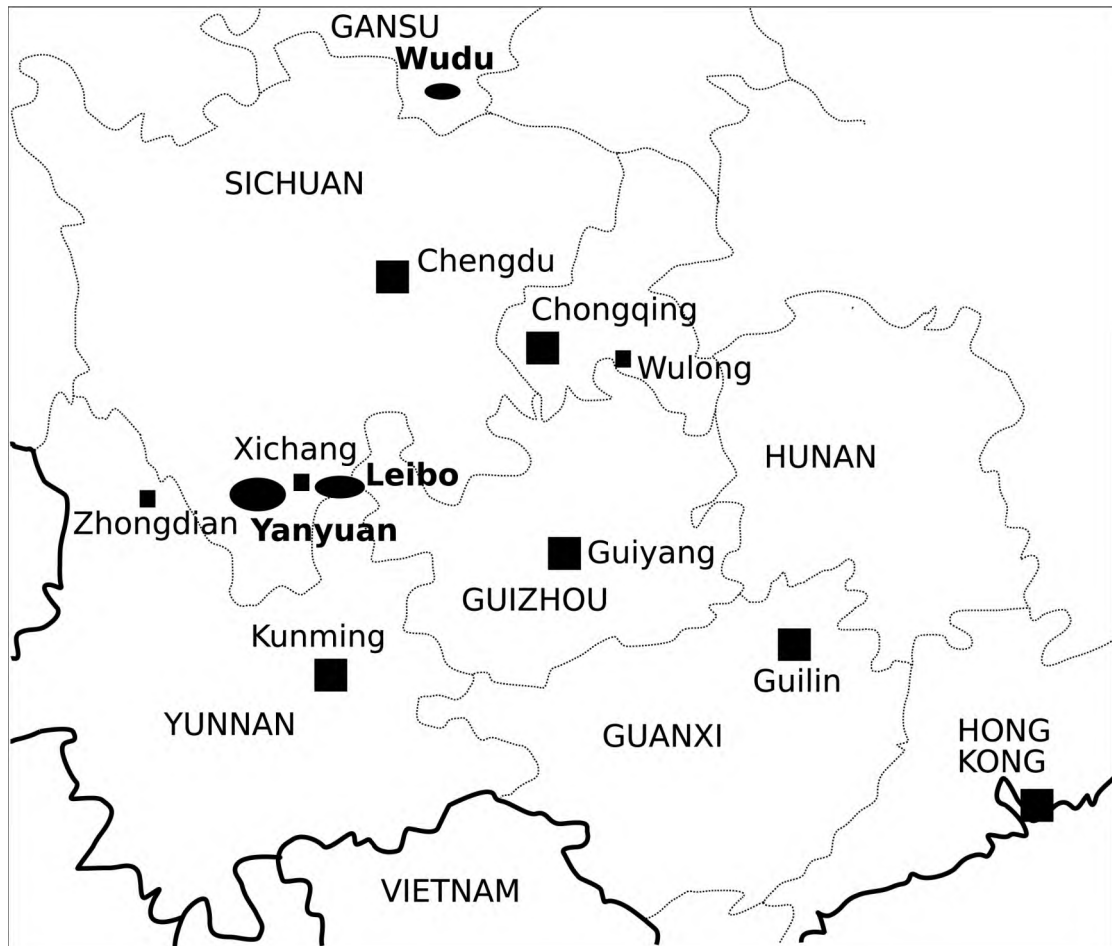


Figure 1. Map showing the location of Expedition areas in SW China.

Summary

The expedition investigated three different areas (Fig. 1), looking for unrecorded cave entrances. The first two areas were in the Liangshan Yi Autonomous Prefecture of Sichuan Province. One of China's largest and more colourful ethnic minorities, the Yi, dominate this area. This adds greatly to the experience, with many women wearing characteristics square headdresses and colourful striped skirts; not least is the use of their own language, which also has its own writing system. The area has also been occupied by Tibetan minority groups.

- An area to the west of the Jinsha Jiang (Yangtze river), between the county towns of **Leibo** and **Meigui**, was visited in the first week. This area was generally disappointing as the limestone is not as thick as anticipated and is interbedded with other rock types, including lavas. However, there is karst to be explored there.
- Reconnaissance of a second area north of **Yanyuan** (Fig. 1) revealed an extensive area (~35 x 35 km) of well developed karst. This confirmed the exciting potential of this new area, which has potential for long and deep systems with limestone from some 4410 to 1750m above sea level). The area contains shafts, caves, numerous large dolines, and several blind valleys where water sinks.

The third area was in Gansu Province

- A small team spent two days near the town of **Wudu**, which lies to the north of Chengdu (Fig. 1). The team reported a very large expanse of limestone. This includes a high karst plateau that lies above a show cave which is over 1 km long, and has passages that are over 50 m wide. This area also looks very promising and has depth potential of up to 1,500 m.

Sites were logged and given identifiers according to the Hong Meigui standard.

Expedition members

Leibo and Yanyuan:	Duncan Collis	(UK; resident in China)
	David Haskel	(USA; resident in China)
	Martin Laverty	(UK)
	Matt Ryan	(UK; resident in China)
	Lenik anak Saymo	(Malaysia; resident in UK)
	Yvo Weidmann	(Switzerland)
Yanyuan:	Fleur Loveridge	(UK)
	Pete Talling	(UK)
Yanyuan and Wudu:	Johan Bengtsson	(Sweden)
	Simon Flower	(UK)
	Andy Sewell	(UK)
	Sarah White	(UK)

Leibo

Geological and relief maps had suggested a visit to this area would be worthwhile but roads are few and population sparse making exploration slow – one collapsed road near the end of a planned round trip required an extra day to retrace our route. We found little response to enquiries about caves but one was partially explored upstream of the Xiluodu Hydropower Station dam site below Leibo but it had clearly been explored by the Chinese, probably in connection with the detailed hydrological and environmental assessments which would have been needed. Resurgences and high limestone were seen on the far (Yunnan) side of the Yangtze river, and that area may be worth further investigation.



Figure 2. (left) Leibo has a lake; it is said to empty every few years by a subterranean route. (right) A large resurgence in Yunnan viewed across the turbulent Jinsha Jiang. This will be flooded by 2012 because of the new hydroelectric dam downstream.



Figure 3. (left) Roads impassable due to collapse or blockage are not uncommon. (right) SE of Meigui was a large internally draining potato field. There was more limestone above but the geology was very mixed.

Site Records

UTM Zone: 47R

Exploration and location status code:

O unexplored; Ø incomplete; X complete.

o,ø,x: same, but location less precise location

O 48H-L4-001**Location:** UTM:

Just outside Leibo by road down towards Jinsha Jiang

Description: Large entrance by road, formed in conglomerate/alluvium**Prospects:** Probably just a large alcove**Tackle:** None.**References:****o 48H-L4-002****Location:** UTM:

On opposite bank of Jinsha Jiang from 48H-L4-003

Description: Obvious resurgence at base of large cliff on E side of river.**Prospects:** Appears enterable**Tackle:****References:****Ø 48H-L4-003 Mu Chang Dòng 木场洞****Location:** UTM: 358719 3121933 Altitude: 462

From the first town below Leibo, walk approx 1km upriver. On left side is a concrete irrigation pond. From there follow path down along cliff.

Description: Entrance approximately 50m above Jinsha Jiang, in cliff next to abandoned/ruined two storey stone structure. Entrance 8m wide, 3m high. Man made channel running out of cave was used for electricity according to local.**Prospects:** large passage, ongoing with swim in deep water. Little draught.**Tackle:** Buoyancy aid and wetsuit.**References:** David Haskel, Yvo Weidmann**Length: 482m (surveyed; 480m plan); Vertical range: 11m****Location:** LL: 103.12177 28.27183 Altitude:

Take track from road just S of Meigui through several villages

Description: Collapse depressions seen in large closed depression.**Prospects:** Few – likely to be shallow and choked.**Tackle:** unlikely.**References:** David Haskel, Yvo Weidmann

Yanyuan

The town of Yanyuan is a 4 hour bus ride from the city of Xichang. An intrepid botanist called Heinrich Handel-Mazzetti, stranded in SW China by the first world war [ref.1] reported ‘bottomless chasms’ in this area that resembled the classic Dalmation karst and his native Austrian Tyrol. These reports were supported by satellite photographs suggesting large expanses of doline fields together with more rugged high altitude karst.



Figure 4. NLT LANDSAT 7 visible colour image from WorldWind (ref.2) showing doline-pocked cultivated plateaux around Baiwu (lower centre) contrasting with forested uplands to the N (top).

Our first trip from Yanyuan was by bus on a good tarmac road over the limestone plateau to the NW. We had hoped to stop at a village in the karst but none of any size was seen before arriving at the col adorned with Tibetan chortens where the road plunges down into the valley en route to the modern Tibetan town of Muli (NB Muli monastery is much further up the valley) so we continued to there, seeing the limestone continue a substantial way down the slope.

On returning, a name suggesting a resurgence (Dragon Pool) seen on a large map of Yanyuan County at one of the 3 bus stations in Yanyuan provided an area for one group to investigate while the rest established that the base for further exploration would be the small village of Baiwu, which is about an hour by bus N of the large town of Yanyuan,

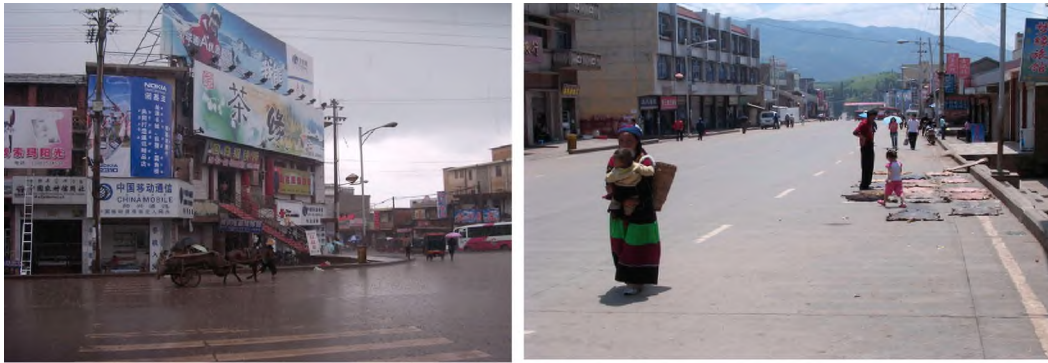


Figure 5. (left) Yanyuan is the county town and has a wide variety of shops, markets, and restaurants. New and old mingle – a horse-drawn cart passes mobile phone advertising and (right) a traditionally dressed woman passes skins drying on the street after the torch festival to celebrate Yi New Year (24th July in 2006)



Figure 6. Baiwu has basic food, ethnic clothing, and agricultural shops, an open air butcher, a basic guesthouse (left), and several small restaurants (right) that serve relatively varied and tasty local food. You can buy beer and ice cream nearby. A slap meal and several beers costs ~ 50p. Accommodation is ~ £1 per night.



Figure 7. (left) Baiwu is a local centre on the low plateau from which ridges rise to the partially deforested mountains to the N. (right) The forest includes rhododendrons and pines.

Baiwu lies within a large area of deeply weathered karst that extends for $\sim 35 \times 35$ km which does not appear to have been previously explored for caves by speleologists. The village lies on the gently southward dipping northern flank of the Yanyuan basin. The Zala Mountains rise beyond Baiwu and form the northern rim of this basin. The northern flank of the mountains drops steeply to the major gorge of the Litang river with total relief in excess of 2000 metres.

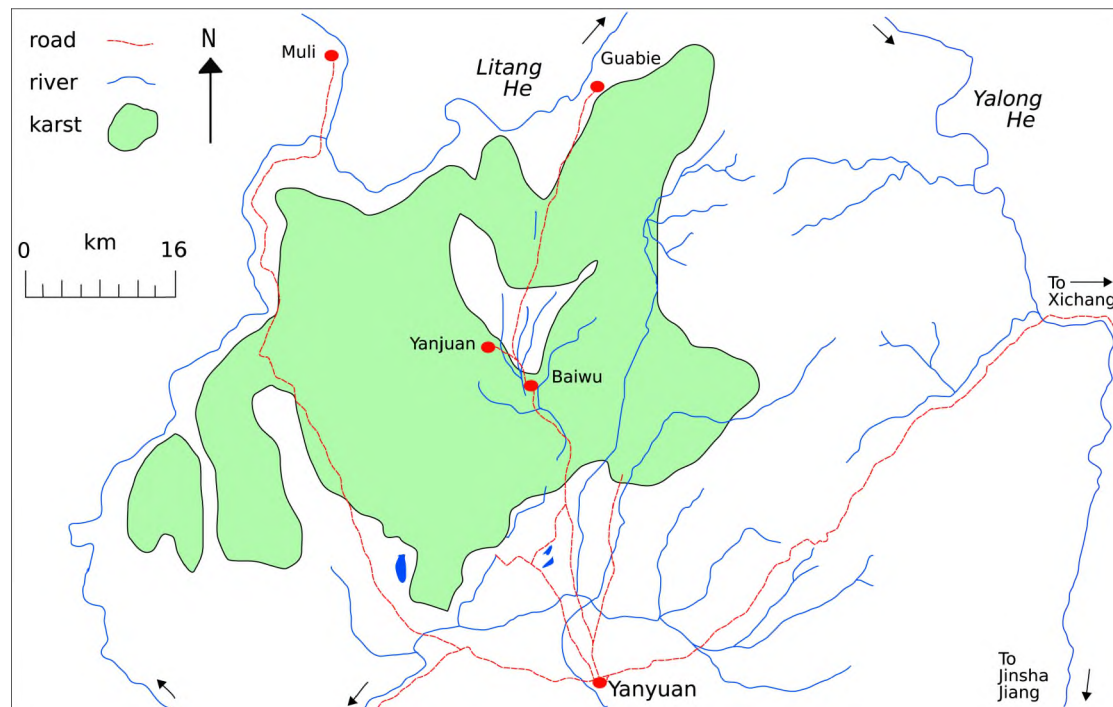


Figure 8. Schematic map of main places visited, inferred karst area, drainage, and roads. Note that the basin drains to the south west, but the river then turns north and eventually joins the Yalong flowing south to join the Jinsha Jiang (Yangtze).

We were surprised to find that an American anthropologist has set up a charity which has built a new school at Yangjuan (sic) 3 km northwest of Baiwu [ref.3]. This school is visited by volunteers from Taiwan, USA, Japan and France and research students from the University of Washington, especially when studying in China. These are the only foreigners we met in the area, and they were a valuable source of translators and friendly advice. Most people in Baiwu spoke a Yi dialect rather than Mandarin. An account of the waves of change of people, politics, and ecology which have swept this area can be found at [ref.4] and further climatic and background information in the ethnobotanical study at [ref.5].

A bus route heads north for ~ 20 km from Baiwu to the village of Guabie. This bus route greatly aids transport of cavers and their gear. The botanist Handel-Mazzetti stayed in Guabie. He reported that there were ‘bottomless pits and deep chasms in the limestone’ in the vicinity of Guabie, which lies on the steep northern flank of the

mountains. On his return to Yanyuan from Guabie along a valley ‘marked by numerous depressions and cave-ins’ he found ‘a swallow hole in the limestone’ that he estimated to be 80 metres deep, as it took a stone four seconds to reach the bottom. This valley appears to coincide with the modern Guabie-Baiwu bus route. We observed that the valley contains large dolines with cave entrances, one explored to 120m deep.

The Yanyuan Karst can be subdivided into low-lying karst plateaus, intermediate valleys and wooded hillsides, and high plateaus with small shrubs and heather, summaries of which follow:

Low lying karst plateaus: These plateaus are pockmarked with deep dolines that are clearly visible in satellite images [eg ref.5]. Examples, commonly several tens of metres deep, occur on either side of Baiwu and to the SW next to the Yanyuan-Muli main road. The dolines are usually set amidst fields of buckwheat and potatoes except where the soil cover thins to support only grazing of cattle, sheep and goats. Karren fields are not uncommon. Numerous entrances were logged in the dolines, although time allowed only a few to be descended. The longest cave explored was an 800 m long through trip 5km walk to the NE of Baiwu. There is obviously a significant amount of cave passage below these karst plateaus, but with minimal depth potential.

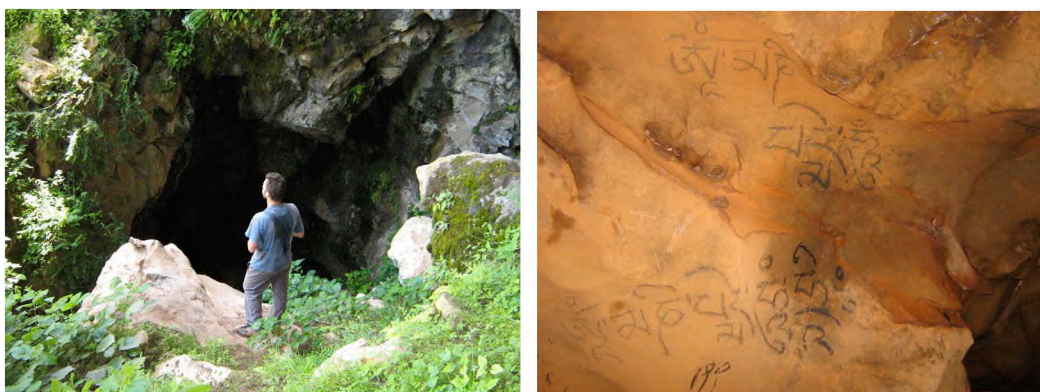


Figure 9. (left) San Dui Dong entrance (right) Tibetan graffiti near the bottom of San Dui Dong.

Intermediate Elevations: Significant numbers of large dolines were also found at intermediate elevations along the Baiwu-Guabie bus route, in an area with large internally drained valleys. Many of these dolines take lots of water when it rains. Entrances in these dolines were descended to -120 metres, and in some cases vertical pitch series were left ongoing. In addition to the vertical pots below the dolines, we saw evidence for large horizontal passages. A collapse feature of at least 50m diameter near the bus route is particularly noteworthy. The main passage is blocked but a small hole in the cliff was left unentered. In many areas there is dense forest at this intermediate elevations that makes prospecting for entrances difficult.



Figure 10. (left) The bus to Guabie from Baiwu. (right) The Yi seem to have taken to playing pool, and pool tables can be found in the smallest villages in the mountains.



Figure 11. (left and right) View of the 50 m diameter collapsed entrance from the bus route.



Figure 12. (left) Fleur rigging down Swallow Cave. (right) Camp next to cave already explored to 120m depth. Camp is 15 m from bus route which helps the beer supply.

High Plateaus: Surprisingly given the amount of water sinking, we saw almost no resurgences on the southern flank of the mountains. It may be that the caves drain towards the deep gorge on the northern side of the mountain range, in which case they may have significant depth potential. There is up to 2,100 metres of depth potential between the high plateaus and the base of the limestone in the gorge. Exploration of the high plateaus is a priority. We had little time to explore these high plateaus. Pete and Fleur were shown and logged 15 entrances near the crest of the Guabie-Baiwu bus route in a period of ~ 4 hours.



Figure 13. (left) Si on a pitch in a 120 m deep cave at intermediate elevation, that is still ongoing. (right) Fleur logging unexplored entrance on high plateau.

Si and Johan traversed this high plateau back to Baiwu, and reported large expanses of limestone and karst features. The high plateaus seem to lack the large dolines seen at low elevations, but there are several blind valleys.



Figure 14. "Si and Johan traversed this high plateau back to Baiwu, and reported large expanses of limestone and karst features".

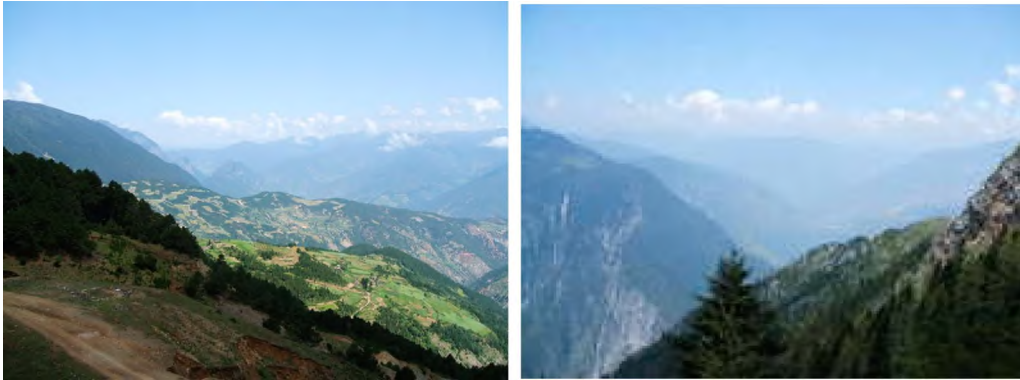


Figure 15. Looking NW (left) and N (right) from the Zala Mountain to the 2km deep gorge of the Litang He.

Site Records

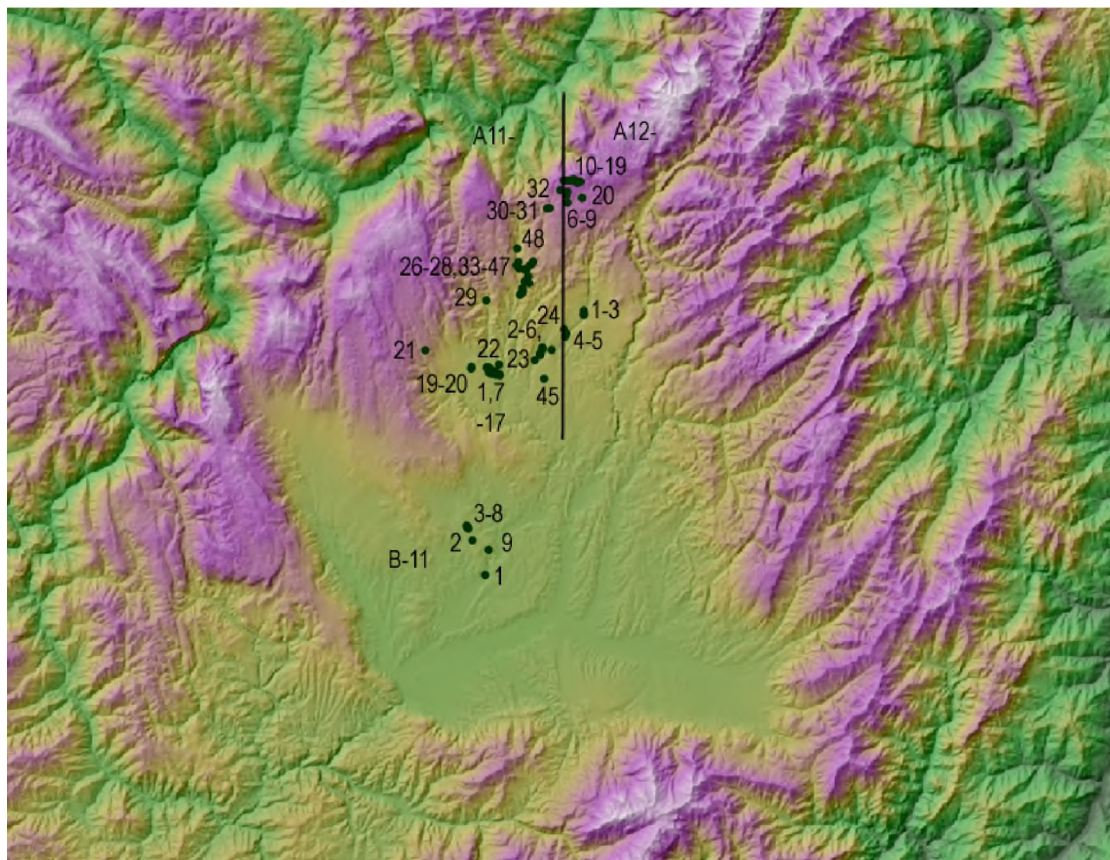


Figure 16. Cave sites plotted on a relief shaded map of the Yanyuan area created from NASA Satellite Radar Topography Mission data [ref.6] using Landserf GIS software [ref.7]. Altitude is indicated by colour from around 1500m in green to 3000m in purple and 4000m in white.

GPS Coordinates in UTM Zone 47R using WGS84 datum
 Surveys calculated and initially drawn with Therion [ref.8]

Exploration and location status code:

O unexplored; Ø incomplete; X complete.

o,ø,x: same, but location less precise location

X 47G-A11-001

Location: UTM: 740697 3063748
 Obvious entrance on left hand wall, across river from road from Baiwu to the school. From 47G-A11-007 following for 500m the river upstream. Entrance is located in the same ridge as 47G-A11-008 and 47G-A11-007.

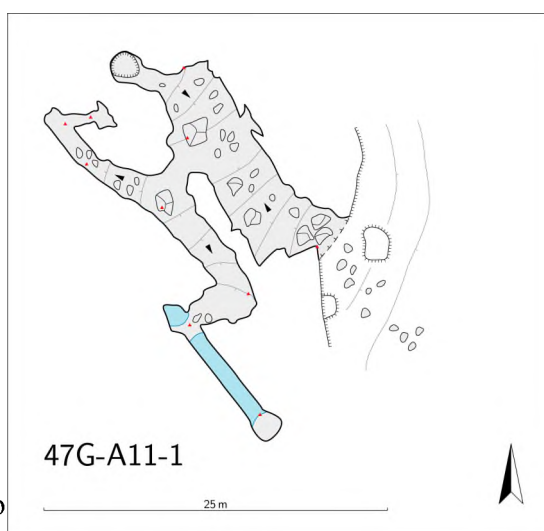
Description: 5mx5m entrance (arched) small passage off entrance chamber with passages continuing in both directions. Also shaft entrance to entrance chamber.

Length: 61m (surveyed; 56m plan); **Vertical range:** 13m

Prospects: None

Tackle: None.

References: Matt Ryan, Martin Laverty, Lenik anak Saymo, David Haskel, Yvo Weidmann



O 47G-A11-002

Location: UTM: 744468 3065151 Altitude: 2606

Walk E from Bai Wu, follow large track above river. Entrance is to the R

Description: 2m diameter shaft with brambles. ~3m deep then stones roll a short way down a slope.

Prospects: Probably choked

Tackle: No tackle needed

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

O 47G-A11-003

Location: UTM: 744469 3065119 Altitude: 2612

Walk E from Bai Wu, follow large track above river. Entrance is to the R near 47G-A11-002

Description: 1m diameter entrance at base of crag in shakehole.

Prospects:

Tackle: No tackle needed

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

X 47G-A11-004

Location: UTM: 745445 3065574 Altitude: 2584

In bank 10m above river

Description: Rock shelter 1.5m dia, 1.5m deep.

Prospects: None

Tackle: None

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

X 47G-A11-005

Location: UTM: 744651 3065618 Altitude: 2628

~3km NE of Baiwu

Description: Twin pots 4m and 8m diameter choked 6m down

Prospects: None

Tackle: None

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

O 47G-A11-006

Location: UTM: 744475 3065272 Altitude: 2623

~2.5km NE of Baiwu

Description: Twin pots, smaller is blind, the larger is probably blind.

Prospects: Probably blind.

Tackle:

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

X 47G-A11-007 Niǎo Cháo Dòng 鸟巢洞 Bird's Nest Cave

Location: UTM: 741039 3063486

Altitude: 2547

From Xian Shi Dong 150m in the same ridge upstream.

Description: Cave finishes after ~25m in a breakdown, no air flow.

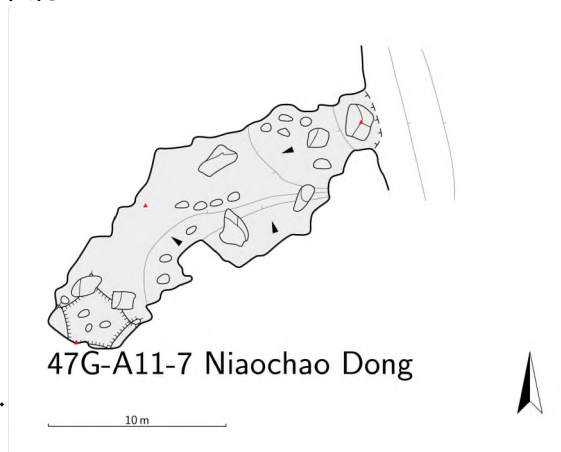
Length: 22m (surveyed; 22m plan);

Vertical range: 3m

Prospects: None

Tackle: Horizontal, no tackle needed.

References: David Haskel, Yvo Weidmann



O 47G-A11-008 Xiān Shí Dòng 仙石洞

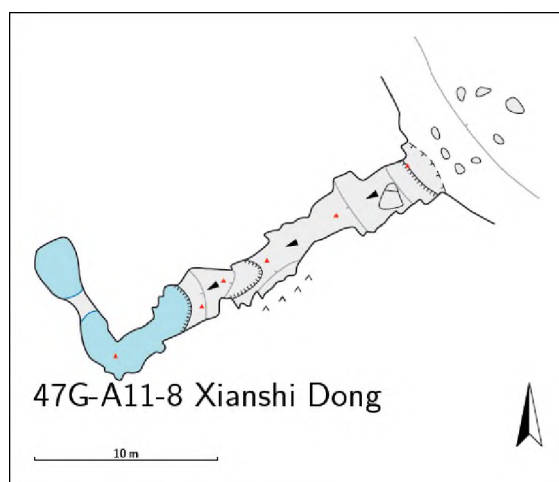
Celestial Rock Cave

Location: UTM: 741060 3063421

Altitude: 2548

Heading from town to river, gently upstream to the first bridge, follow the river on its right side (view downstream) follow the trail for 300m. The cave is located at the ridge.

Description: The lake seems to sump with a short swim you get around the corner. Not sure if it goes, no particular air flow.

Length: 24m (surveyed; 19m plan);**Vertical range:** 13m**Prospects:** Probably sumped.**Tackle:** Piece of 5m rope to get to the lake can be attached on flowstone**References:****O 47G-A11-009****Location:** UTM: 740726 3063441 Altitude: 2592

From Baiwu, go to Xianshi Dong and climb cliff up to plateau, 10m walk to entrance due east.

Description:**Prospects:** ~15m entrance shaft**Tackle:** 20m rope, some slings, bolting kit, rope protector.**References:** David Haskel, Duncan Collis, Yvo Weidmann**X 47G-A11-010****Location:** UTM: 740359 3063548 Altitude: 2599

From Baiwu go to Xianshi Dong and climb cliff to plateau. 15 min walk NE

Description: 8m diameter steep-sided depression. Rubble-choked arch below crag in depression

Prospects: None**Tackle:** None**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-011****Location:** UTM: 740285 3063589 Altitude: 2606

15min walk NE from Xianshi Dong on top of plateau

Description: Under overhanging bushes 2m dia entrance 3m slippery climb down to rubble slope

Prospects: Climb down to rubble slope**Tackle:** Handline**References:** David Haskel, Duncan Collis, Yvo Weidmann

X 47G-A11-012**Location:** UTM: 740161 3063611 Altitude: 2599**Description:** 20m x 10m doline, path down at South end. Mud choked. Locals say it once lead to a river.**Prospects:** None**Tackle:** None**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-013** Mù Du (木都) (??)**Location:** UTM: 740224 3064001 Altitude: 2586

20m from edge of cliff, 20 mins walk NE of Xianshi Dong

Description: 2m x 1m shaft, possibly up to 40m deep**Prospects:** Good, but only 50m above river.**Tackle:** Bolting kit, slings, 50m rope.**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-014****Location:** UTM: 740108 3064063 Altitude: 2594

50m from Mudu to the West

Description: 4m diameter shaft, 10-20m deep**Prospects:** Pitch**Tackle:** Rigging kit, 20m rope**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-015****Location:** UTM: 739930 3064083 Altitude: 2606

~300m West of Mudu

Description: 2 dolines, 15m and 8m diameter. Steep sided and overgrown. Probably blocked ~10m down but need descending to check.**Prospects:** Probably choked.**Tackle:** Rope and a slasher needed.**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-016****Location:** UTM: 740284 3063735 Altitude: 2597**Description:** 50cm diameter hole, ~3m deep to rubble slope.**Prospects:** Unlikely**Tackle:** Rigging kit, 20m rope**References:** David Haskel, Duncan Collis, Yvo Weidmann**O 47G-A11-017****Location:** UTM: 740097 3063843 Altitude: 2594**Description:** ~3m diameter collapse with 1m diameter ~20m deep shaft**Prospects:** Pitch**Tackle:** Bolting kit, 25m rope**References:** David Haskel, Duncan Collis, Yvo Weidmann

O 47G-A11-018 Bái Yán Dòng 白岩洞

Location: UTM:

Local describes “very deep” cave, 5 hours hike North from Baiwu

Description:

Prospects:

Tackle:

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-A11-019

Location: UTM: 738633 3064126 Altitude: 2640

Description: 120m diameter doline with pond at bottom. Rock shelter on N side plus unentered entrance

Prospects: Possible walk-in entrance

Tackle: None

References: Duncan Collis, Yvo Weidmann

O 47G-A11-020

Location: UTM: 738614 3063978 Altitude: 2644

Near 47G-A11-019

Description: ~20m pitch in recent collapse ~4m dia. Possible bedding-plane pitch bypass.

Prospects: Good, but only 50m above river.

Tackle: 30m rope, bolting kit

References: Duncan Collis, Yvo Weidmann

O 47G-A11-021

Location: UTM: 734729 3065541 Altitude: 3100

Take track to Mainba, continue up hill on track to Sangezuan. Entrance in slight depression to R. of track.

Description: Small entrance that appears to act as a sink in wet weather.

Prospects: A bit small

Tackle: No tackle required. Oversuit needed.

References: Duncan Collis, Martin Laverty, Lenik anak Saymo

X 47G-A11-022 San Dui Dong**Location:** UTM: 740979 3064308

Altitude: 2547

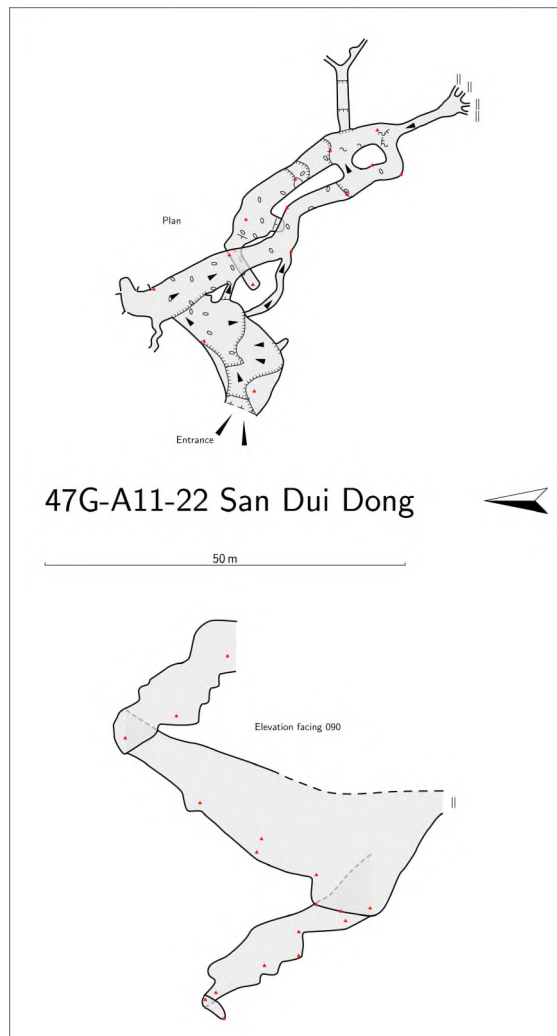
Walk N from Baiwu towards the school. Turn L at the first crag beyond the bridge. Entrance is beyond a col.

Description: 6m wide entrance near 2 stream sinks. Tall walking passage descends a series of climbs to a gravel choke.

Length: 180m (surveyed; 161m plan); **Vertical range:** 54m

Prospects: Finished**Tackle:** No tackle needed

References: David Haskel, Duncan Collis, Yvo Weidmann

**O 47G-A11-023 (PF1)****Location:** UTM: 744643 3065776 Altitude: 2624

To north east of Baiwu in side of first steep valley to cut plateau and feed into main valley

Description: Shaft – poss 10m (3 second rattle). Lots of vegetation.

Prospects: Level not that high above water table??

Tackle: Bolts probably required.

References: Pete Talling, Fleur Loveridge.

O 47G-A11-024 (PF2)

Location: UTM: 746472 3067307 Altitude: 2697

Take main track north east out of Baiwu, cross subsidiary valley. Entrance to right of track on plateau.

Description: Shaft. 3-4 second rattle.

Prospects: Again on lower plateau.

Tackle: Not recorded. Rope and rigging kit, presumably.

References: Pete Talling, Fleur Loveridge.

O 47G-A11-025 (PF5)

Location: UTM: 744020 3064690 Altitude: 2607

To left of main track on way out of Baiwu when heading north-east.

Description: Shaft, probably choked.

Prospects: Probably choked.

Tackle:

References: Pete Talling, Fleur Loveridge.

X 47G-A11-026 (PF6)

Location: UTM: 742764 3070243 Altitude: 2744

Follow main path/road north out of Baiwu for ~2 to 4 hours. Located to right of road as soon as enter limestone.

Description: Large doline/sink. No way on at base.

Prospects: None

Tackle: None

References: Pete Talling, Fleur Loveridge.

O 47G-A11-027 (PF7)

Location: UTM: 742919 3070368 Altitude: 2740

To right of road further up than 47G-A11-026.

Description: Water chute at base to 5m shaft. Others look choked.

Prospects: 5m shaft

Tackle: Not recorded. Rope and rigging kit, presumably.

References: Pete Talling, Fleur Loveridge.

X 47G-A11-028 (PF8)

Location: UTM: 742680 3072434 Altitude: 2825

Continue to follow road from 47G-A11-027, where road leaves main valley you can see entrance ahead of you.

Description: Very large hole with cliffs around it. Enter at arrow.

Prospects: No way on at base.

Tackle: None.

References: Pete Talling, Fleur Loveridge.

O 47G-A11-029

Swallow Cave

Location: UTM: 739913 3069746 Altitude: 2777

Head towards Yangjuan and go up the furthest (westerly) of the major north trending valleys, limestone gorge enters on right ~1hr after Yangjuan, cave is above this to left in depression. Head towards Yangjuan and go up the furthest (westerly) of the major north trending valleys, limestone gorge enters on right ~1hr after Yangjuan, cave is above this to left in depression.

Description: Descend depression from southern side, contouring down to upper entrance. Base of depression takes small trickle of water. Enter upper entrance.

Choked ahead, rift to right leads to drop of ~1m.

Prospects: Short drop and possible lower entrance.

Tackle: Need short rope.

References: Pete Talling, Fleur Loveridge.

O 47G-A11-30 (PF9)

Location: UTM: 0745062 3077551 Altitude: 3194

O 47G-A11-31 (PF10)

Location: UTM: 0745270 3077569 Altitude: 3179

O 47G-A11-32 (PF11)

Location: UTM: 0746188 3079102 Altitude: 3562

O 47G-A11-33 (PF12)

Location: UTM: 0743873 3073040 Altitude: 2943

O 47G-A11-34 (PF13)

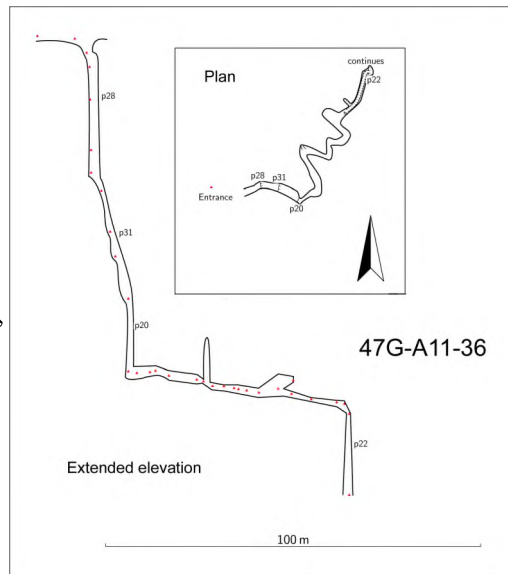
Location: UTM: 0743775 3072851 Altitude: 2923

O 47G-A11-35 (PF14)

Location: UTM: 0743581 3072748 Altitude: 2896

Ø 47G-A11-36 (PF15)**Location:** UTM: 0743126 3072388

Altitude: 2859

Description:**Length:** 190m (surveyed; 87m plan);**Vertical range:** 122m**Prospects:** Still going....**Tackle:** .**References:** Sarah White, Andy Sewell,
Simon Flower, Pete Talling, Fleur
Loveridge**Ø 47G-A11-37 (PF16)****Location:** UTM: 0742963 3070787 Altitude: 2755**Description:** a surface shaft of about 50m**Prospects:** Still going....**Tackle:** .**References:** Simon Flower, Andy Sewell**X 47G-A11-38 (PF17)****Location:** UTM: 0742989 3070528 Altitude: 2779**Description:** a surface shaft of about 40m, gets into large chamber at the bottom, but no visible way on (the water disappears down a tiny hole in the mud). (There's big walls of mud about 8m high..)**Prospects:** None.**Tackle:** .**References:** Sarah White**○ 47G-A11-39 (PF18)****Location:** UTM: 0742925 3070390 Altitude: 2745**○ 47G-A11-40 (PF19)****Location:** UTM: 0743459 3071780 Altitude: 2849**○ 47G-A11-41 (PF20)****Location:** UTM: 0743533 3071215 Altitude: 2794

O 47G-A11-42 (PF21)

Location: UTM: 0743137 3071361 Altitude: 2823

O 47G-A11-43 (PF22)

Location: UTM: 0743216 3072338 Altitude: 2836

O 47G-A11-44 (PF23)

Location: UTM: 0743307 3072344 Altitude: 2828

O 47G-A11-45 (CAVE3,TEMP2)

Location: UTM: 744791 3063125 Altitude: 2631

On path heading NE from Baiwu. Located in doline that will probably take small stream in rain.

Description: Short dry stream bed in a depression sinks into entrance 1.5 x 1.5m. 2-3 second drop onto rocky floor. No draft.

Prospects: Good.

Tackle: 1-2 bolts needed.

References: Si Flower, Johan Bengtsson.

X 47G-A11-46 (CAVE4,TEMP3)

Location: UTM: 742624 3073008 Altitude: 2834

On hill overlooking closed depression. Thrashing required.

Description: 3 x 3m horizontal entrance. Horizontally developed cave, trending upwards into hill, fossil, perhaps 40m long. Rift in the floor that was descended 3-4m before becoming too tight (floor seen). No draft. (not surveyed)

Prospects: No prospects.

Tackle: None.

References: Andy Sewell, Si Flower

O 47G-A11-47 (CAVE5,TEMP4)

Location: UTM: 742454 3072752 Altitude: 2787

In doline south of path leading W from main road N of Baiwu. Located on small col.

Description: Small drop through boulders leading to ~15m drop onto rocky floor. No obvious draft. Probably takes water when rains.

Prospects:

Tackle: Back up on natural, bolt for free-hang.

References: Andy Sewell, Si Flower

X 47G-A11-48 (SINK2,TEMP5)

Location: UTM: 742516 3074158 Altitude: 2754

In enormous closed depression W of road N of Baiwu. Small stream disappears into impenetrable rocks. Above R of this is cave.

Description: Really only an alcove. 20M high entrance, 20m deep, 10m wide.

Prospects: No prospects.

Tackle: None

References: Andy Sewell, Si Flower

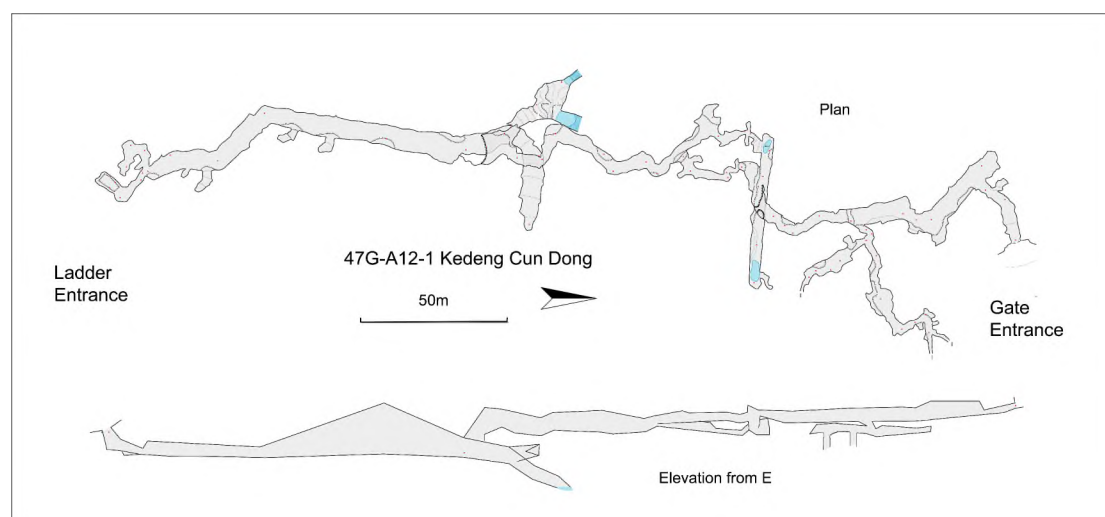
Ø 47G-A12-001 Kē Dēng Cūn Dòng 柯登村洞**Location:** UTM: 748179 3068614 Altitude: 2641

10km NNE of Baiwu above small farm. 3m wide shaft with wooden ladder.

Noticeable draught.

X 47G-A12-003 Kē Dēng Cūn Dòng 柯登村洞**Location:** UTM: 748165 3068894 Altitude: 2623

N of 47G-A12-001; low (2m wide x 1m high) entrance has broken metal gate.

Description:**Length: 703m (surveyed; 689m plan); Vertical range: 27m****Prospects:** Two drops to water are possible leads..**Tackle:** Fixed wooden ladders at open entrance and up to gated entrance. 20-30m rope, rigging kit for leads.**References:** Duncan Collis, Martin Lavery, Lenik anak Saymo, David Haskel, Yvo Weidmann**O 47G-A12-002 Kē Dēng Fú Hūa Dòng 柯登浮花洞****Location:** UTM: 748142 3068506 Altitude: 2616

Near 47G-A12-001

Description: 10m wide walk-in entrance 5m high.**Prospects:** Not conclusively pushed (poor lights)**Tackle:** No tackle needed**References:** Duncan Collis, Martin Lavery, Lenik anak Saymo

O 47G-A12-004 (PF3)

Location: UTM: 746696 3066957 Altitude: 2606

On slopes immediately above main valley NE of Baiwu, NE of village.

Description: 40cm opening but immediately opens out. Rocks soon land on solid surface + v close to river.

Prospects:

Tackle:

References: Pete Talling, Fleur Loveridge.

X 47G-A12-005 (PF4)

Location: UTM: 746588 3066696 Altitude: 2583

Small resurgence in valley floor. 2 others sited to SW of this one

Description: Small resurgence 0.1 to 0.2 cumecs.

Prospects: Not enterable.

Tackle:

References: Pete Talling, Fleur Loveridge.

O 47G-A12-006

Location: UTM: 0746792 3078032 Altitude: 3354

O 47G-A12-007

Location: UTM: 0746718 3078697 Altitude: 3459

O 47G-A12-008

Location: UTM: 0746695 3078831 Altitude: 3485

O 47G-A12-009

Location: UTM: 0746778 3078961 Altitude: 3513

O 47G-A12-010

Location: UTM: 0747465 3079825 Altitude: 3579

O 47G-A12-011

Location: UTM: 0747597 3079718 Altitude: 3580

O 47G-A12-012

Location: UTM: 0747687 3079800 Altitude: 3575

O 47G-A12-013

Location: UTM: 0747885 3079822 Altitude: 3578

O 47G-A12-014

Location: UTM: 0747473 3079945 Altitude: 3590

O 47G-A12-015

Location: UTM: 0747319 3080020 Altitude: 3617

O 47G-A12-016

Location: UTM: 0747227 3079999 Altitude: 3612

O 47G-A12-017

Location: UTM: 0746991 3079928 Altitude: 3644

O 47G-A12-018

Location: UTM: 0746718 3079902 Altitude: 3664

O 47G-A12-019

Location: UTM: 0746452 3079938 Altitude: 3686

O 47G-A12-20 (CAVE2,TEMP1)

Location: UTM: 748018 3078430 Altitude: 3424

Follow good path E from col 16km north of Baiwu (vehicle road). Path slowly climbs to plateau. Continue trending E along deteriorating paths for ~2km. Cave in doline.

Description: Steeply sloping doline leads to immediate drop. Unable to see clearly in. 2-3 sec drop to rocky floor. Entrance approx 3x1.5m. No water.

Prospects: Good.

Tackle: Probably possible to rig off vegetation.

References: Si Flower, Johan Bengtsson.

X 47G-B11-001 Xǐng Jiā Lóng Tāng 向家龙塘 Dragon Pool

Location: UTM: 739809 3046495 Altitude: 2365

By dirt road.

Description: Walled resurgence pool, ~0.5 cumec outflow.

Prospects: No prospects.

Tackle:

References:

X 47G-B11-002 Quartz Mine

Location: UTM: 738720 3049441 Altitude: 2489

North of Dragon Pool

Description: Dug-out cavity, probably a quartz mine.

Prospects: No prospects.

Tackle: No tackle needed

References: David Haskel, Duncan Collis, Yvo Weidmann

X 47G-B11-003

Location: UTM: 738392 3050430 Altitude: 2489

N. of Quartz Mine

Description: 4m deep shaft. Blocked with boulders and mud.

Prospects: No prospects.

Tackle: None.

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-B11-004

Location: UTM: 738344 3050505 Altitude: 2501

Description: 1m x 2m shaft, vegetated. 3M climb down to head of ~8m pitch. No draught.

Prospects: Pitch.

Tackle: 1 sling (1m long), 10m rope.

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-B11-005

Location: UTM: 738329 3050539 Altitude: 2502

N. of Dragon Pool

Description: 1m x 2m keyhole shaped shaft, ~6m to ledge, black space beyond. Stones rattle as if down a slope. No obvious draught.

Prospects: Pitch.

Tackle: ~10m rope, 1 sling, 1 bolt.

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-B11-006

Location: UTM: 738315 3050553 Altitude: 2504

Description: 50cm diameter hole under an outcrop. Stones tumble down a slope. No obvious draught.

Prospects:

Tackle: Perhaps a handline.

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-B11-007

Location: UTM: 738286 3050548 Altitude: 2502

Description: 1m x 2m shaft 5m deep. Appears blocked but may be a way on through an arch at bottom.

Prospects: Unlikely.

Tackle: 10m rope, 2 slings, perhaps a bolt. Tectors.

References: David Haskel, Duncan Collis, Yvo Weidmann

O 47G-B11-008

Location: UTM: 738243 3050662 Altitude: 2501

Description: 1m diameter hole 2m deep to rubble slope.

Prospects: Unlikely

Tackle: No tackle needed

References: David Haskel, Duncan Collis, Yvo Weidmann

X 47G-B11-009

Location: UTM: 740118 3048622 Altitude: 2447

Description: Muddy sink at end of gully.

Prospects: Choked.

Tackle: None.

References: David Haskel, Duncan Collis, Yvo Weidmann

References

- [1] A Botanical Pioneer in South West China. (Vienna, 1927 as “*Naturbilder aus Südwest China*”; 1996, English translation ISBN 0 9529230 0 9) Annotated online version at http://www.paeo.de/h1/hand_maz/pioneer/buch.html
- [2] <http://worldwind.arc.nas.gov>
- [3] Prof Steven Harrell's website
<http://faculty.washington.edu/stevehar/yanjjuanschool.html>
- [4] <http://www.bimoculture.org/culture/science/2007-01-04/343.html>
- [5] <http://faculty.washington.edu/stevehar/yjethnobot.pdf>
- [6] <ftp://e0srp01u.ecs.nasa.gov/srtm/version2/SRTM3/Eurasia/N27E101.hgt.zip>
- [7] “A freely available Geographical Information System (GIS) for the visualisation and analysis of surfaces” <http://www.landserf.org/>
- [8] “A tool for cave surveying” <http://therion.speleo.sk>

Wudu

This area – suggested by the presence of a show cave which has been used for paleoenvironmental studies [eg refs. 8,9] along with examination of satellite photos on Google Earth - was only visited for three days by a group of four after a flight from Xichang to Chengdu and a bus journey – the last 6 hours of which Si reports as “in limestone country of significant proportions, from rolling karstic hills to steep gorges, all of which appeared to have decent depth potential (at least 800m I'd estimate)”. They confirmed the impressive scale of the Wanxiang show cave (Fig. 17), and that a high limestone plateau is present above the show cave. Signs at the show cave refer to other named caves (Chaoyan Cave, Shuilian Cave, Wufeng Cave) and satellite images suggest there is depth potential of up to 1,500 metres in this area and Si Flower reports a ‘donkeys dick’ load of limestone. Some entrances were logged during a brief foray onto the plateau areas, but no significant caves were entered.

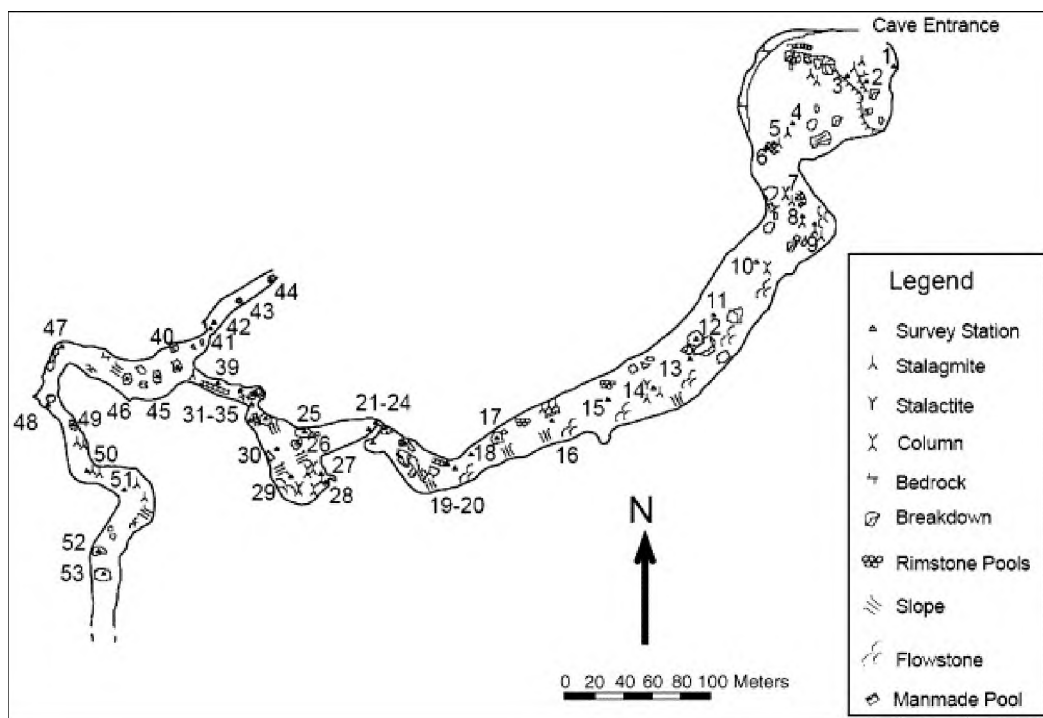


Figure 17. Survey of Wanxiang Show Cave. Note that the passage is 100 m wide in places.



Figure 18. Limestone area near Wanxiang Show Cave, Wudu. Wonder where all the water appears from below cliff on left side of photo.....

Site records

ø, Wanxiang Show Cave

Location: UTM: Altitude: ~1200

“In south side of mid-Jingshan Mountain.. 15 km from Wudu.. 150m above Bailong River near Hanwang”

Description: *“...variously described as “the number one cave in China”, “an underground porch and palace”...” in which “Around 4-5km of cave have been illuminated” - in a variety of colours - with “a constant year-round temperature of 10.99°C. It is oxygenated and stream flows occurs in the cave throughout the year”*

Prospects: *“As the cave is so extensively formed its full extent is not yet known”*

Tackle:

References: Sarah White, Ref 8,9

o 48I-I6-001

Location: UTM: 498942 3684166 Altitude: 485

We took a path straight up from the show cave, a steep slippery path up a steep gorge, which was not easy in humid conditions. From the plateau, we believe we may have seen a better path, possibly a road, further to the east but could not be certain.

Certainly, roads seem to head in that direction from the bottom the gorge - can't say whether these make it all the way top the top or not though.

We saw no surface water anywhere on the plateau. But it must exist somewhere because there were odd houses scattered about with people growing crops like

potatoes, onions, beats, generally low lying stuff.

Paths were everywhere, so making it easy to navigate about but, to our ears the locals didn't seem to speak mandarin (or at least understand what we said!), nor could they read the HMG translation guide. So we had to explore using our own noses, and ended up exploring mainly dolines, all but this one being blind.

Description: Located in large doline. Slide down a rocky slab into a small chamber. Immediate 5m drop, not descended. Passage seen to continue under archway. ?draft.

Prospects: Passage seen to continue under archway.

Tackle: Bolting hammer, etc.

References: Si Flower, Johan Bengtsson.

References

[8] Johnson, K.R., and B.L. Ingram, Spatial and temporal variability in the stable isotope systematics of modern precipitation in China : implications for paleoclimate reconstructions, *Earth and Planetary Science Letters*, 220 (3-4), 365-377, 2004.

[9] Zhang, P., K.R. Johnson, Y. Chen, F. Chen, B.L. Ingram, X. Zhang, C. Zhang, S. Wang, F. Pang, and L. Long, Modern systematics and environmental significance of stable isotopic variations in Wanxiang Cave, Wudu, Gansu, China, *Chinese Science Bulletin*, 49 (15), 1649-1652, 2004.

Administration

Logistics

The expedition members started from Chengdu when in China. Some reached there via Chongqing and the HMCES tackle store in Wulong. Both Chengdu and Chongqing have large airports with flights to Europe via Beijing and Shanghai (as well as Hong Kong, and various South East Asian cities). Between Chengdu and the Liangshan area we used a private vehicle, and public bus, rail, and air services. From Chengdu to Xichang is about a day by road (although, for China, buses were surprisingly hard to find on this route), 12 hours by rail, and an hour by plane. From Xichang to Yanyuan is 4-6 hours by bus, and to Baiwu is another hour.

Accounts**Summary of accounts:**

Income (£)		Expenditure (£)	
Grant income	550.00	Equipment expenditure	450.00
Kitty	91.54	Kitty expenditure	641.54
Equipment fee	450.00		
Personal expenses	7024.17	Personal expenditure	7024.17
Donations	0.00	Excess placed in gear fund	0.00
TOTAL	8115.71	TOTAL	8115.71

Breakdown of accounts:

Grant Income (£)	
China Caves Project	300.00
Mount Everest Foundation	250.00
TOTAL	550.00

Equipment expenditure (£)	
Emergency fund	320.93
Surveying equipment	100.80
Computer equipment	24.00
Camping supplies	4.27
TOTAL	450.00

Personal expenditure (£)	
Flights	5830.33
Visas	353.33
Photography	241.33
Inter-town transport in China	229.53
Insurance	156.00
Personal meals	80.30
Personal gear	49.40
Home-country transport	42.60
Vaccinations	22.00
Personal accommodation	19.33
TOTAL	7024.17

Kitty expenditure	RMB	£
Food, drinks, etc	3413	
Accommodation	2620	
Long distance transport	1917	
Local transport	1146	
Miscellaneous	507	
Equipment shipping	20	
TOTAL	9623	641.54
- per person	802	53.46
- per person per day	46	3.05

The contributions of the Mount Everest Foundation and the China Caves Project are gratefully acknowledged.