

## THE STELLERWEGHÖHLE SYSTEM, TOTES GEBIRGE, AUSTRIA

by

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### ABSTRACT

Members of the joint C.U.C.C. and U.B.S.S. expedition to the Totes Gebirge in Austria in 1981 extended Schnellzughöhle (1623/115) to a depth of around 500m and joined Stellerweghöhle (1623/41) to these extensions, making 650m in all. Both caves appear to continue beyond the limits of exploration, Schnellzughöhle as a descending canyon streamway and Stellerweghöhle in a steeply descending dry phreatic passage breaking into rifts above unentered streamways.

### INTRODUCTION

The Stellerweghöhle System is the name now given to the two caves, Stellerweghöhle (41) and Schnellzughöhle (115), since the connection was made, which is the subject of this paper. 41 was the original entrance to Stellerweghöhle and 41a is a higher one.

A description of the entrance series of both caves was given by Griffiths (1981) following the explorations of 1980 by the combined Cambridge University Caving Club (C.U.C.C.) and University of Bristol Spelaeological Society (U.B.S.S.) teams. In brief, the entrance to 115 is a dry draughting horizontal phreatic passage which when discovered in 1980 ended in a choke. This was cleared to give access to a complex abandoned system. The limit of exploration then was a ramp leading upwards out of sight and downwards to undescended pitches at -80m. The exploration of the lower reaches of 41a had followed a series of pitches down a high rift passage. Here the stream was lost and then regained for a couple of pitches. In 1980 it was last seen pouring out of sight from an undescended pitch head. This last pitch (15m) gains a chamber now called Junction Chamber. It leads to the connection with 115 and also to a dry phreatic series. These are described below in 'Stellerweghöhle and the Connection'.

### EXPLORATIONS OF 1981

#### *Schnellzughöhle* (115) (Fig. 16)

An inlet before the final ramp of 1980 was followed up eight cascades gaining 30m to a choke, thought to be near the surface and with no draught. The limit of 1980 gave two routes on from the deepest pitch: a main shaft and a side rift. Rubble poised at the head of the shaft directed attention to the side rift.

The route down the rift involved pitches and roped climbs of 14, 9, 7 and 27m. The pitches are broken by muddy ledges and awkward changes

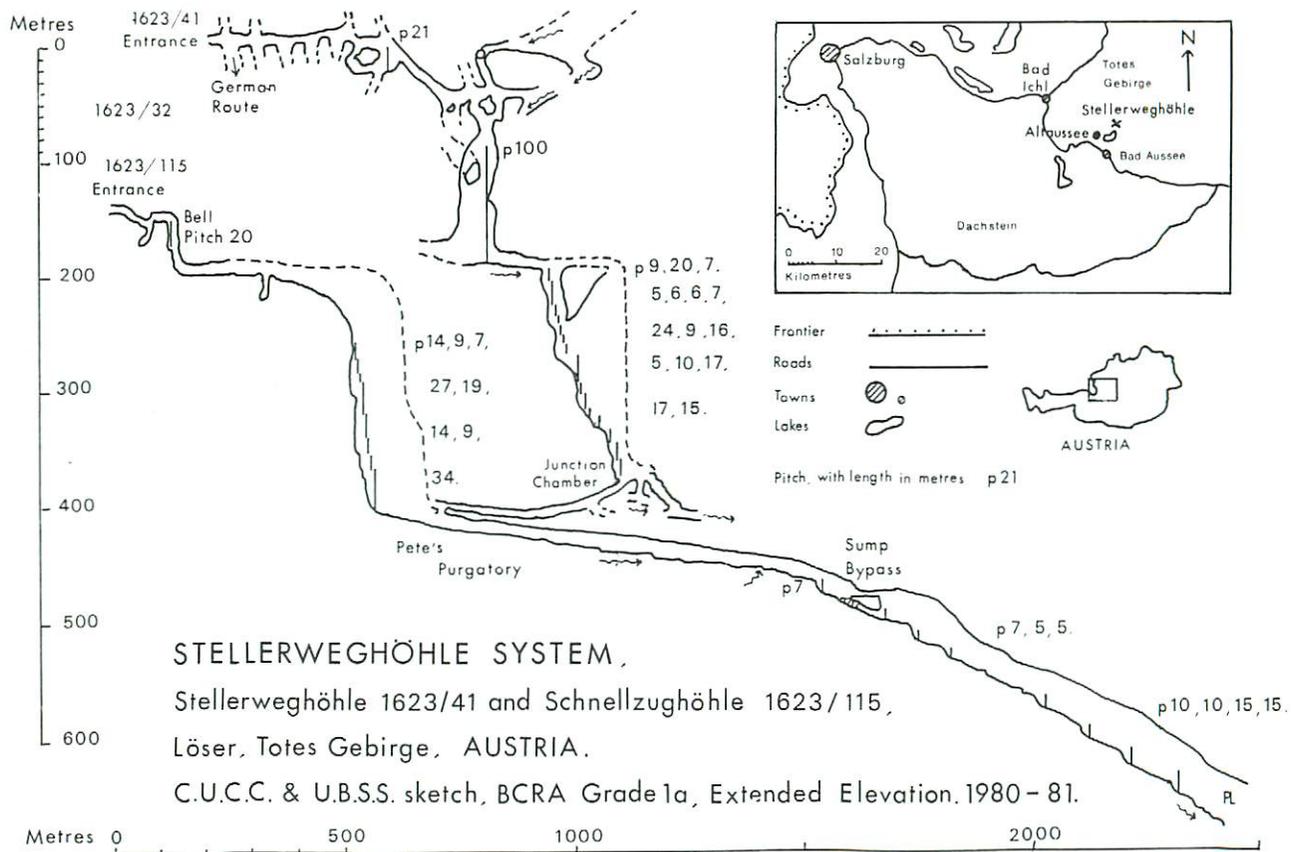


Fig. 16 Extended elevation of Stellerweghöhle System

of angle. They give access to a small active 'well polished' streamway, taking only a dribble of water in fine weather. Two clean-washed pitches of 19 and 14m lead to a damp 9m pitch onto a 15 x 15m ledge. Here the water drops left into boulders. This section becomes very active but remains passable in light rain, which is not the only sort of rain in Austria. The way on is over boulders and down a 34m pitch into a 30 x 30m chamber of unseen height. The stream drops into an uninviting slot in the floor.

A 5m diameter phreatic tube can be followed downstream by traversing up through boulders from the stream bed. This is a difficult way to follow. Fifty metres from the chamber the tube branches into a phreatic maze of sandy and bouldery abandoned passages. The draught was initially pursued to a second stream and a small cairn was built.

60m downstream from the 30 x 30m chamber a large inlet on the left can be followed up to a sloping aven. Following the stream from the chamber down the slot in the floor, one gains a narrow meandering trench streamway. This is some 800m long and is uncomfortable, with several awkward traverses and a couple of drops. The last 150m is of more comfortable streamway, enlarged by the entry of another stream, which may be Stellerweghöhle water from Junction Chamber. After this a 7m roped climb drops to a sump.

The sump has a 10m by-pass. This is a 3m diameter tube which emerges above a 7m pitch leading back to the stream. 50m of canyon passage, 1.5m to 2m wide and too high to see the roof, reaches a 5m pitch and 500m of fine streamway which gains depth quite rapidly by numerous sporting cascades.

A 5m pitch drops to a further 500m streamway, followed by a 10m wet pitch and 300m more passage. In two places here the vadose canyon gives way to low wet ramps where progress is between boulders. A free 10m pitch drops into a dark pool running into 150m of stream to the next 10m pitch, broken by a ledge. Then after a 4m roped climb a further 70m of horizontal passage follows which has dismal pools, suggesting the appearance of a sump. However a 15m dry pitch gains an open streamway and a further undescended pitch of 15m.

### *Stellerweghöhle (41) and the Connection*

Turning right out of Junction Chamber one follows a gently descending stream. Soon the way traverses the rift above the stream to enter a phreatic zone. Further traverses regaining and losing the stream lead to a series of 5 x 5m tubes, floored in white dust with a black surface layer. The tubes can be followed back to the Junction Chamber, which they join 10m above the floor. Ahead they take a series of swooping inclines punctuated by dramatic bends. A final incline to a sharp left bend regains the stream in its rift, at the site of the cairn built during the exploration from Schnellzughöhle. This was an encouraging sight to the explorers, who realized that they had made the connection between the two caves (Fig. 17).

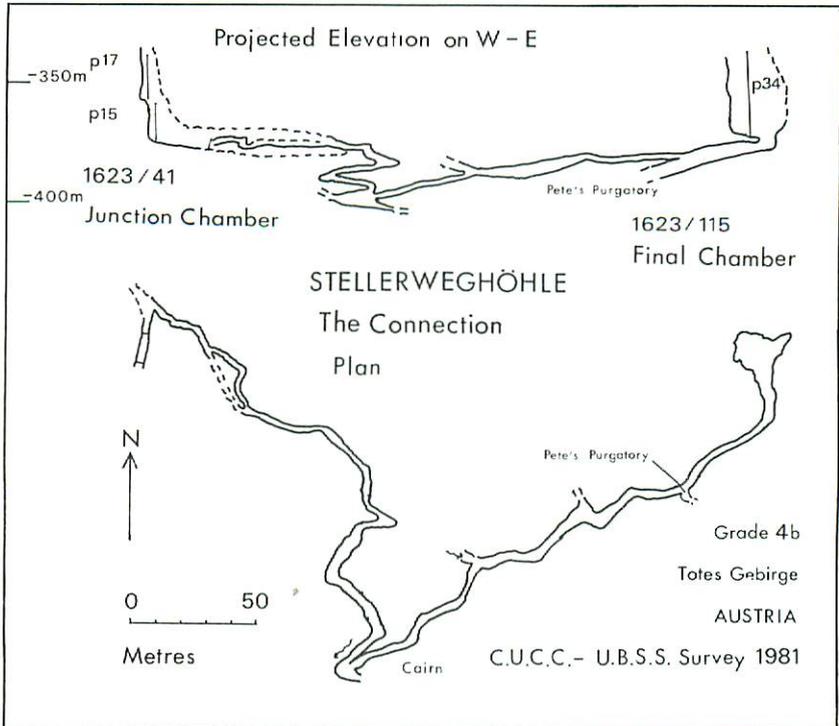


Fig. 17 Survey of connection between Stellerweghöhle and Schnellzughöhle

From this, the lowest point of the connection, there are two routes on. One is a traverse over the stream and then a climb over large boulders into a passage entering from the left; the other is a 0.75m hole at floor level to the left of the start of the final incline. The two ways join in an uphill sandy passage, 1.5m high by 3m wide. This leads by way of a flat-out crawl in the face of a healthy draught to a large passage. Turning right 90m of phreatic tube lead to the main streamway in Schnellzughöhle.

#### *The lower reaches of Stellerweghöhle*

From Junction Chamber a 15m climb to the left gives a choice of phreatic passages with further avens gaping above. This is a large junctional complex into which the expected higher entrances to the system may lead. To the right after 50m the passage leads to a rift above a stream. The other choice is a large phreatic tube, 10 x 10m, in which easy progress down a 30° slope gains 50m depth. This scramble down boulders leads to a cross-rift after about 150m. To the right is a stream, to the left a traverse after a short distance. None of these routes have yet been pursued.

*The German Route*

For the purpose of completing the account by Griffiths (1981) an extended elevation of the German Route is given in Fig. 18.

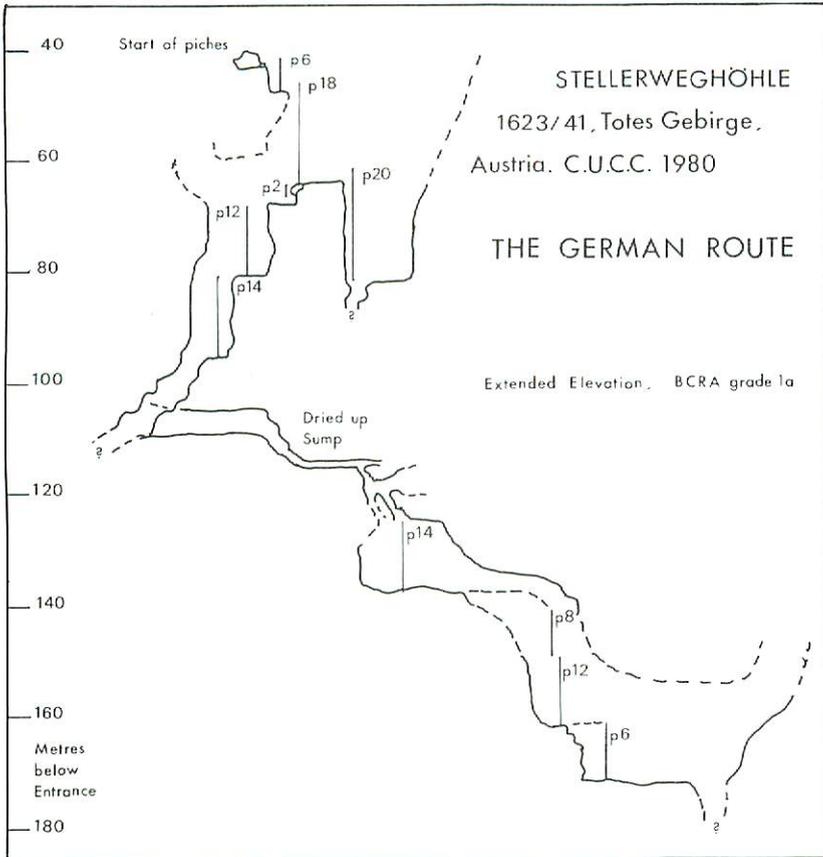


Fig. 18 Extended elevation of the German Route in Stellerweghöhle

### THE SURVEYS

Fig. 16 is a sketch extended elevation by Pete Lancaster. It includes the area surveyed to BCRA Grade 5 and included in Griffith's (1981) paper. 115 from the ramp to the bottom of the pitches and the Connection (Fig. 17) were both surveyed to Grade 4. The vertical misclosure is 2m but the horizontal misclosure is very large. It is thought that the compass may have been sticking. Pete's Purgatory was measured to 800m long. Below this the section of the streamway from the inlet to the Twelve Foot Climb (the second marked as p5) was surveyed to Grade 3 and this has been extrapolated downstream on the Grade 1 survey to give a total depth of 680m  $\pm$  40m.

### ACKNOWLEDGEMENTS

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### REFERENCE

- GRIFFITHS, J. T. 1981 A description of some caves in the Totes Gebirge, Austria, *Proc. Univ. Bristol Spelaeol. Soci.*, 16 (1), 11-20.

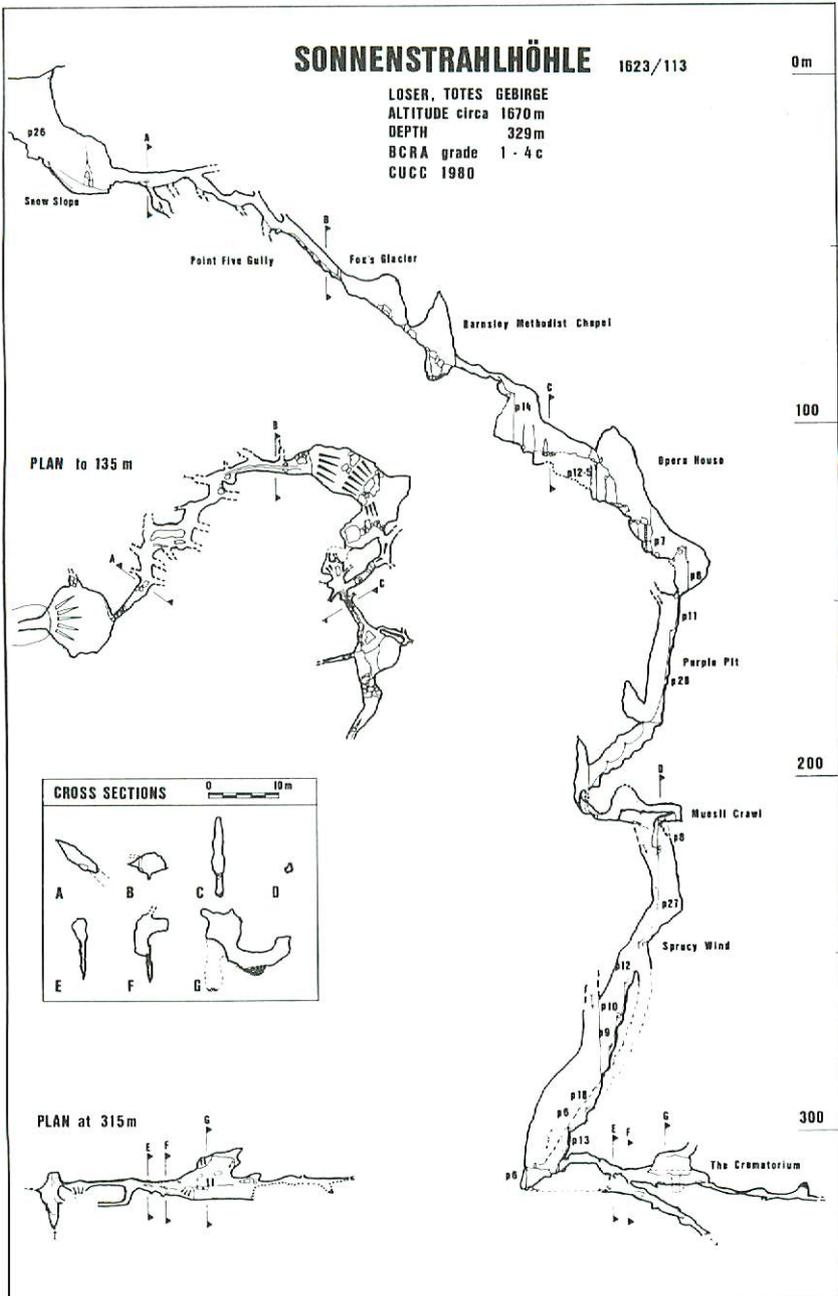


Fig. 19 Survey of Sonnenstrahlhöhle