

## August Hole

### CHARTERHOUSE-ON-MENDIP

BY A. H. AND R. D. STRIDE

Master Cave.	Length	-	-	-	-	1740 ft.
Side Passages.	Length	-	-	-	-	1010 ft.
Upper Series.	Length	-	-	-	-	670 ft.
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August Hole.	Total length	-	-	-	-	3420 ft.
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Long Wood Swallet.	Length	-	-	-	-	1060 ft.
Total length of whole system		-	-	-	-	4480 ft.
(over $\frac{3}{4}$ mile)						
Entrance to Long Wood Swallet.	Elevation	-	-	-	-	700 ft.
Lowest point of August Hole.	Elevation	-	-	-	-	255 ft.
Depth of August Hole		-	-	-	-	445 ft.
Lowest point of Long Wood Swallet.	Elevation	-	-	-	-	360 ft.

The great master cave of August Hole extends for over 1700 ft. beneath the floor of the Long Wood Valley, at Charterhouse.

The entrance to the cave is located at the lowest point in the Water Chamber of Long Wood Swallet but its true entrance lies some 360 ft. further up the valley towards Lower Farm. It is choked. Reference to Long Wood Swallet will be found in U.B.S.S. *Proceedings*, Vol. V, No. 3 (same authors).

### EXCAVATION

Long Wood Swallet, even from the time of its discovery, appeared to be only a part of a much greater cave system but every attempt to force a way beyond the bounds of the known cave gave only negative results. Many attempts were made in the terminal passages of the Wet Way but these passages are so restricted in diameter that the smallest person had to turn back, defeated. At the bottom of the Great Chamber work had to be discontinued owing to the instability of the boulder slopes around. Perhaps this was the key but the danger made further work at this site prohibitive.

During the survey a passage was discovered high up in the north wall of this chamber. At its head lay an unscaleable waterfall whose waters ran down the Wet Way. It was noticed that the amount of water traversing the latter did not correspond to the amount entering the cave via the lower

swallet and this became even more obvious in the summer of 1947 when there had been no stream sinking at the swallet for months.

A visit was paid to the cave during this period, and on the way out a chance visit was made below the Water Chamber to where the Long Wood stream disappears. At this point the narrow rift ended in a boulder choke through which the water normally sank from view. This had received a little attention on several occasions since 1945 when the cave was first entered, but the violence of the Long Wood Stream and the appalling drip had made any continued excavation impossible. On this occasion conditions had improved to an unusual extent, although of even greater importance was the vast change that had taken place: masses of sediment had been swept away. Only the continued violence of the stream kept up by the incessant precipitation of the extreme winter of 1946-7 could have achieved this result. It only remained for us to drag and force the huge boulders up the rift, kicking the smaller rocks and pebbles ahead, for the way to be cleared to the head of a shaft-like pitch. Here a halt was called to 'rope up' for the bottom could not be seen and much precariously poised debris had to be loosened and hurled down to the bottom where it sent up a splash from a pool. An easy descent of 30 ft. now leads down to this pool. The way led up-valley to a choke, and downstream through a low very tight tunnel, half blocked by a dripstone floor and with water running along its base. Beyond this a high rift led to a short pitch which was estimated to lie close to the waterfall behind the north wall of the Great Chamber of Long Wood. This, we thought, was the alternative route to the Great Chamber.

A line survey was made on a succeeding visit and the pitch descended at the same time to prove this connection. Instead a 70-ft. clamber-down led to a great master cave with a swift clear stream rushing along its floor. Upstream lay huge galleries extending far up the valley above the swallet entrance while downstream the way lay through the swirling waters and over dark pools and pots of unplumbed depth until a high rift was reached.

Far beyond, choked passages, low crawls, and almost unscalable pitches of smooth rock with further narrow passages beyond again, where a stream rose and sank, showed the change in form. This passage wound on interminably and we were only turned back when the cramped quarters, foulness of the air, and bitterly cold water made further penetration far from wise.

#### UPPER SERIES

The Upper Series of passages connects the Water Chamber of Long Wood Swallet to the master cave of August Hole. These are in odd contrast to the passages of the two caves that they connect and are the

greatest burden in the exploration of the latter owing to their constricted nature and degree of wetness. In times of flood they are only passable with difficulty and at great danger.

The Upper Series commence below the Long Wood Water Chamber with a short crawl to the head of a 30-ft. pitch which leads down to a streamway and a pool. Upstream a narrow passage continues for a short distance before ending in a rift which is choked. Downstream is a little tunnel, as large as a man's body in diameter, through which the stream runs for 25 ft. At one time a dripstone ledge partly blocked this passage and forced the explorer on to his back in the water. This obstacle was removed at an early date by the explorers but the tunnel is still far from easy on the return journey. Around a short turn is a passage which connects with the upstream passage mentioned above. This receives several smaller passages which are impassable.

Further down are banks of sand and silt which are carried away and replaced again after each storm. Beyond this the smooth-walled rift widens and deepens considerably and, after another sharp turn, becomes more commodious. A couple of short climbs lead ever lower, while overhead is an interesting 'Oxbow' passage, and further down again access may be gained over jammed boulders to some beautiful grottoes with thin 'pencils' hanging from the roofs and waves of shimmering creamy dripstone on the walls and floor. Beneath the grottoes lies the 12-ft. pitch at the head of the Fault Chamber, which leads to the master cave 70 ft. below. The pitch is best negotiated with a 25-ft. rope belayed about 10 ft. back from the drop on to a nodular chert ledge.

The steep and rugged rock slope of the Fault Chamber leads to a long horizontal gallery with two grottoes on its right which lie in the fault zone and consequently have been much affected by the water percolating through the shattered rock. The first grotto runs up close to the 12-ft. pitch with a floor of spongy dripstone, while the second, larger and more beautiful, lies a little further over to the left and is reached by a short crawl. Some of the finest pendants in the cave can be seen in this grottoe.

The Fault Chamber continues down steeply in another two stages and at the bottom of each are heaps of boulders fallen from close at hand. At the lowest is a pool half full of rock and to one side races the main stream in its master cave.

The upstream portion of this will be considered first.

#### UPSTREAM MASTER CAVE

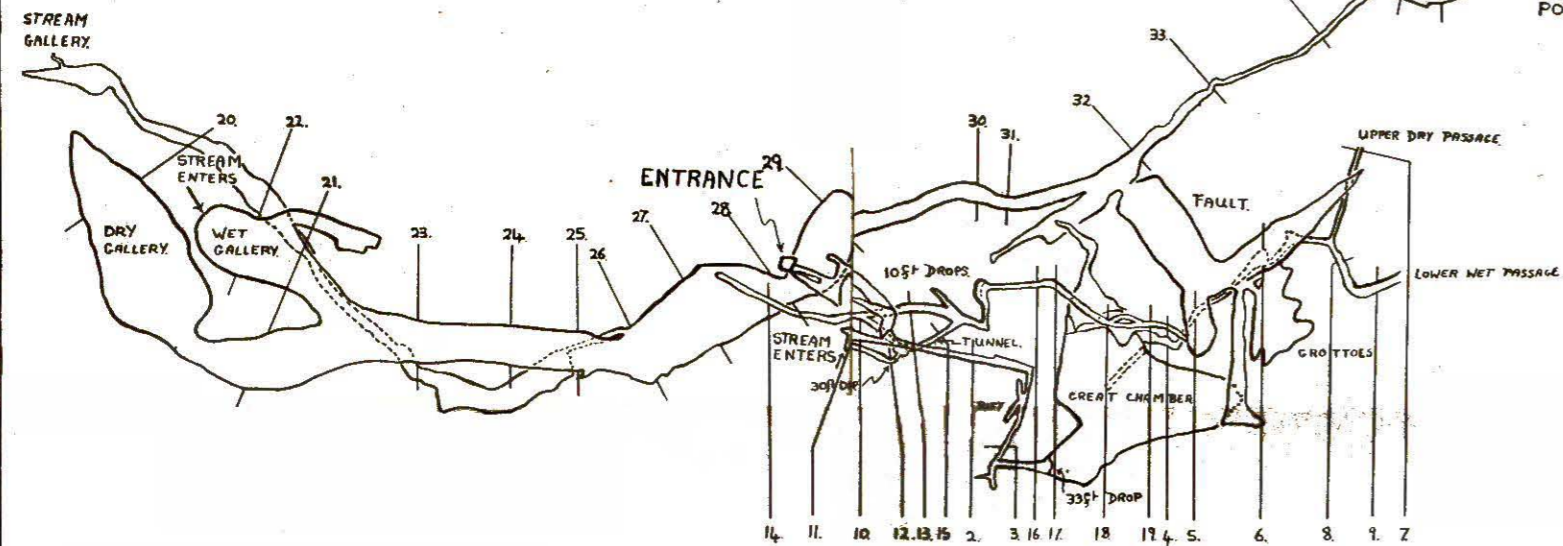
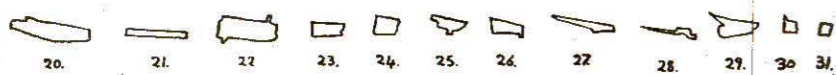
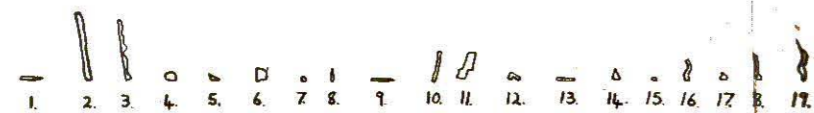
The upstream portion of the master cave stretches for over 600 ft. beneath the Long Wood Valley from the Fault Chamber to a point 360 ft. to the north of the entrance to Long Wood Swallet. The entrance passages

# AUGUST HOLE & LONGWOOD SWALLET

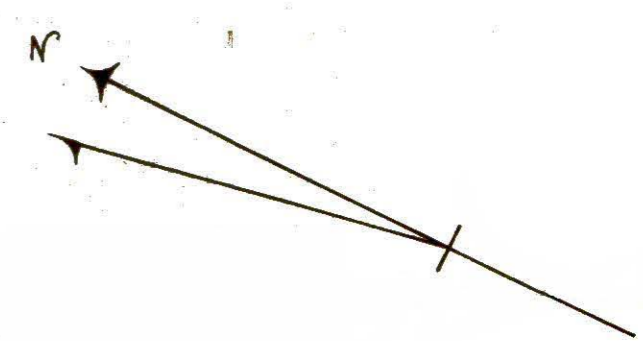
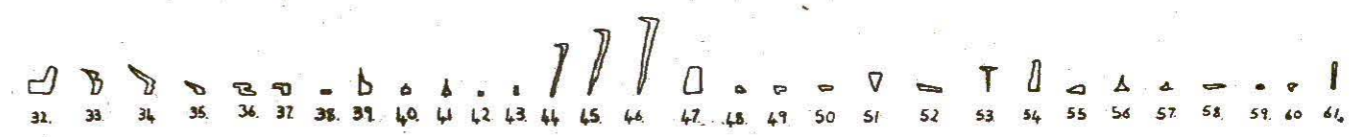
SCALE



ELEVATION



PLAN



U.B.S.S. 1948.

Combined Surveys of August Hole and Longwood Swallet.  
(The cross-sections are drawn looking down stream.)

PLATE 2



August Hole. Looking upstream in the Master Cave.

and Great Rift of Long Wood Swallet and the Upper Series of August Hole are above the lower part of it.

The stream passage is large near the Fault Chamber, but as it is followed upstream it widens, branches, and increases in height, and as its steeply rising floor comes closer to the surface, so is it formed of chambers and galleries of ever-increasing size lying one above another.

A short distance upstream from the pool and around two bends is the first chamber. The floor is littered with great blocks of limestone and the stream runs under and over them to the left. To the right are masses of broken rock with a coating of dripstone on top, but much of the uncemented material beneath has been removed and a sharp rim of dripstone hangs over the floor; in one portion it juts out into the chamber as a finely carved tongue. At the far end of the chamber the stream is obscured under a recent roof fall and the long angular slabs are partly covered in sandy mud.

The flattish roof continues up to the right and a few choked passages run off for a short distance. The stream runs over a nearly level bed and forms several shallow pools, above which it enters from a passage between boulders on the right. It can be followed by crawling along its bed for 20 ft. past the choke in an otherwise sizeable passage to the broad and open Stream Gallery beyond. Further on this enlarges to form a smaller chamber and turning to the right continues as a lofty gallery of varying width, but always big, in a more or less straight line: in part beneath the Wet Gallery and beyond the Dry Gallery. The steeply rising floor is littered with rocking boulders, while wedged between the narrowest portions of the walls are several insecurely poised blocks of rock. The stream is only occasionally seen owing to the amount of debris.

A little further on the passage narrows and from a long slit in the ceiling there comes a heavy downpour of water which splashes noisily from the smashed rock on the floor to the walls nearby. The floor climbs even higher, and when the sound of water has almost died away to a dull whisper the accumulation of rocks on the floor is so great as to meet the roof. At this point the roof is unsafe and further penetration is unwise. Some 80 ft. beyond the passage ends in a series of choked rifts and shifting rocks. From underneath the boulders comes the sound of a small stream which lower down is joined by the main stream falling from the roof.

Above the pools and the entrance to the Stream Gallery a large dark way leads upwards to a 5-ft. climb where solid rock is seen, but a short distance back from the edge this is hidden by debris. From here to the highest points of the master cave the bedrock floor of almost uniform steepness is hidden by several feet of slabs and boulders, pebbles and sand, and every step upwards brings down a shower of loose rocks on to those behind.

Beyond the climb the way divides into two great galleries. The right-hand fork, or Wet Gallery, has a steep floor that is very liable to cascade, while the dislodged boulders career down the short climb and on into the pools below. The whole of these boulder-swept corridors are a menace far worse than the stream as there is little warning of the approach of the missiles. In the roof above, long slabs of rocks are waiting for only a touch to peel them off.

At the top of the slope the grim blackness is broken by a few small straws, and a stream entering from the roof splashes down on to the floor and runs away out of sight into a choked rift. The fine spray from the fall spreads out on to the neighbouring rocks, giving them a damp cold feel and adding to the awe of the place. The stream cannot be followed either into the rock from which it springs or into the floor where it disappears, although a stream of equal size enters from the roof of the Stream Gallery below. The rocks in the rift are for ever washed by the descending water, and their level has become lower, but the pile is being added to by the rocks and pebbles which get washed in from time to time. To the right a passage leads down and then up a short climb to a smaller chamber nearly 40 ft. high. At its northern end is a 20-ft. climb leading to a little passage from which water sometimes drips.

The gloomy Dry Gallery is the left fork at the bottom of the steep slope. Its boulder-strewn floor is being added to from the tottering rocks on the right. Higher up the accumulation of great boulders almost blocks the wide gallery, but at its smallest point a way leads to the final chamber which is 100 ft. from end to end. It is the largest chamber in August Hole. In form it is similar to the smaller chambers, with an inclined flat roof and floor of boulders ever shifting down towards the small exit in the far bottom corner. It is dry and there are no formations to lighten the drabness of this hole. In one corner a way between loose boulders continues for a short distance, and to the left a great mass of rock has separated off and lies poised at the head of the chamber.

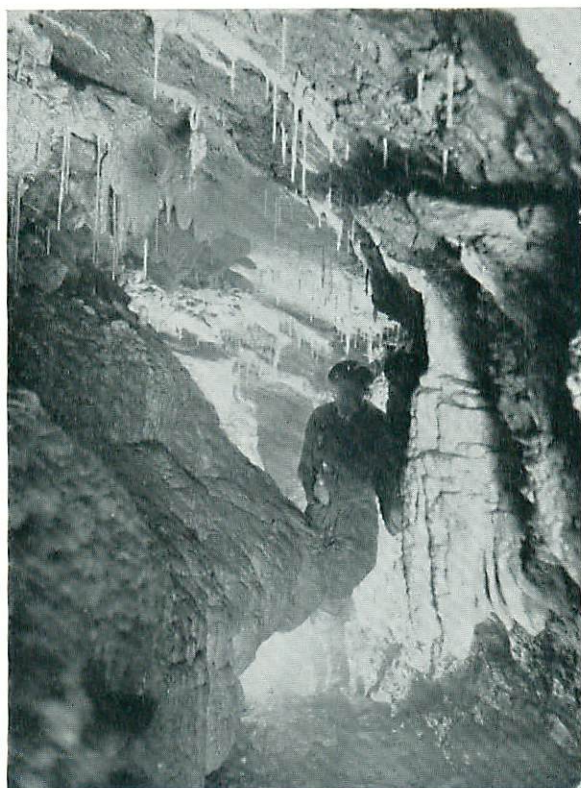
The Long Wood Valley is a short distance above this chamber, but there is no sign, either in this chamber or in the valley, of a connection between the two, and no stream enters as in the Wet Gallery.

The downstream portion of the master cave is described next and this begins, as in the case of the upstream portion, at the pool below the Fault Chamber.

#### DOWNSTREAM MASTER CAVE

This is the continuation of the upstream portion and carries the stream along a further 1000 ft. of waterway to a point 800 ft. down the Long Wood Valley beyond the cave entrance and well over 500 ft. beyond the final passage of Long Wood Swallet.

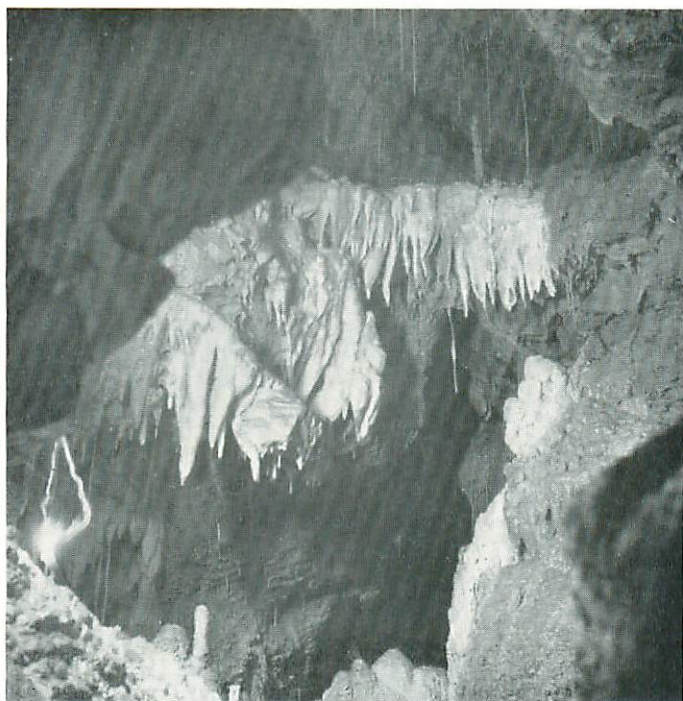
PLATE 3



August Hole. Dripstone formations downstream in the Master Cave.



PLATE 4



August Hole. A Grotto downstream in the Master Cave.

The downstream portion begins as a commodious passage but soon develops into a narrow winding streamway which becomes low and narrow after a time while the flattish roof changes to an irregular one of cemented breccia and pebbles. A sudden and unexpected enlargement gives access to a beautiful grotto with long filmy straws and other fine ornaments. Further on the stream passage becomes wider and lower and the floor is littered in pebbles. Up to this point the floor has only a gentle gradient for the most part, and the stream, although flowing fairly rapidly, makes little noise.

A little further on the stream passes under some stalactites and turns from a south-easterly course, which it has maintained hitherto, to a general course to the south. The passage becomes even lower, with a steeper gradient, while the floor is potholed and progress is made only by crawling through the water while the roar of a waterfall gives warning of a large pothole which can just be straddled. The water is over 4 ft. deep and a wetting in it means cutting out a visit to the strenuous terminal passage beyond. Over the centre of the pot is a bulky group of stalactites, hanging from the domed roof, which can be used as an excellent support when crossing the water and without it the crossing would be more tricky. This pot is followed immediately by another which is passed by a slippery climb to the right but not without a slight wetting.

The last pot leads into a high rift with the stream racing from pool to pool in the bottom while overhead great fingers of dripstone point at the stream below. At the longest pool it is well to climb a few feet above the water as the narrow ledges are easy to climb along rather than to struggle through the water. The rift is highest at this point and there are many beautiful stalactites near to the roof, some of which are best seen from the high-level 'Oxbow'. On the right a small stream comes in from a tunnel which runs for a short distance almost level and then turns up steeply in a long almost straight passage for 150 ft., where it ends in an impassable rift. The rock is slippery and the floor is etched with shallow potholes.

The main streamway winds again beyond the deep pools and at a small grotto a climb can be made up and over a mud-covered dripstone boss to a small dry Oxbow System which will be described in detail later.

A choked fissure in the floor near the base takes the summer flow of the stream to lower levels, but is unable to carry away the winter torrent which runs away down the main streamway under the lowering roof and over a bank of pebbles to a shattered corner where it sinks. Over the pebble bank, the ceiling is covered with discoloured and distorted stalactites, perhaps made so by the shifting of the stones under flood conditions. Straw carried in by the stream can be seen cemented and jammed on to the dripstone, and thus at least two periods of complete submergence of

this section of the cave are shown. The material of the first is cemented, while that of the second is very recent and is only jammed. On the right of the pebble bank a tunnel runs off at an abrupt angle but this soon develops into a rift which drops the flood waters a further 30 ft. The walls are smooth and rounded and on the return journey, when tired, it is considerable labour to climb. At the bottom a small stream enters and runs away down the final passage to the south.

The 240-ft. final passage has many of the qualities of a purgatory. It is a very narrow rift, so small that one advances head first on one side, and it is not possible to turn round in more than a few places. The stream sinks a short distance along in a tiny slit which is easily choked, while the passage drags on to a small pool and then on, with further squeezes, towards the sound of fast-moving water. In the floor is a slit, little bigger than the one where the stream sank higher up, from which issues the unapproachable sound.

The rift continues to a smaller and very poorly decorated grotto, while on the ledges are pieces of straw and beech nuts washed into this normally dry passage from the Long Wood Valley. In the roof are joint determined ceiling cavities which no free-surface stream can have formed. A little to the right is a little tunnel which leads to a rift again but the floor of this drops rapidly some 30 ft., while a further squeeze leads to where the sound of water is not far from deafening.

This is the lowest point in the August Hole, 445 ft. below the entrance to Long Wood Swallet and 255 ft. above Ordnance Datum.

### OXBOW

A climb up on the left of the stream passage, a little beyond the deep pool, leads to a series of high-level dry passages centred about a smaller chamber.

The longest strikes back to the roof 30 ft. above the streamway near the deep pool. It is a deep 'T'-shaped passage, and in its roof are blindly ending, joint determined, solution cavities of small size. The vertical portion of the passage is narrow and the walls are smooth and gently rounded, while the base is floored with sand. At the end there is a fine view of the stalactites in the roof above the streamway, and although the stream can only just be seen, it can be heard in full measure. There is much debris at the head of the 'Oxbow' and some has already dropped, when inadvertently touched, into a small pool below.

The remainder of the Oxbow system consists of two more passages, one short one to the east ending in a mud-and-sand choke, and the other, with a cross-section rather like the Wet Way in Long Wood Swallet, is longer but blocked by boulders at its far end.

## STREAMS

August Hole is termed a master cave on account of its long central stream passage which is fed by a series of tributary streams along its length. The source of the water that forms the tributaries must be derived either from the stream in the Long Wood Valley or by the descent of rainwater through the well-jointed rock above until its course is interrupted by the main streamway.

In winter the Long Wood stream sinks at the lower swallet in the valley (now roofed over to avoid accidents), although for a number of years it flowed into the Water Rift of Long Wood Swallet via the present entrance. In dry weather the stream decreases in volume to such an extent that it never reaches these two swallets, but sinks in its bed further up the valley. The most obvious sink is at the end of the walled-in portion of the stream bed, and only a few feet east of the track down the valley. But even under dry-weather conditions the stream is known to rise rapidly during only three hours of heavy rain and to increase to such a volume that the sink is unable to carry it away, and the excess water makes its way down to the lowest swallet.

In dry weather the water is next seen entering high up in the end of the Wet Gallery, but it sinks away in a rift in the floor after a traverse of only a few feet, and a stream is next seen falling from the roof of the Stream Gallery below. It is joined by a small stream and flows out through a boulder choke into the shallow pools above the first chamber in the upstream portion of the master cave. From here its course can be followed down the streamway to the climb leading to the 'Oxbow', where the summer flow sinks in a choked rift. A stream is seen again below the final pitch, but only follows the terminal passage for a short distance before sinking finally from view. A little further along this passage water can be heard a fair way below, and at the lowest point in August Hole a closer approach may be made; the stream cannot be seen, however.

In winter many other paths are utilized. Part of the flow follows the summer course and the rest sinks at the lowest swallet and thus into the Water Chamber of Long Wood Swallet. From here it makes its way through the Upper Series of August Hole, down the 12-ft. pitch and Fault Chamber to the pool in the streamway of the master cave, where it unites with the water that entered via the Wet Gallery. Its course is through the pots and pools, but only part sinks below the Oxbow System and the rest continues to a choke lower down while some descends the final pitch to the winding terminal passage, where it once more unites with the dry-weather stream and the two sink together. Under the most extreme conditions this lower part of the cave up to the level of the choke must fill completely,

as shown by beech-nuts and straw caught in the interstices of the roof. This can only be for short periods of time but is nevertheless a warning.

In winter and after heavy rain many tributaries are in action. These are due to seepage from the Long Wood stream in the valley floor, for the shifting silt of its bed is constantly disclosing and clogging tiny apertures which carry away a little water, and also to the rainfall on the land above. The passages which carry the little streams are frequently small and impassable, and, although destined to play their part in vadose piracy, they are not likely to attain any great size as water traverses them for too short a time.

A small stream enters near the roof of the chamber near to the Wet Gallery, while below, where the two galleries unite, water enters from a shatter zone on one side. A small stream also traverses the whole length of the Stream Gallery but is hard to locate. At the level of the streamway below the Fault Chamber an intermittent stream enters on the right bank from the shattered rock of the fault zone. It cannot be followed far. Further down the streamway water enters from the roof for most of the year but never in great volume, while a little lower and on the opposite side there is a constant outflow from a small passage. The last tributary of any size enters from the tube-like passage on the west side of the streamway near the deep pool.

Water which sinks in the lower parts of Long Wood Swallet does not join the master cave above the final passage, although it may well contribute to the hidden stream flowing at the lowest point in August Hole.

The Society wishes to place on record its thanks to Dr. B. A. Crook and Mr. K. R. Dixon and others for their photography, which was done under the most trying conditions, to Mr. Young of Lower Farm, Charterhouse, for his readiness to help at all times, and finally to the Axbridge Rural District Council for their permission to continue work at the site.