

## CORK - COUNTY GEOLOGICAL SITE REPORT

|                                   |   |
|-----------------------------------|---|
| <b>NAME OF SITE</b>               | <b>Castlepook Cave</b>  |
| Other names used for site         | Mammoth Cave, Doneraile Cave                                    |
| <b>IGH THEME</b>                  | <b>IGH7 Quaternary, IGH1 Karst, IGH12 Cenozoic and Mesozoic</b> |
| <b>TOWNLAND(S)</b>                | <b>Castlepook South</b>   |
| <b>NEAREST TOWN/VILLAGE</b>       | <b>Doneraile</b>  |
| <b>SIX INCH MAP NUMBER</b>        | <b>17</b>   |
| <b>ITM CO-ORDINATES</b>           | <b>561425E 610425N (entrance)</b>                               |
| <b>1:50,000 O.S. SHEET NUMBER</b> | <b>73 GSI BEDROCK 1:100,000 SHEET NO. 21</b>                    |
| <b>GIS CODE</b>                   | <b>CK032</b>  |

### **Outline Site Description**

This site comprises a cave system with an entrance in a small, disused quarry on lowland farmland, accessed through a singular, gated access.

### **Geological System/Age and Primary Rock Type**

The cave may have been formed in either the Neogene or Quaternary periods, partially even in the early Holocene (post-glacial) period, and is of karstic origin, formed in pure bedded, Waulsortian limestones. These limestones are of Mississippian (Lower Carboniferous) age, but the faunal finds from the cave are of Quaternary age.

### **Main Geological or Geomorphological Interest**

Castlepook Cave is a good example of a relict maze cave, being a system of long, narrow and deep galleries, in places widened out in to chambers by the removal of the dividing walls of parallel corridors. Though many of the Castlepook galleries are only a metre or so across, enlarged chambers of up to 10 m across are present. Individual names were assigned to many of the galleries by Ussher in 1881, such as Hyenahall, Elephant Hall, Fairyland and the Gallery of Aged Carnivores. Excavations carried out in the northern half of the system between 1904 and 1918 produced a rich fauna from two strata within the cave.

Castlepook Cave is actually the single richest site for studying the vertebrate fauna of Ireland in the period leading up to the Last Glacial Maximum, and has been explored extensively. Over 2,000 bones have been recovered from the cave, and the range of radiocarbon dates for individual bones shows a long period in the middle to late Ice Age between 45,700 and 19,950 years BP. During this time the cave acted as a repository for mammal remains. An unpublished study by Sutcliffe for the National Museum of Ireland in the 1980s investigated the cave bones in an attempt to study spotted hyena behaviour and usage of the cave, since it is the only one known in Europe where humans arrived after the hyena had become extinct. The presence of this resident population of spotted hyena would have played a role in the arrival of some of the bones into the cave.

The full Ice Age fauna from the cave includes woolly mammoth, Giant Irish Deer, reindeer, brown bear and the spotted hyena. Later Ice Age fauna include Norwegian lemming, collared lemming, Arctic fox and wolf. Although multiple disturbances by water have masked some of the evidence from the cave, the parts of the cave not excavated offer important potential for future study.

### **Site Importance – County Geological Site; recommended for Geological NHA**

As the richest site for studying the vertebrate fauna of Ireland in the period leading up to the Last Glacial Maximum, the cave is completely unique and is of utmost importance in the study of Irish fauna from before, during and after the last ice Age.

### **Management/promotion issues**

The cave is on private farmland and is unsuited to general access or promotion, but should remain the province of scientific cavers and cave archaeologists with appropriate permissions, and should be protected from disturbance or damage.



A panorama of the crag hosting the entrance to Castlepook Cave, viewed from the north.



The Elephant Hall, within Castlepook Cave.



Deep stalactites in Castlepook Cave.





