

MYOXUS GLIS AS A CAVE DWELLING ANIMAL

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ABSTRACT– *Myoxus glis* sometimes use crevices, holes in rocks and buildings as refuges. The authors give data on the occurrence of *M. glis* remains in some Italian cave deposits and on some particular cases of recent cave occupation and nest construction.

Key words: *Myoxus glis*, Cave environment, Nest ecology.

RIASSUNTO – *Myoxus glis un animale vivente in grotta* – *Myoxus glis* può utilizzare quali rifugi, oltre ai cavi degli alberi, cavità e buchi nella roccia e edifici di vario tipo. Nel presente lavoro si espongono dati sul ritrovamento di resti ossei appartenenti alla specie in recenti depositi in alcune cavità ipogee italiane e sulla presenza in sistemi ipogei con costruzione di nidi riproduttivi e non.

Parole chiave: *Myoxus glis*, Ambiente di grotta, Nidificazione.

Myoxus glis sometimes use crevices, holes in rocks and wood, and similar situations as a refuge and appears to make hibernation nests at not more than a meter below ground (Storch, 1978). Despite its preference for tree holes, bushes and nestboxes (Toschi, 1965), it is often seen at the entrances of natural and artificial caves, where it is also possible to hear the typical vocalisation. Remains of *M. glis*, especially mandibles but also skulls and other skeletal parts, have been found in cave deposits in some parts of Italy (e.g. Lanza & Azzaroli, 1971).

The analysis of bone remains from deep karstic systems has demonstrated the presence of *M. glis* in the Spluga della Preta (Asiago Plateau, VR) (Scaravelli, in press) and in the Abisso Milazzo (Alpi Apuane, FI) and Abisso Ricciardi (Vena del Gesso, RA) (Scaravelli, 1993). Numerous bones of this species were found in deep layers, between -100 and -300 m, in deposits of recent formation.

In the first case mandibles of *M. glis* were found among 6 species of mammals (4 bats and *Martes foina*). In the Abisso Milazzo some specimens were recorded with bones of *Mustela putorius* and *Clethrionomys glareolus* and in the Abisso Ricciardi the myoxid was the most numerous species among 7 mammals found.

In many cases among the material analysed, the remains appeared quite fresh but the successive translocation of the bones by water makes any estimation of when the cave was used, or of how long the animals have been dead, impossible.

Data about the presence of this species in numerous caves have also been recorded from the large Messinian gypsum formation called "Vena del Gesso Romagnola" and in calcareous blocks of S. Marino Mount such as the "Risorgente di Canepa" cave (Bassi, 1993). These areas are situated on the North ridges of the Apennines towards the Adriatic Sea and cover the UTM 10x10 km grid 32QQ00, 32QQ01 and 33T196.

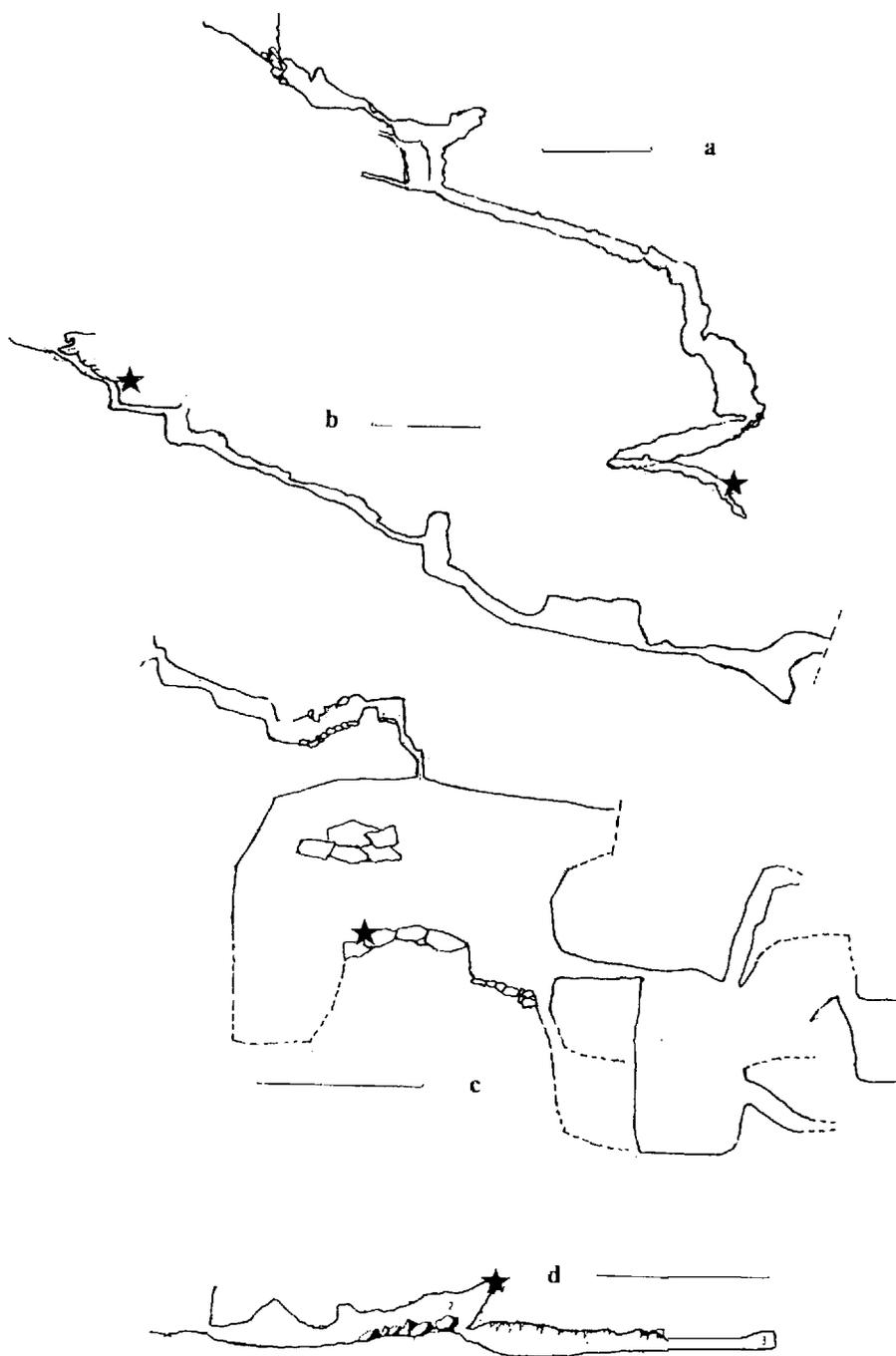


Fig. 1 - Section of the cavities with location of nest site (★). The bar is for 20 m. 1a) Inghiottitoio presso Ca Poggio. 1b) - Grotta di Alien. 1c) - Grotta della Rocca di Monte Mauro. 1d) - Grotta di Canepa.

Many traces of living *M. glis*, such as faeces, footprints and urine signs were found in all the cavities in this part of the Apennines, whether in gypsum, calcareous or other substratum. They are present from the entrance to several hundred metres inside.

In 11 cavities *M. glis* was observed directly and 4 nests were found in deep locations. The first (Inghiottitoio presso Ca Poggio, Fig. 1a) was discovered in September 1978 at -80 m and after 300 m of tunnels. We think that the animals came more directly from a small crevice in the wall of the hill, as indicated by their tracks. The second nest (Grotta di Alien, Fig. 1b), found in September 1984 with some young inside, was situated about 20 m (at - 9 m) inside the cave. The third (Grotta della Rocca di Monte Mauro, Fig. 1c) was recently observed at - 33 m, beyond a 20 m pit, an impossible exit, so we presume there must be a "secondary" exit via a small crevice in the wall. The fourth nest (Grotta di Canepa, Fig. 1d) was discovered about 30 m from the entrance, in a small hole in the wall of this sub - horizontal cave.

Thus *Myoxus glis* appears to be a species that can use hypogeic systems as a refuge and for the location of nests, especially in areas where caves are very common and have woodland around. It is always found a few metres from the entrance but it is also possible to find remains, and even living animals, in deeper situations. These facts have relevance to, and interfere with, the interpretation of the composition of bone deposits that can accumulate in caves and crevices.

REFERENCES

- BASSI, 1993. Scoiattoli troglodili? Casomai i ghiri...Ipogea 1987-93: 51-52.
- LANZA, B. & M.A. AZZAROLI, 1970. I mammiferi delle Alpi Apuane. Lav. Soc. Biogeografia Ital., n.s. 1: 677-714.
- SCARAVELLI, D., in press. Resti di mammiferi dalla Spluga della Preta. Atti Conv. Int. Cars., Asiago 13-16 giugno 1992.
- SCARAVELLI, D., 1993. Materiali ossei rinvenuti: Abisso Ricciardi e Abisso Milazzo. Ipogea 1987-93, pp. 21-22 and 39
- STORCH, C., 1978. Schlafer (Gliridae). In Niethammer J. & Krapp F. (Eds.) Handbuch der Säugetiere Europas. Bd 1, pp. 201-280, Wiesbaden.
- TOSCHI, A., 1965. Mammalia, Fauna d'Italia VII, Calderini, Bologna.