

LIFE IN CAVES

Currently, about 3,000 different species of animals are known from caves in Germany.

Those which enter a cave accidentally are called cave visitors (eutrogloxenes).

Other species are regularly cave-dwelling during certain times of the year - for example bats. These are subtrogliphiles.



"Cave-loving" animals (eutroglophiles) are building stable populations in subterranean habitats, but also above ground.

Of special interest are the so-called "true" cave animals (eutroglobionts), which are exclusively living below ground and which are adapted to this way of live, for example by reduction of the eyes or the loss of pigmentation.



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CAVE ANIMAL OF THE YEAR 2022



Many animals are depending on caves as sheltered and frost-free refuges.

One of these animals is the **Lesser Horseshoe Bat** – the Cave Animal of the Year 2022.

CAVE ANIMAL OF THE YEAR 2022

Lesser Horseshoe Bat *Rhinolophus hipposideros*

Due to the Corona pandemic, the International Year of Caves and Karst in 2021 has been extended to 2022. Its purpose is to draw attention to the worthiness of protection of karst landscapes and their diverse karst phenomena with a series of publicity campaigns. One of these campaigns is the selection of an international "Cave Animal of the Year". For this purpose, the group of bats was selected, from which each participating country will choose a cave-dwelling bat species occurring in their area and present it to the public and the authorities as their "Cave Animal of the Year". With the selection of the Lesser Horseshoe Bat, the German Speleological Society wants to point out that there is still an enormous need for action, especially in the research of underground ecosystems and the species occurring therein.



Lesser Horseshoe Bat
in hibernation

The Lesser Horseshoe Bat (*Rhinolophus hipposideros*) was scientifically described in 1792 by the German naturalist Moriz Balthasar BORKHAUSEN. The species belongs to the family of horseshoe bats (Rhinolophidae), which is represented in Germany by two species. Lesser Horseshoe Bats are typical cave bats. They prefer both summer and winter roosts in large karst areas. For this characteristic, the bat species was chosen as "Cave Animal of the Year 2022". The Lesser Horseshoe Bat stands for a large number of animal species that depend on protected and frost-free retreats underground.



The horseshoe-shaped nose of the bat gives it its name

The Lesser Horseshoe Bat is one of the smallest native bat species in Germany. It is easily recognised by its horseshoe-shaped nose-leaf. Its fur is brownish to yellowish brown on the back, the underside is greyish white. During hibernation, the species wraps itself completely in its wings. Here the animals hang out in caves, tunnels and cellars with temperatures of 6 to 9 °C; they always keep a distance to their conspecifics. Horseshoe Bats are always free-hanging from the ceiling; they are never found in crevices.

In Germany, the maternity roosts, i.e., the colonies where the females raise their young together, are mostly located in warm attics and buildings. However, there are exceptions like a south-exposed karst cave in Kyffhäuser (Thuringia). Males also use caves as day roosts in the summer months. Lesser Horseshoe Bats are extremely faithful to their roosting sites. Their radius of activity is usually less than 20 kilometres. The Lesser Horseshoe Bat has the most northerly distribution of all horseshoe bats. It occurs in the Mediterranean region and northwards to western Ireland and western Great Britain. In Germany, after a severe population decline in the 1960s, the species is nowadays only found in northeastern Hesse, Thuringia, Saxony-Anhalt, Saxony and Bavaria.

THE CAVE AS HABITAT

For all living organisms, caves are a very special place. The most characteristic trait is the lack of sunlight.

What seems to be a disadvantage on first sight also has its merits:

- There is no danger of sunburn or desiccation, and no need for camouflage.
- Cave animals have neither to adapt to daily or seasonal cycles, unless their food source shows such cycles.
- Temperatures are constant, with no danger of freezing.

In Central Europe, the main challenge for cave dwellers is the low food supply. Cave animals adapted to these conditions by developing a small body size, slow movements and a low metabolism.

Cave animals are very sensible to environmental changes. Therefore, a strict protection of subterranean habitats is essential.

