

Wild animal hedgehog

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1 Biology and behaviour

From a geological perspective hedgehogs are one of the oldest mammals still in existence. They have been around since the Tertiary Period.

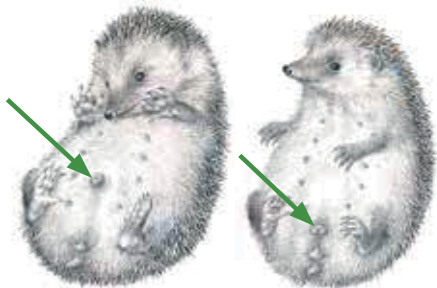
1.1 Occurrence and habitat

Hedgehogs feel most at home in areas where nesting possibilities and food supply are located closely together within a small area. This is why today they mainly live in the greenery on the outskirts of settlements, in gardens and in parks which have a variety of natural structures such as: hedges, bushes, groundcover plants, piles of leaves and undergrowth. Hedgehogs have been observed at altitudes of up to 1200 m.

The size of a hedgehog habitats varies: In urban parks they are relatively small, in rural areas they can cover up to 100 hectares for males and 20 to 30 hectares for females. It is not only the food supply that plays a role in the space that male hedgehogs require. Another deciding factor is the distribution of females. Although hedgehogs are solitary creatures their territories often overlap. These territories are not defended against conspecifics.

During the night hedgehogs cover distances of between a few hundred metres and several kilometres.

1.2 Distinction between males and females



The only clear external distinguishing features are the position and shape of the genitals. The opening of the male penis can be seen as a small button-shaped structure in the middle of the back half of the body, approximately where one would expect the navel to be. The vagina on females, in contrast, is visible directly in front of the anus.

1.3 Spiny Coat

At birth, hedgehogs already have about a hundred spines embedded in the swollen skin on their back. As adult animals they have between 6000 and 8000 spines. When in immediate danger or when touched, hedgehogs curl up and straighten their spines.



1.4 Size, weight

Adult hedgehogs have a body length of between 24 and 28 cm. They weigh between 800 and 1500 grams. Males are generally heavier than females.

1.5 Senses | Sounds

Hedgehogs are able to find food and conspecifics with their excellent sense of smell. Their hearing is also highly developed and extends far into the ultrasonic range. The sense of touch (sense of vibration) is also well developed. In contrast their vision is only mediocre.

Hedgehogs hiss, puff or make a chugging sound when in danger. Occasionally you might hear a light cackle. During mating foreplay they make snorting noises. When in pain or afraid their loud cries are reminiscent of the screeching of a hacksaw. When hoglets are looking for their mother or are hungry, they cheep and chirp almost like birds.



1.6 Life expectancy

Hedgehogs can reach an age of seven to eight years. However the average life expectancy is estimated to be only between two and four years. The juvenile mortality rate is considerable at around 60% to 80%. Man-made hazards further increase the mortality rate.

1.7 Food

Hedgehogs are nocturnal insectivores. Their main food source is ground beetles, the larvae (caterpillars) of night butterflies and earthworms. They also eat the larvae of gnats and beetles, snails, spiders, centipedes and millipedes, more rarely woodlice, and occasionally carrion. Parts of plants are only eaten by chance along with other food. For example, on fallen apples hedgehogs are only interested in the worms and mosquitoes that live on them.

1.8 Enemies

Hedgehogs fall within the food spectrum of eagles, owls, badgers and foxes. Dogs

can kill an adult hedgehog and cats can kill a baby hedgehog. These losses are however not important to the survival of the species. The hedgehogs' greatest "enemy" is man, with his many interventions in the natural world.

1.9 Nest building

In the course of a summer, hedgehogs live in several nests. The nests are often not built with much care and are seldom used for a long time. Sometimes they rest during the day only in high grass. The nests in which hedgehog mothers raise their young, are in contrast built in a more durable fashion. Hibernation nests must be well insulated, and as rain and snow-proof as possible. To prevent the foliage which is used as the main building material from falling apart, hedgehogs mainly build their hibernation nests under supporting branches, for example in hedges, under groundcover plants, and also in hollow spaces under garages, sheds, wood piles etc.

1.10 Reproduction

Depending on weather and climate, the mating season takes place between May and August. In Germany about 50% of all hedgehogs are born in August, another 30% in September. Second litters or replacement litters are not impossible, but rare. After a gestation period of 35 days, between two and ten (on average five) young weighing 15 – 25 grams are born. Their eyes and ears are closed until the 14th day of life. The hedgehog mother suckles them for about 42 days. The suckling takes place during the daytime because at night the mother goes in search of food. At three weeks the teeth pierce through. And at 25 days the young leave the nest for the first time and go on

small excursions where they begin to take in solid food. The mother neither accompanies them on their search for food, nor shows them how to catch the food. At the age of six weeks the young animals are independent.



1.11 Social behaviour

Hedgehogs are solitary creatures. They only come closer to each other during the mating season, outside that time they are not interested in other hedgehogs. The males are not involved in the rearing of their young, and mate with several female hedgehogs. The litter siblings separate when they become independent, and each juvenile looks for its own habitat.

1.12 Hibernation

Hedgehogs hibernate during the months when food is limited. They eat up until autumn in order to put on the winter fat that they need as an energy store. Because they can reduce their bodily functions to a bare minimum, they can survive for several months without food. During hibernation their heartbeat is reduced from about 180 beats per minute to about 8 beats per minute; they only breathe 3 – 4 times instead of 40 – 50 times per minute. The body temperature can drop from 36 °C to 5 °C, but is always higher than the

ambient temperature. During hibernation, hedgehogs lose between a third and a fifth of their body weight.

2 Legal protection

According to the regulations of the Federal Nature Conservation Act, hedgehogs are classified as a specially protected animal species. It is forbidden to chase them, catch them, injure them, kill them, take their nesting and refuge places, damage or destroy them. Exceptions apply only to sick, injured and helpless hedgehogs (e.g. orphaned hoglets). Such hedgehogs in need may be temporarily taken into human care. They must be released into the wild as soon as they can survive there independently.

3 Dangers and how to avoid them

About half a million hedgehogs fall victim to road traffic in Germany every year. At night, especially in residential areas near deciduous woodland with undergrowth, near gardens, and near hedges and bushes, you should drive with increased awareness and observe the traffic regulations (speed, distance).



Excavated areas, trenches, cable shafts, cellar outlets, light shafts, ground-level cellar windows, garden ponds and

swimming pools can all become traps for hedgehogs. They should be furnished with fences (50 cm high made of tightly meshed wire or boards), earth embankments, exit aids (sloping boards with crossbars on cellar steps to reduce the height of stairs) or covers. If this isn't possible, then daily checks are necessary. When clearing land for building projects, suspected hedgehog hiding places should be identified in advance. If necessary, the animals must be resettled.

The burning of traditional fires leads to a cruel death for many hedgehogs as they hibernate or sleep during the daytime in the piles that are to be burnt. These piles are often mounded up long before being set alight. Such piles should be moved carefully (!) just before the fires are lit.

The burning of garden waste is forbidden in most of the federal states in Germany, and thanks to the green waste collection also unnecessary.

When mowing under bushes, under hedges, or in tall grass, you must first carefully check whether hedgehogs are sleeping there during the daytime. Injuries, e.g. from brush cutters are almost always fatal. If the use of leaf blower vacuums is unavoidable, you should blow the leaves under hedges or similar places using the blowing function.



When moving compost or brushwood heaps, work carefully otherwise hedgehogs can be injured.

Bird nets over berry bushes and in vineyards should be stretched tight and stop at a height of 40 cm above the ground so that hedgehogs cannot get caught in them.

Snap traps and poisoned bait for controlling rats and mice should be placed out of reach of hedgehogs, i.e. in or on boxes, tables, walls or stacks of boards that are at least 50 cm above the ground.

Hedgehogs can get stuck in carelessly thrown away cans, yoghurt cups etc. Plastic bags and rubbish sacks should be tied up and placed high up so that hedgehogs cannot crawl in and as a result possibly be "disposed of" with the rubbish collection service.

4 Protecting hedgehogs in the garden

Hedgehogs are increasingly spending time in built up areas. This is because they cannot find places to live in adjoining areas. Such areas are often intensively used (monocultures, chemical poisons and fertilisers, liquid manure etc) and usually lack diverse food sources and cover.

This is what a garden suitable for hedgehogs looks like: It allows easy passage to other gardens! Hedgehogs roam large areas in search of food. Hedges and hunter fences make good perimeter fences. Hedgehogs can get caught in large mesh wire. Wire fences should not go all the way to the ground. Supporting walls and garden walls should also have places where a hedgehog can slip through.

Do not use poison! Pesticides kill insects, hedgehogs cannot find food. The direct effects of insecticides on wild ani-

mals like hedgehogs are not yet known! If a “pest” gets out of hand, it should be controlled with ecologically compatible products. The best option is to garden according to nature!

Do not use artificial fertiliser! Compost soil, rock flour, bark mulch and similar natural fertilizers serve the same purpose and do not harm animals.



Only mow part of the garden! Hedgehogs find insects, especially earthworms, on low-mown lawns. On the edges of the garden and under hedges and bushes it is best not to mow the grass at all, but if necessary a maximum of twice a year – and then only after careful prior inspection.

Plant only native perennials, bushes and shrubs! They are adapted to our soil and climate and build the foundation for the lives of many insects, birds and small mammals including the hedgehog. Many exotic plants are of no use to our native fauna.

Retain existing shelters! Hedgehogs prefer to shelter in dense hedges, bushes, piles of brushwood, leaves and compost, hollow spaces under piles of wood, garden sheds, general sheds, stairs, piles of stones, and old tree roots.

If you discover a hedgehog nest during gardening work – possibly with young in it – you must cover it up again immediately and protect it from further disturbance (keep dogs away!). Otherwise hedgehog mothers will eat or abandon their young!

Offer new nesting possibilities! A wide board leaned onto a weather-protected house or shed wall at a sloping angle, with the hollow spaces filled with oat straw, can provide a simple shelter.

A rainproof brushwood heap can also be made with little effort. In a corner of the garden, pile up a large pile of brushwood, branches and dry leaves and cover it with a firm plastic sheet. Only the four corners of the sheet should be in contact with the ground, and they can be weighed down with stones. In order to hide the sheet, cover it with more brushwood.

Another somewhat more time-consuming option would be to construct a shelter using field, wall or brick stones. The outer dimensions are not important. The inner dimensions should measure about 30 x 30 cm and be about 20 cm high. On the side protected from the weather, a hole of about 10 x 10 cm is left. A garden slab serves as a “roof”. To seal the hedgehog enclosure, you can cover it with earth – from the outer edge to over the roof – and then cover it with grass sods. Oat straw is suitable as a nesting material. Hay gets mouldy too easily.

To find out whether a shelter is actually inhabited by a hedgehog, place a straw (or drinking straw) in front of the entrance. Under no circumstances should you reach in with your hand!



Set up watering holes! A garden pond with a gently sloping bank prevents hedgehogs from dying of thirst, especially in dry summers. Bowls that are flat and stable, which are filled daily with fresh water fulfil this purpose as well.

Feed them during times when food is scarce, i.e. in spring and autumn! By the timely setting up of a feeding place in the seasons when food is scarce, it is often unnecessary for people to have to take care of small hedgehogs. Suitable food for the feeding dish would be, for example, a mixture of one part cat food or dog food: and one part unseasoned scrambled egg or boiled egg, fried minced meat or boiled poultry meat. This can all be mixed with a small amount of oatmeal or dry hedgehog food. To protect the food from birds, and also from rain, put it in a small box in the evening with at least two 10 x 10 cm holes and is closed at the top. If you want to keep cats or other animals away from the hedgehog food, it is advisable to build a feeding house with an angled entrance. A Euro-pallet, onto which roofing felt or plastic sheeting is nailed, also makes a cat-safe feeding place. Left over food is removed in the morning and the bowls rinsed with hot water.



**Hedgehogs do not belong
to us even in our own garden!**

5 A year in the life of a hedgehog

To give you an idea of what a hedgehog does throughout the year, imagine that an adult female hedgehog has hibernated in your garden over the winter.

The first time you notice something might be when, on a warm April evening, she is seen lurking around the plate you had put out on the terrace for your cat. The hedgehog's spiky coat can be seen shaking on the sides of her body. She has just woken up and has lost almost a third of her weight over the previous months. She is greedily and loudly chewing away on the leftover cat food, as there are not so many insects, worms and snails in spring yet to satisfy her enormous hunger.

Even in the first days of May the hedgehog remains faithful to your food bowl, but she cannot fill her belly and become round just from the pitiful leftovers your cat leaves her. She keenly hunts all the crawling creatures she can. In June she finds a richly laid table of offerings. Beetles are now her main food – cat food no longer interests her.

On a warm July night, you are suddenly startled from your sleep – what are those strange noises in the bushes under your window? The snorts and pants, and the puffs and chugs are clearly audible. Your hedgehog lady has received a visit from a hedgehog lord who wants to celebrate her wedding and is now courting her fiercely. The male hedgehog circles her repeatedly. With her head spines she pokes at him until she finally lets him ascend. This mating game is called the “Hedgehog carousel”; and can take several hours. The suitor has overcome many dangers and covered several kilometers during the night before finally reaching her garden and the object of his wishes. This is the month when most hedgehogs killed on the roads are counted, about two thirds of them are males.

The mating season extends into August. There is, however, no “marriage”

between hedgehogs, as the male hedgehog “makes off” when the female hedgehog is pregnant. But this doesn’t mean you can call him unfaithful by human standards. He simply doesn’t want to eat food away from the female hedgehog and future mother, who herself needs more food now. Also the young must later be able to find enough living food in the immediate vicinity around their nest. So a “hedgehog family” doesn’t exist! Mother hedgehogs are single mothers.

Most hedgehog babies are born (at our latitude) in August, many still in September. You will not see them until three weeks later at the earliest when they go on their first trips near the nest in the evening and at night, initially under the mother’s supervision.

Only in particularly warm areas, such as along the Rhine, do you sometimes see baby hedgehogs as early as at the beginning of July – or even in June. A second litter cannot be completely ruled out in these regions. Generally hedgehogs only have offspring once a year.

In September the young hedgehogs can still find plenty of food and can easily gain ten grams a night. Towards the end of this month – six weeks after birth – the now independent young hedgehogs leave their mother and migrate to other areas in search of food.

From about mid-October on, the sup-

ply of insects and larvae decreases significantly. Now the young hedgehogs can only feed themselves on a few grams per night. Whereas the hedgehogs that are several years old, especially the males, have already built their leaf-cushioned winter nests in weather-protected places. Your lady hedgehog – weakened by the rearing of the little ones – will perhaps be feasting again on your cat food bowl, and one or another of the juveniles will also find itself there.

Even in November young hedgehogs often rummage for food, but with little success. Their instinct tells them that they can only survive the winter with a good padding of fat. They build their protective nest late and sometimes quite untidily – this is one of the reasons why many juveniles die in the cold season.

Under normal weather conditions, all hedgehogs sleep from about mid-November (sometimes with interruptions) until the following spring.



Legally legitimate hedgehog rescue is only permitted if the hedgehog is in need of help and if the person looking after it is competent. Hedgehogs must be released as soon as they can live independently.

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