

Hedgehog Ecology



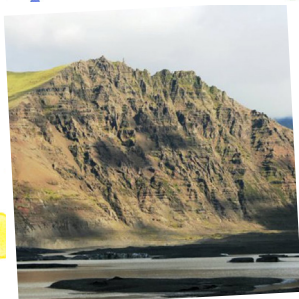
© Deborah Wright 2019

Hedgehogs are generally thought to originate from species dating back to 56-34 million years ago in the **Eocene**, an epoch in time in the middle of the Paleogene. Eocene comes from Ancient Greek meaning 'dawn' and 'new' after the rise of the new fauna that appeared during this time. As the earth began to cool, forests began to thin, deciduous trees started to take over from evergreen tropical species and grasses appeared. Fossilised remains of the spiny mammal *Spinolestes xenarthrosus* were recently found in Spain, dating back to the Cretaceous period 125 million years ago, suggesting an even more extensive history.



© Deborah Wright 2019

Hedgehogs are mammals in the order *Eulipotyphla*, family *Erinaceidae* and subfamily *Erinaceidae*. They are related to shrews and moles, all of which have long snouts and a good sense of smell to help them find invertebrate prey. Hedgehogs are also related to shrew-like moles, mole-like shrews, desmans and moonrats found in other countries. Hedgehogs are not related to other animals with spikes such as porcupines, which are rodents, and echidnas, which are monotremes. This is an example of **convergent evolution**, where several species of different lineages have evolved a similar adaptation independently.



© Deborah Wright 2019

There are 17 species of hedgehog worldwide. There is only one wild species in the UK, the West-European hedgehog *Erinaceus europaeus*. It is distributed widely across western Europe and the UK, where it can be absent from mountainous, coniferous or extremely urban areas, where there are few leaves to make nests from when they **hibernate** in the winter.

The group of hedgehogs it belongs to have short ears, a large big toe on the rear feet and a faint central parting of spines on the crown of the head. Some people keep pet 'African pygmy' hedgehogs bred for the pet trade. They are distinguished by having 4 instead of 5 toes like our hedgehog and a white chest and forehead band.



© Deborah Wright 2019

Adult hedgehogs have up to 7000 spines (approx. 20x2mm) to defend against predators and cushion against impact. When threatened, the spines are raised, brought over the head and feet, and the hedgehog rolls up. Hedgehogs have a 'skirt' of skin bounded by an **orbicularis muscle** that acts like a drawstring bag pulling the hedgehog into a tight ball. It is this skirt that a hedgehog 'hitches' up when it runs - surprisingly fast!

Spines are attached to individual muscles that can be raised at different angles, creating a formidable force to reckon with!



British Hedgehog
Preservation Society



THE
wildlife
TRUSTS
Warwickshire



© Deborah Wright 2019

Because hedgehogs are **nocturnal**, we often do not see them awake at night. They leave signs of their presence though! Droppings are often cylindrical, 15-50mm, dark, found on their own, sometimes tapered and they typically shine with insect remnants, such as beetle exoskeletons. Hedgehogs are **omnivores** and opportunistic but largely eat beetles, caterpillars and earthworms. They sometimes eat slugs and snails, eggs, carrion, other mammals, chicks, frogs and fruit. People put out water and meaty pet food for them (not fish-based). Remember that bread and milk can make them poorly!



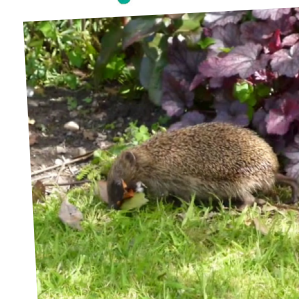
© Warwickshire Wildlife Trust 2019



© Sally Marjoram 2019

Sexual maturity occurs at 9-12 months. Courtship is often noticeable in May with the male circling the female (often for some time) whilst she makes noises and head butts his flanks. This prolonged courtship activity may aid mate selection by the **sow** (female), allowing her to distinguish between **boars** (males) of varying 'fitness'. The sexes can be hard to tell apart, with the size difference of males being larger less obvious as they get older. Both are promiscuous and the male does not look after young.

After 4 weeks in the womb, a litter of 4-5 baby hedgehogs or **hoglets** are born with their eyes and ears sealed and spines underneath skin. The first white spines protrude soon after birth. Hoglets are vulnerable, unable to fully roll up for 11 days. They suckle on a highly concentrated milk, low in lactose but high in fat and protein. After 4 weeks in the nest they forage with their mother before becoming independent and solitary at 6-8 weeks. 20% die in the nest but adults live for an average of 2 years, sometimes up to 5.



© Warwickshire Wildlife Trust 2019

Hedgehogs make 3 nests. Day nests can sometimes just be made at the base of long grass as a summer shelter. **Hibernacula** or hibernation nests are more substantial and made of leaves for the winter e.g. cherry, oak, lime, under a structure to keep them in place e.g. hedge, shed. Nursery nests are made by sows to nurse their litters in, and are often made of a mix of materials including leaves.