

Beasts of the forest: Badgers

Badgers are an important part of woodland ecology, wrongly linked to declines and disease, explains Elspeth Stirling.



Not so long ago, badgers would have lived wherever the substrate was suitable for excavating their setts. Nowadays badgers are thought of as woodland dwellers but this may be a result of pressures from human development and agriculture. The Eurasian badger (*Meles meles*) occurs across Europe and Asia and is present in most parts of the UK with Scotland holding approximately ten per cent of the UK population. Badgers often live in relatively close proximity to humans without anyone being aware of them. Being shy and nocturnal badgers are rarely seen, except as road casualties or when caught in snares. Badger numbers have been suppressed historically by centuries of persecution, which resulted in extirpation from many areas and suppressed numbers in remaining populations. Eighty per cent of Scotland's lowland has no sett or signs of badger activity of any kind—yet this does not have to be the case.

Badger is a member of the weasel family (*Mustelidae*) and has a low wedge-shaped body suited to underground living, poor eyesight, excellent sense of smell, strong front legs with claws and paws ideal for digging, powerful articulated jaw and average weight around ten kilograms. Mating can take place at various times of year. Delayed implantation occurs with most cubs born in

February, weaned in May and feeding independently by July. Reproductive suppression means usually only one female in the social group produces cubs, usually three. Cub mortality is around 30-50 per cent with increasingly common droughts in July making matters worse. Badgers scent mark each other, the ground, trees and at their communal latrines to mark their territory for other social groups. If you come across small pits in the soil with faeces in, you have found a latrine marking a significant territory boundary or path.

Badger habitat

Ideal present-day habitat includes a mix of deciduous woodland with grass and arable land. As a highly territorial species a badger family (typically five to six animals in Scotland) excavates several setts scattered throughout their territory—within Scotland territories can extend to several kilometres and may not be defended with markers, such as latrines, as they are in the more densely populated South of Britain. Each sett supports badger welfare throughout their lives—sleeping, raising cubs, socialising and taking refuge from the elements and threats. A sett usually has multiple entrances into a subterranean network of tunnels and chambers. Entrances have a characteristic 'D-shape on its side' and a conspicuous spoil heap may be present containing large stones. The number of entrances and setts within a territory is linked to the age of the sett, not the number of inhabitants, and the diggability of the soil as

badgers clean out and maintain their setts continuously.

Eighty per cent of badgers' diet is protein-rich earthworms, insects and larvae found in the top few centimetres of the soil. This is supplemented with whatever is available—tubers, cereals, fruits, young rabbits, eggs, amphibians, slugs, snails, fungi and where food is scarce they can resort to carrion. Badgers are opportunistic omnivores, gleaners of small relatively immobile items which they detect as they travel along ancestral paths, nose to the ground, poised to snuffle. Badgers contribute to the breakdown and cycling of nutrient materials, such as leaf litter, in woodlands through their foraging and sett building activities, their digging creating niche habitats.

Scapegoat

It is often thought that ground-nesting birds and hedgehogs are sensitive to badger presence—but is this true? Or are badgers, as opportunistic feeders, being wrongly accused for problems caused by humans? Field evidence from England in 2020 showed badger removal having no significant effect on ground-nesting bird numbers such as skylark and lapwing [1]. On the other hand, there are numerous scientific reports documenting how pesticides and herbicides, loss of field margins and hedges, drainage, earlier ploughing and autumn-sown cereals all reduce available food and nest opportunities for these birds. The remaining fragmented pockets, such

Above: Eurasian badger (*Meles meles*) foraging in woodland, Cairngorms National Park, Scotland. Photo: Peter Cairns, scotlandbigpicture.com

as nature reserves, leave nests exposed to a range of risks including predation from a wide range of species, all competing to raise their young in a depleted situation. Furthermore, trampling and predation by sheep and cattle is known to play a large part in nest and egg loss.

The field evidence similarly demonstrates that the downward trend in hedgehog populations is the same whether badgers are present or not. How do we explain the areas where the hedgehog decline is most rapid yet where there are few or no badgers? As with birds, it is habitat fragmentation and reduction of food that are the cause and to blame badgers is “simply wrongheaded” [2]. It can be tempting to blame badgers for the declining bee population too. After all a badger *can* open a wasp or bee nest if they come across it, and badgers share the same habitat as bees, hedgehogs and birds. Yet analyses of badger stomach contents tell a different story—under one per cent is wasp or bee larvae and that is in summer only. Bees, birds and hedgehogs need a range of nesting opportunities in their territory, and we now understand that increasing the area of connected undisturbed hedgerows and scrub will do more than anything else to enable successful broods.

Badgers are often blamed for problems in agriculture too, yet a recent study concluded that badgers do not have a major environmental impact on either [3]. On occasions setts or entrances appear in arable

fields. There is a licensing system to enable work to be carried out safely under specified conditions. Experienced forestry operators are familiar with badger licence conditions, whereas few licences are applied for in agriculture. In 2015, the Scottish Agricultural Science Agency filmed the interactions of sheep, lambs and badgers in fields in the Borders at night. Ewes showed no alarm signs when badgers walked through, and no badger attempted to harm a lamb. Our experience, together with Police Scotland, is that badger behaviour and ecology is often perceived as a ‘problem’ when it is not.

And finally, Scotland has bovine-TB-free status. There is no reservoir of bovine TB in wildlife in Scotland. Cattle are subject to stringent movement testing and the Animal Plant and Health Agency acts swiftly when sporadic herd incidents are identified, all traced to imported cattle. If TB did spill over into wildlife, it would infect deer, rats, cats, and many other species. England has come to the sensible conclusion that cattle-centred measures are the effective way forward, but only after culling badgers has been imposed and failed [4].

Future for badgers

Badgers face sharp declines in habitat and food availability due to intensification of agriculture, and it is estimated a tenth of the population is killed on our roads annually. Building development encroaches incrementally on foraging grounds—

as a territorial species they cling on despite diminished resources to support life. Badgers suffer historic negative prejudice in the UK in a way that is unrelated to the behaviour of the species. In contrast the same animal in the Netherlands has more confrontation with humans (collisions with vehicles, damage to crops) but persecution is increasingly rare.

Crime against badgers and their setts is rife and reported in every region of Scotland. In 2019/20, 72 incidents were reported to us as suspected crimes of which 59 were deemed crimes. However, only single numbers ever go forward for prosecution usually due to the challenges to the investigating authorities in collecting evidence. Under the Protection of Badgers Act 1992 the animals themselves are protected from being killed or cruelly treated. Their setts also have legal protection because some continued to kill the animals by filling in or crushing their setts, resulting in particularly cruel and protracted deaths for the animals. But as research proves how wrong some of our assumptions have been, the future for badgers in Scotland is looking up.

scottishbadgers.org.uk

References

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Left: Eurasian badger foraging in pine woodland, Glenfeshie, Scotland. Photo: Peter Cairns, scotlandbigpicture.com

