

Caledonian Forest – Species Profile

Eurasian lynx

(*Lynx lynx*)

This elusive ambush predator is the most feasible of Scotland's missing carnivores to be reintroduced in the near future.



Illustration by Caragh McAuley.



Detail of the face of a Eurasian lynx, showing the black tufts on the ears, and the white chin and throat.

Worldwide distribution

The Eurasian lynx has one of the largest ranges of any of the world's cat species, and was originally distributed throughout most of Europe and northern and central Asia. Today it occurs from Scandinavia eastwards through all of Russia and Siberia to North Korea, in Mongolia and China, and southwards to northern India, Nepal, Pakistan and Afghanistan. It is also found in northern Iran, Turkey, Georgia and some of the central Asian republics.

In Europe the largest populations are in Scandinavia, the Baltic region, and in the Carpathian Mountains of Poland, Slovakia and Romania. A smaller population exists in the Balkans, particularly in Macedonia. In Western Europe, successful lynx reintroductions have taken place in Switzerland, Germany, France and Slovenia, while natural spread and colonisation has led to new populations occurring in northern Italy, parts of Germany and Croatia.

Distribution in Scotland

The lynx has been absent from Britain for a long time, although research and findings in the past 20 years have shown that it persisted much more recently than had previously been thought. Lynx bones from a cave in Sutherland were radio-carbon dated at about 1,800 years old, while some from a cave in Yorkshire were dated to about 1,550 years ago. Cultural references to the lynx in both the Gaelic and Old Welsh languages also indicate that the species survived into the medieval period.

Before its extirpation from Scotland, it is likely that the lynx occurred in much of the country, when forests covered substantially more of the land than today. In recent decades there have been a number of sightings of lynx reported in the UK, and in the few cases where bodies were recovered these have been attributed to animals that escaped from zoos or private collections.

Conservation status

Because of its wide geographic range and consequent numbers, the Eurasian lynx is classified as Least Concern on the IUCN Red List of Threatened Species, meaning that it is not facing any imminent threats at a global level. However, some of the populations in Europe that are geographically isolated are considered to be Endangered. It is included

on Appendix II of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) and Appendix III of the Bern Convention, which means that trade in the species can take place, but only under strict regulations.

As an EU member state, the UK government is obliged to consider the feasibility and desirability of reintroducing extirpated species listed on Annex IV of the Habitats Directive, which includes the Eurasian lynx.

Physical characteristics and behaviour

The Eurasian lynx is the largest of the world's four lynx species, and is the largest European member of the cat family, Felidae. It is also the third largest predator in Europe, after the brown bear (*Ursus arctos*) and the wolf (*Canis lupus*). Adults are about 65 cm. in height at the shoulders and have a body length of 70 – 130 cm., with a short, bobbed tail that is 10 – 25 cm. long. Males are larger than females, typically weighing around 25 kg. and 20 kg. respectively. The largest lynxes occur in Siberia where males of over 35 kg. have been recorded.

The lynx is relatively long-legged for its size, and this characteristic, together with the webbing between the toes on its large, fur-covered paws, are adaptations for coping with the deep winter snows that occur in much of its range. Other distinctive features include black tufts of hair on its ears, a solid black tip to the tail and a flared facial ruff of white fur. In the summer, the lynx's coat is a reddish-brown colour, often with a pattern of spots that can vary from animal to animal in their density and prominence. In winter, the fur becomes thicker, longer and more silvery-grey in colour, to provide better camouflage in snowy landscapes. The underparts, including the belly and chin, are whitish, with a fainter pattern of spots.

Like most cat species, the lynx has retractable claws, which enable it to firmly grip its prey. It can also use these to climb trees, and, like



With its relatively long legs and the snowshoe-like effect of its large webbed paws, the lynx is well adapted for hunting in the snow.

domestic cats, it has to regularly stretch its claws, to keep them in optimum condition. As a carnivore, it has prominent canine teeth and well-developed carnassial teeth, which have knife-like edges for cutting and slicing through flesh.

The lynx has good senses of sight, smell and hearing. Its facial whiskers are highly sensitive to breezes and air currents, and provide a tactile spatial awareness in confined areas, such as amongst the trunks of trees in a dense young forest.

The Eurasian lynx is primarily a forest dwelling species, and is mainly crepuscular (meaning that it is active in the twilight periods around dawn and dusk) or nocturnal. It spends most of the day asleep in an

Illustration by Martha Duval.

area of thick cover, only becoming active in the late afternoon, making it a difficult species to observe in the wild. Adults are solitary, and are elusive and secretive in their behaviour, resulting in them often being undetected by people in regions where they live. Home territories vary in size depending on the habitat and availability of prey, and are marked with urine and scented secretions from glands.

The Eurasian lynx targets mainly ungulate prey, and in western Europe it primarily takes roe deer (*Capreolus capreolus*). It is an ambush predator, stalking its prey using the cover of its forest habitat until it is close enough to make a kill after a few bounds. Unlike other predators such as the wolf, it will not chase prey for long distances. If roe deer are unavailable, the lynx is capable of taking larger animals several times its own size, such as the hinds and calves of red deer (*Cervus elaphus*) as well as those of sika deer (*Cervus nippon*). It will also catch smaller prey, including hares (*Lepus spp.*), foxes (*Vulpes vulpes*) and birds. The lynx can occasionally take domesticated livestock such as sheep (*Ovis aries*), and this has led to persecution by people in the past. Typically a lynx will feed on a deer carcass for 5 days or so, with an adult requiring an average of 1-2 kg. of meat per day. There may, however, be several days between successful kills.



Eurasian lynx mother and kitten in summer.

Mating takes place between February and April, with litters of 2-3 kittens being born in May or June, after a gestation period averaging 69 days. The kittens weigh 300-350 gm. at birth, and are fed exclusively by their mother, who weans them at 4 months. Juveniles become independent at about 10 months of age, and become sexually mature at 2 years for females and 3 years for males. Lifespan in the wild is up to 17 years, while in captivity it can reach 24 years.



Eurasian lynx stretching its claws on a birch tree in winter.

Ecological relationships of the Eurasian lynx

As a predator, the lynx exerts a controlling influence on its prey species, both in limiting their numbers and in altering prey behaviour, so that they avoid areas with a high risk of attack. This can have knock-on effects on the vegetation, through restricting the amount of herbivory, and therefore enabling more growth of plants and young trees. Lynx kills provide a source of carrion for scavenging omnivores, such as wild boar (*Sus scrofa*) and badgers (*Meles meles*), and the large numbers of invertebrates that breed in carcasses. Lynx predation on foxes is commonplace around Europe and in some areas is thought to actually benefit smaller species vulnerable to fox predation, such as mountain hares and woodland grouse (*Tetrao spp.*).

The natural range of the Eurasian lynx overlaps with that of the grey wolf in parts of Europe and much of northern Asia. For the most part, the two species co-exist uneventfully as they generally depend on different-sized prey, with the mainly pack-hunting wolf concentrating mostly on red deer, which is considerably larger than the roe deer that the solitary hunting lynx focuses on. However, where prey is scarce wolves will occasionally kill a lynx. There are also some records of lynx being preyed on by the wolverine (*Gulo gulo*), and, where their ranges overlap in northeastern Asia, the Amur or Siberian tiger (*Panthera tigris altaica*).

As a medium-sized mammal, the Eurasian lynx is host to a range of endoparasites – parasites that live internally, mainly in the gut of animals. These include two tapeworms, *Diphyllobothrium latum* and *Taenia pisiformis*, a roundworm or nematode (*Toxocara cati*) and a protozoan (*Toxoplasma gondii*), which causes the disease toxoplasmosis that also affects humans. External or ectoparasites of the lynx include ticks (*Ixodes ricinus*), fleas (*Ctenocephalides sp.*) and lice (*Felicola sp.*). An ear mite (*Otodectes cynotis*) that commonly occurs in the ears of domestic cats, where it causes mange, has also been found on the Eurasian lynx.

Absent from the Caledonian Forest for several centuries, the Eurasian lynx is now being advocated as the most likely large carnivore to be reintroduced to Scotland. Research suggests that the habitat and prey availability of the Scottish Highlands could support a viable lynx population. Its return would reinstate the missing top tier in the forest's food web, restore essential ecosystem services such as predation and disturbance, and, if similar experiences in Germany are repeated, would be a major marketing symbol and wildlife tourism asset.

A list of sources for this profile can be found on our website.