



HEREFORDSHIRE LAGOMORPH ATLAS 1960 to 2015

***Produced by Denise Foster and David Lee
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CONTENTS

Item	Page
Introduction	3
European Rabbit (<i>Oryctolagus cuniculus</i>)	4
Brown Hare (<i>Lepus europaeus</i>)	5

Introduction

The taxonomic order Lagomorpha, from Greek meaning “hare-shaped”, contains two living families; the Leporidae (hares and rabbits) and the Ochotonidae (pikas). Pikas, look like a combination of a rabbit and a guinea pig. They live at high altitude in mountainous countries in Asia, with two species also in North America.

In the UK, there are three species of Lagomorph: the European rabbit (*Oryctolagus cuniculus*), brown hare (*Lepus europaeus*) and mountain hare (*Lepus timidus*). A sub-species of the mountain hare - the Irish hare (*Lepus timidus hibernicus*) - occurs only in Ireland. In Herefordshire, we have two species: the European rabbit and the brown hare.

Lagomorphs are similar to the rodents; they are herbivores and have prominent front incisors in both the upper and lower jaws, which are used for cutting and nibbling food. Rabbits and hares used to be classified among the rodents but they were split off around 1912 due to their differences. Fossil and genetic evidence confirms Lagomorpha has been a distinct order for about 60 million years.

The two families of Lagomorphs have around 89 species and despite the low number of species they are considered successful, widespread and often common where they occur. When lagomorphs are numerous, particularly rabbits, they can be considered as pests, as their voracious feeding habits can cause changes to habitats and have an adverse impact on agriculture.

Lagomorphs are distinct from the rodents on various accounts. The skeleton is one distinctive feature but so is the dentition, particularly the additional incisors tucked behind the larger first incisors. However, external features are far more useful for identification purposes in the field. Lagomorphs have a small furred tail, large ears and particularly large eyes. Their powerful hind legs are used for pushing off and jumping and their shorter forelimbs soften the impact on landing. Field signs include faeces easily recognised by their hard, dark, rounded shape, which resembles a bullet or pea. Lagomorphs practice coprophagy (faeces-eating) which enables them to extract additional nutrition from plant material by producing cecotropes (moist soft faeces coated in mucus) which are eaten directly from the anus. The hard bullet or pea shaped faeces we normally encounter in the field are not eaten.

Lagomorph	Number of Records from 1960-2000	Number of Records from 2000-2015
European Rabbit	221	615
Brown Hare	93	215
Total Records	314	830

Number of records for each species used to create distribution maps

Visual surveys and field signs will continue to be the main source of new records added to the database after 2015.

European Rabbit (*Oryctolagus cuniculus*)



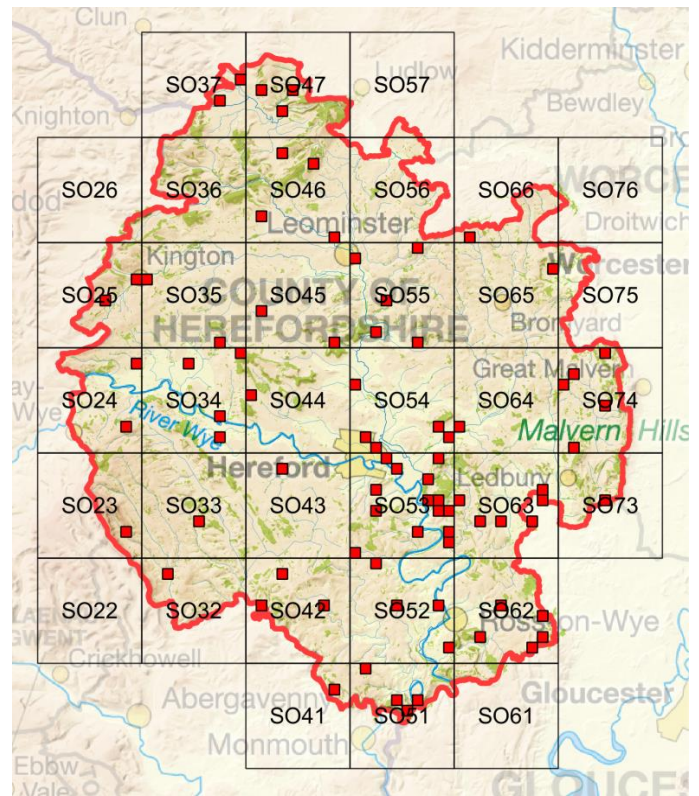
European or common rabbit (photo credit Denise Foster)

Distribution: The European rabbit was introduced into Britain during the 12th century to provide meat and fur. It is now widespread throughout Britain and Ireland. It can be found in a variety of habitats such as woodland edge, hedgerows, railway verges and sand dunes. It is widespread in Herefordshire where it is certainly under recorded

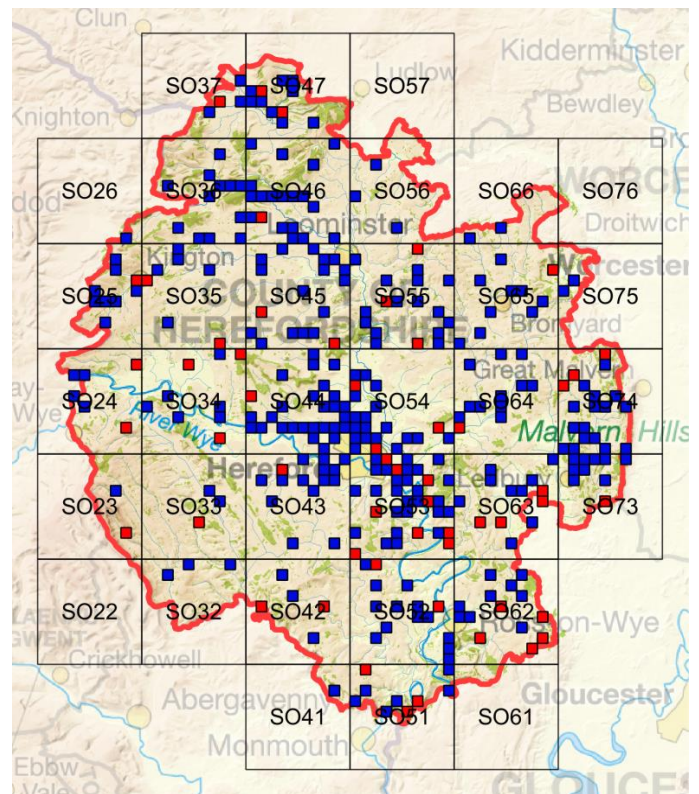
Identification: It has grey-brown fur with black upper side and white underside to its tail. In contrast to the brown hare, it raises its tail when it departs showing the white underside. It has a bobbing gait, unlike the loping gait of the hare. Its ears are about same length as its head. It is smaller than the brown hare and lacks black tips to the ears. It has brown eyes whereas brown hares have noticeably lighter amber eyes. Bucks are generally heavier than the does.

Feeding habitat and diet: The European rabbit eats a wide range of vegetation, especially grasses. It favours young, succulent leaves and shoots and selects more nutritious species.

Ecology: Rabbits live in social groups in a random network of tunnels and dens known as a warren. They are generally nocturnal but can be seen foraging in daylight hours. There is a social hierarchy in warrens with dominant males having the pick of the females and also competition between females for the best nest sites. They breed from January to August producing one litter per month of 3-7 young. Bucks and does come into breeding condition at about 4 months old. Young rabbits are taken by badgers, buzzards and weasels and adult rabbits are taken by foxes, stoats and polecats.



Distribution of *Oryctolagus cuniculus* from 1960 to 2000 in Herefordshire



Distribution of *Oryctolagus cuniculus* from 2000 to 2015 in Herefordshire (1960-2000 records are shown as red squares)

Brown Hare (*Lepus europaeus*)



Brown Hare (photo credit Steve Evans)

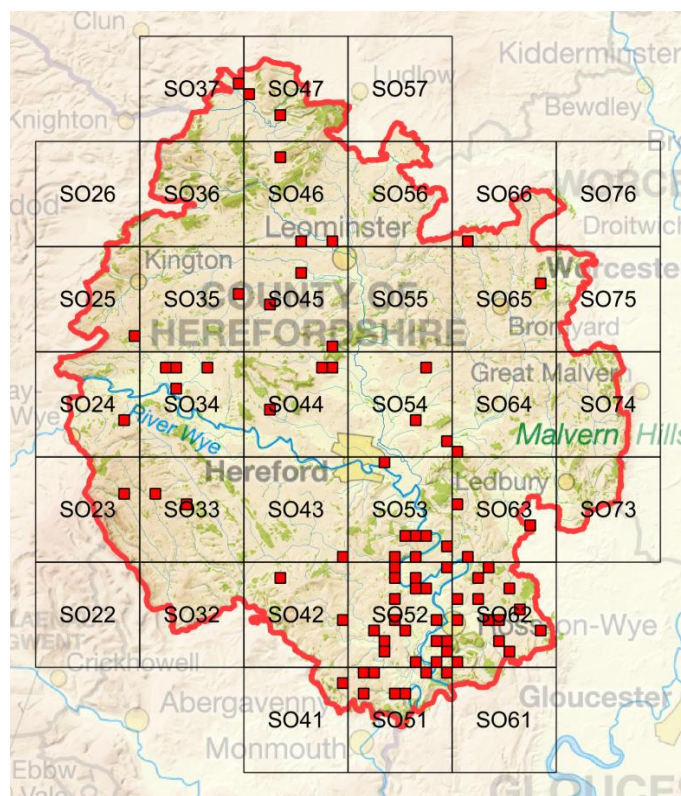
Distribution: The brown hare is widespread, particularly in the UK open countryside. Its range reflects its close association with humans and farming. Its distribution can be patchy in places and either scarce or locally common. It is widespread in Herefordshire but it is probably under recorded.

Identification: A large reddish-brown loping-gaited mammal found on open farmland. It has a rather lanky appearance with a stiff-legged action when seen moving. It can be recognised by its thick black tipped ears and its tail, which is folded downwards when it runs, showing the black fur. The colour underneath the tail is white.

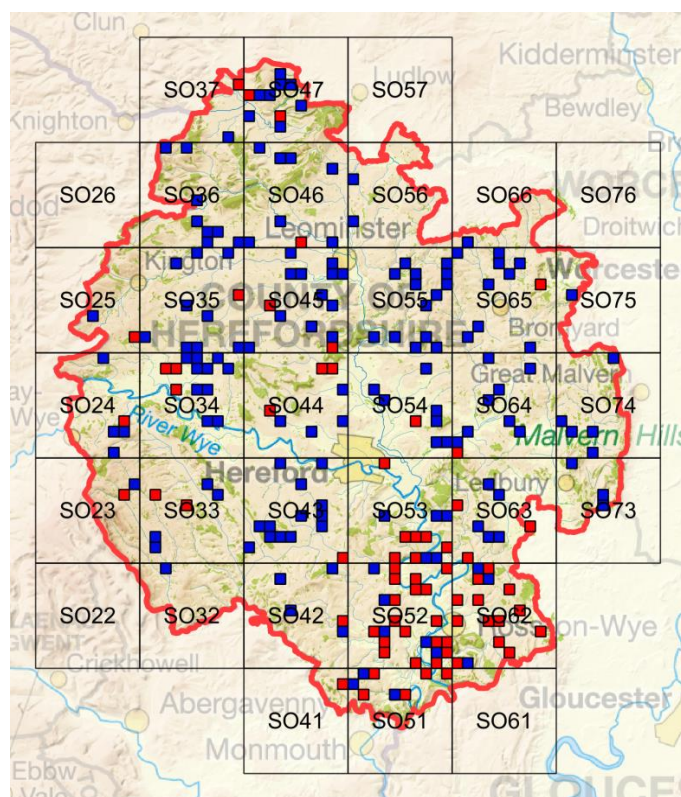
Feeding habitat and diet: The brown hare is entirely vegetarian and it is principally a grazer. It mainly grazes on flowering plants and grasses, particularly young shoots, but it will also feed on twigs, leaves, bark from saplings, windfall apples and other delicacies.

Ecology: Unlike the rabbit, the brown hare is a solitary animal and it rests in depressions in the soil of arable fields called forms. Even though it is solitary, it will form loose groups when feeding. In a brown hare's second year it will produce up to 3 litters of between 1 and 4 young. Leverets (juveniles) receive very little parental care and are fed just once a day for the first 4 weeks of their lives. The leverets are normally taken by buzzards, foxes and tawny owls. Man and large birds of prey such as goshawk will predate on the adult brown hares. Their life expectancy is about 3 years. The breeding season starts as early as February and continues until early October. Breeding performance is affected by weather conditions. In the breeding season males compete for the females' attention. Also, abnormal behaviour such as boxing and jumping vertically for no apparent reason is encountered which is likely to be a female seeing off an unsuitable suitor. This is where

the English phrase "Mad as a March Hare" comes from.



Distribution of *Lepus europaeus* from 1960 to 2000 in Herefordshire



Distribution of *Lepus europaeus* from 2000 to 2015 in Herefordshire (1960-2000 records are shown as red squares)