BRITISH
LAND·MAMMALS

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HEDGEHOG AND YOUNG. Page 10.

BRITISH LAND MAMMALS AND THEIR HABITS

BY
A. NICOL SIMPSON, F.Z.S.

AUTHOR OF "FAMILIAR SCOTTISH ANIMALS," ETC.

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INTRODUCTORY NOTE

MAMMALS form the highest class of vertebrate or backboned animals. The name of the class is derived from the Latin *mamma*, meaning “a breast,” and it covers all those vertebrates which suckle their young. Man stands at the head of the class. All mammals have hearts with four chambers, are warm-blooded, and breathe by means of lungs. The class includes some creatures of the sea, such as whales and seals, and many animals of greatly varied structure and habits. As the title of this little book indicates, only British land mammals are dealt with in its pages. These fall under five different orders, as follows :

1. The CHIROPTERA (Greek *cheir*, hand ; *pteron*, wing) : The Bat Order.

2. The INSECTIVORA (Latin *insectum*, an insect ; *vorāre*, to devour) : The Order of Insect-Eaters, including Moles, Shrews, and Hedgehogs.

3. The CARNIVORA (Latin *caro*, *carius*, flesh ; *vorāre*, to devour) : The Order of Flesh-Eating Mammals—Dogs, Cats, etc.

Introductory Note

4. The UNGULATA (Latin *ungius*, a veil): The Order of Hoofed Mammals, in which the digits are enclosed in hoofs, as in the Ox, the Deer, etc.

5. The RODENTIA (Latin *rodere*, to gnaw): The Order of Gnawing Mammals, such as the Hares and Rabbits.

Mr. Simpson, the author, is a practical observer of wide experience, and in the following chapters he describes British land mammals as one who is intimately acquainted with them.

CHARLES A. HALL.

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BRITISH LAND MAMMALS AND THEIR HABITS

CHAPTER I

BRITISH BATS

THE curious formation of Bats and their mode of existence must be taken as an excuse for the superstitious views held by our forefathers in regard to these mammals. It seems peculiarly strange to see a mouse-like creature, endowed with wings, floating through the summer air and then vanishing without any explanation until the summer insects dance again in the after-glow.

The body of a Bat is truly mouse-like, but the wings that convey the creature through the air are not so bird-like as might be supposed merely by observing the animal in flight. The fore-limbs are quite an innovation considered as wings. These are drawn out, and what would be the fingers on a forearm are very long and thin. In this transformation the flat portion of the hand has lost its palm, the bones of which, combined with the remainder of the fingers, are turned

British Bats

into tiny stretchers for the thin and delicate sheet of skin that spreads over them. This skin is fixed to the body, and extends backwards, taking in the hind-legs. Now, these wings serve the Bat as well as the wings of a bird serve it, but there is this difference: a bird can move rapidly in mid-air, and on the ground it can exhibit remarkable powers of locomotion. Not so with the Bat. It is only a creature of activity while on the wing. Once it settles on terra-firma it is almost helpless, its movements being a mere crawl. I have picked a Bat off the ground before it could regain its self-confidence. It had evidently been disturbed during the midday sun and forced to take wing, and landed on the roadway. Although Bats seldom fly during the daytime, I have repeatedly observed them hawking for insects in a glaring sunshine.

Some species of Bats are endowed with enormous ears considering the size of their bodies. Others have an apparently abnormal amount of skin clustering round their muzzles. These skin developments seem to have their uses, evidently being sensitive to touch in a remarkable degree. This in a great measure makes up for the rather rudimentary eyes Bats generally have.

Bats hibernate throughout the winter, retiring to some lofty tower or other edifice. Here they attach themselves to the couplings or rafters—often in clusters—and sleep until congenial weather returns. As becomes a mammal, the female suckles her offspring, of which there are two at a time.

British Bats

All the Bats native to Britain are sombre in colouring as a whole, but the various species differ slightly in intensity. The Long-eared Bat is palish brown above and lighter on the underparts. The body measures somewhat under 2 inches. The head is flat, and the nostrils are placed in the front of rather curiously curved grooves on the upper frontal of the creature's hairy muzzle. Over each eye there is a wart. The wing-membrane rises from the base of the toes and spreads out umbrella fashion to the forearm. It is by no means an uncommon species, and seems to be more prevalent in the open spaces where trees are few and far between.

In the Greater Horseshoe Bat the ears are short and pointed. The head and body measure fully 2 inches, and the tail about an inch. The forearm reaches 2 inches. There are two joints in the first hind-toe and three in the others. This Bat prefers the vicinity of woods. Although now and again mentioned as appearing in Scotland, the species truly belongs to the more southern counties of England.

The Lesser Horseshoe Bat is a native also of the more southern counties of England. In colour it is brown above and dull grey on the underparts. It measures fully more than an inch, including body and head, with a tail about 1 inch long and the forearm fully that length. The ears are pointed, and almost as long as the head.

The Barbastelle is coloured black with a greyish

British Bats

tinge. The head and body are about equal in length with the tail—that is, almost 2 inches. The nostrils open on the top of the muzzle, and there are grooves passing downwards from these. This Bat is found chiefly in the northern counties of England.

The ears of Daubenton's Bat are concave in part and almost as long as the head. The earlet is about as long as the ear itself, with a straight end and a rounded lobe placed over the base. With the exception of a few hairs just in front of the ears, the face is quite bare. It is not a large Bat—the frame being less than 2 inches, with a little under that for the tail. The colour is brown over the back portions and greyish-white below. This is a very widely distributed species, and quite common on both sides of the Border.

The Reddish-grey Bat can be recognized as the animal passes in mid-air. The white colour of the underparts is quite sufficient for the purpose of identification. In this species the fur is comparatively thick and long; over the back the colour is a deep brown, with a reddish colour along the upper fur. It is a small Bat, rather less than 2 inches over head and body. The ears are longer than the head, and semi-transparent. A rather curious fringe of stiff hairs grows on the membrane between the legs. This Bat loves the vicinity of cliffs and caves, in which it takes up its abode. At other times it may be located near outstanding buildings.

The name of the Whiskered Bat denotes the char-

Serotine and Pipistrelle Bats

acteristic feature of this species. It can be identified by its moustache. Another noticeable feature is that the wing-membrane starts from the base of the outer toe. The ears are as long as the head, and the earlet is long and straight, while the lobe is rounded at the base. The body measures an inch, and the head half that length. This species loves to hunt the insects between a sheet of water and the tree-boughs, and is seldom seen in large numbers. It is not over-particular where it settles for the winter; a high building; a cleft in a rock; or the hollow branch of a tree, proving equally acceptable.

The Serotine Bat is found in the southern counties of England. The back is dark brown, with a paler hue below. It has shortish ears; shortish fur on the face; a fringe of straight hair on the upper lip; and the chin is adorned with a wart. A few hairs radiate from the latter. In length this mammal runs to nearly 3 inches for head and body, with 2 inches for the tail, and fully 2 inches for the forearm.

The Pipistrelle is the smallest, and at the same time the commonest, of all the native Bats of the British Isles. This little creature measures scarcely 2 inches. The head and face are hairy, the muzzle rather short, with the nostrils opening forward. It has rounded tips to the ears, which are of themselves somewhat triangular in shape. This Bat hunts the gnats in the summer evenings, even in the most populated districts, and seems quite devoid of fear mid the bustle and noise of

British Bats

the city. It is, however, beyond the city's noise and din that the Pipistrelle can be seen to the best advantage. About the semi-quiet of the inland village these little Bats may be seen in dozens flitting hither and thither on tireless wing, at one time dipping under the tree-arms that sway over the churchyard wall, now dancing along a few feet above the waters where the miller's ducks stay late in the summer gloaming.

The Noctule has very broad, thick ears. The head is broad and the nostrils wide set, with a deep space between them. In colour this Bat is reddish-brown, with paler underparts. The head and body measure 3 inches, and the tail about an inch less. The North of England is generally credited with being the true habitat of the Noctule.

The forearm of the Hairy-armed Bat has the fringe of hair on the under-side more pronounced than in the case of the Noctule species. It is a mammal of fully 2 inches in the frame, with a tail about $\frac{1}{2}$ inch less. In colour it is dark brown, with the hairs tipped with fainter brown, both on the upper and lower parts. It is found in various parts of the British Isles.

CHAPTER II

BRITISH INSECTIVOROUS LAND MAMMALS

THERE are three distinct species of Shrews native to Britain. These are the Common, Lesser, and Water Shrews. As the name implies, the first quoted is widely distributed, and may be identified throughout the length and breadth of the mainland. This little creature is as much at home high up the mountain-side as it is in the pasture-lands. At best it is a tiny mite of some $2\frac{1}{2}$ inches, or a little more, exclusive of the tail.

They vary much in their general colouring. By nature they are insectivorous, but at times they will eat worms or slugs, or, indeed, a fledgling that may have come to death by falling out of its nest. There are about six young Shrews born in each nest. These nests may be found amongst herbage by the roadside, or quite a distance into a hay or corn field. These nests are cosy structures, with an entrance at one side. In olden times many superstitious tales were told about Shrews in the country-sides, but these beliefs are now a thing of the past. Yet there is a destiny peculiar to not only the Common Shrew, but to the others as well: this is shown in the high percentage of these mammals that are to be seen lying dead about roadways, where

Insectivorous Land Mammals

one would scarcely think they cared to live. Some seasons are more productive than others in this respect, and so far as the writer knows there is no satisfactory explanation forthcoming for this peculiar feature in Shrew life.

It is extremely unlikely that these little creatures die natural deaths. Were the tiny carcasses found during severe weather one might reasonably surmise that cold and hunger had stiffened the little bodies. Yet it is in the milder seasons of the year that these corpses lie about the turnpike or the bridle-path. The wind will be rippling the short, soft fur of a dead Shrew on the bare, sun-baked roadway, while the meadow-sweet is getting into flower. The roadman, as he kicks the little carcass into the ditch, partly as an act of devotion to the dead, partly by way of keeping his stretch of road free of all rubbish, thinks in his heart that there has been war in the ranks of the mice, and that the one moved by his heavy boot has been killed in the fray. He may be right, for it seems there is no natural death in the fields. There is no old age in the shires amongst the grasses and the swaying tree-tops. Disease may rivet a rodent to a limited area and it may die; more than likely a hooded crow croaks on an outspread branch as the life-blood ebbs away. Accident may hasten the death of a rodent, and give employment to the little burying beetle. Murder in cold blood may limit the age of the active quadrupeds.

Perhaps of all the smaller animals of the hedgerows

LONG-EARED BAT

Photo, R. Fortune

LESSER HORSESHOE BAT

Photo, R. Fortune

British Shrews

the Shrews are the least known. This is because they are mouse-like, and classed by the rustic as mice in the concrete. They are very pugnacious in character, and may be seen at times chasing each other about the grassy edges of the paths, intent on giving battle to every rival in the field.

All Shrews own a distinctive musty smell, by no means unpleasant. A cat will slay a Shrew, but seldom eat its victim. The true enemies of the Shrews are Stoats and Weasels, Owls and Kestrel Hawks.

The Lesser Shrew is by no means so frequently seen as the one just referred to. In some quarters it is fairly numerous, while in other districts it is all but unknown. Compared with the common species it is much smaller, and usually a shade darker in colour. Indeed, the Lesser Shrew is the smallest of all British mammals. In habit it greatly resembles the Common Shrew.

In almost every portion of the mainland the Water Shrew may be located. It is rather difficult to observe, being aquatic by nature, and usually distributed where the vegetation is rank and apart from the beaten track. But when carefully looked for, the Water Shrew may be found, and when discovered it will be seen to be a very handsome little creature. The pond-side, along a stream-bank, or about a damp ditch, are favourite localities for this animal. It dives quite readily, and as it swims off it leaves a tiny line of air-bubbles that indicate its course. The hind-feet and the underpart

Insectivorous Land Mammals

of the tail have small wiry hairs, that assist the animal greatly in its aquatic movements. The usual colour is brownish-black over the back, and white beneath, but, like the other Shrews, there is a great diversity in shadings. Water Shrews do not appear to be very particular as to the site they select for a home. A very ordinary place is about the waterway they frequent, but sometimes they will rear their little ones quite apart from the stream or pond side. If by the water-edge they generally have rather lengthy burrows, but a cavity in a stone wall will suffice for the Water Shrew's family of five or six youngsters. Like the other Shrews, the water species seems to be somewhat nomadic, as it is no unusual sight to see a specimen far removed from a damp meadow or a sheet of water.

Its ball-like form and spiny coating go to indicate the Hedgehog wherever seen. When on the move this animal looks very pig-like, especially about the head ; its neck and tail are short ; its muzzle is rather pointed. Its spines, however, are its truly distinctive feature.

The animal has the faculty when assailed of tucking in its head and legs, and presenting externally a spiny ball. These spines are about an inch in length when the animal is full grown. In the young they are much shorter during the first year, and during this time the animal is unable to roll itself into the defensive attitude of the adult. When the spines become white, with a

The Hedgehog

broad band of brown colour halfway from the tips, the Hedgehog may be said to be proof against its enemies, for it can then roll itself up on the least sign of danger. These spines encircle the head, clothe the whole upper surface of the body, and curve round the root of the tail.

The animal itself is about 10 inches long, half that in height, and stands about an inch off the soil when walking. The general colouring over the back is brown inclined to grey, with a darker streak across the face, which passes through the region of the eye. Beneath, the spines give place to hairs of various textures, some being bristly and others softish, while the colouring is altogether of a lighter shade compared with that of the back and sides. A Hedgehog's ears and eyes are small—the ears short and oval, the eyes black. For food the animal will practically devour anything in the shape of animal life, even dining on carrion when pressed by circumstances.

Nature fashioned the Hedgehog as an insectivorous animal, but it has long since departed from this original plan. As an egg-stealer I have known it to carry off a dozen pheasant eggs from under a brooding hen, and after purloining the whole clutch, endeavour to kill and eat the fowl itself. While on the hunt, the Hedgehog is not over-particular where it sleeps during the day-time. It will curl itself up by a gatepost and feel quite secure, or crawl into any hole until the darkness enables it to resume its search for food. Although

Insectivorous Land Mammals

not strictly speaking nocturnal, still it is seldom seen on the move before the darkness falls. On a moist, dewy evening, when the moon is lighting up the fields, the Hedgehog may be noted running nimbly along the grassy bank, intent on catching the unwary beetle, snail, or even a worm, that may be abroad. While standing in the shadow of a plantation on such an evening, with a companion, a couple of field-mice ran out from the herbage and scudded across the macadamized road. They crossed within a few inches of where I stood. A second later a much larger animal appeared, which I took to be a rat. Before exactly making out the species, the animal struck my boot and rolled over. On putting my hand down I lifted a Hedgehog, and as I held it in my hand I could feel the beating of its little heart through the coil of spikes.

Generally speaking, the Hedgehog is a late breeder. Few youngsters are seen before midsummer. These are born in a warm nest of moss, leaves, and fibrous material, usually in a cavity in some uncultivated bank or waste ground. The young are blind at birth. In winter the animal hibernates.

A casual glance at a dead Mole reveals its remarkable short velvety fur, its peculiarly shaped forearms, and its apparent want of eyes. These three characteristics of the Mole cannot but be apparent to anyone who has seen the carcass of the animal lying by the roadside, where it is not infrequently found. What

The Mole

gives the animal's coat its lustre arises from the fur being vertical, and when touched by the hand it can be pressed in either direction, and yet retain its general soft appearance. Regarding the formation of the fore-arms, these are admirably adapted to the creature's mode of life. The Mole owns an extremely muscular muzzle, with which it bores into the soil, and the arms clear away the slackened earth as the animal carves its way underground.

The Mole is not blind, as might be surmised by the ordinary observer, although its eyes are very tiny, and almost covered by the creature's fur. So tiny, indeed, are these openings that the bony cavity in the skull scarcely indicates their presence. Still, the Mole is by no means blind, as may be seen when it romps above ground, as it sometimes does during a warm summer evening. Apart from the external features named, the body of the animal is uniquely formed. Running directly from the point of the nose backwards to the last rib-bone, the shape is cone-like, and is thus admirably formed for movement underground. The forearms have strong broad hands, which tend outwards, and are so placed that they act as dredges while the animal cuts its way through the earth. Moles have no external ears. The tail is nearly 2 inches long, and the total length of the animal is about 7 inches. The colour of the fur varies very much: black and blue, in dark and pale shades, to a warm buff may occasionally be seen, dark blue being the more common ;

Insectivorous Land Mammals

but I have seen a whole family of Moles almost pure white in colour.

Of the Mole's work under the ground it is curious to note that the vertical arrangement of the fur enables the animal to move forward or backward at will. The fine adjustment of the individual hairs offers no hindrance to the animal, whether it be digging its way ahead or retreating from some real or imaginary danger. The subterranean "runs" of the Mole are many and varied. These are of numerous ramifications throughout the area inhabited, but however far-reaching or complicated these arteries may be, there is always one of them at least that has connection with water. This water may be a river, a pond, or merely a ditch, but the creature must drink to live. Moles are voracious feeders, living chiefly on worms, which they hunt for under the soil. Although not always the case, it is usually about fields that are said to be "in good heart" that Moles locate. Fields that have been well matured, and where the mould is rich by continual and well-directed husbandry, are favourite places for the operations of this underground navy. Hence it follows that the farmer sees his wheat seed turned up to the sun as it has just sent up its green blade, or the gardener finds his pea-row upset by the little Mole's journey underneath. At other times Moles will be found in abundance in old meadow-lands, which in the course of years have proved a harbour for larvæ of all sorts of burrowing insects. In such meadows

The Mole

the game preserver often rears his pheasants, and when Moles gain a footing in such localities they often upset the calculations of the gamekeeper. The richness of the soil, caused by the operations on the ground, tends to an increase of worms and grubs, and, as taught by Nature, the Mole goes in pursuit. In its perambulations it is liable to burrow underneath the hen-coops, and the hollows formed by its tunnellings cause the nest and eggs to sink underground, and thus become unproductive. Unless the fowl be a very close sitter she will usually desert her eggs when thus disturbed. For these and other reasons Moles are considered vermin in many rural parts, and the picturesque Mole-catcher of the shires is the direct result of this belief. It is, however, a problem as to whether the Mole does not in its lifetime do quite as much good as harm. It has, at any rate, to be noted that the business of Mole-catching is a decaying branch of rural industry in the twentieth century.

In trapping Moles the Mole-catcher does not, as might naturally be supposed, place his trap in or around any of the rather unsightly heaps of earth the Mole casts up. The trapper looks for the "run" between these places, and throws out a tiny spadeful of soil where this mark is noted on the soil. This is a simple crack in the earth denoting a minor upheaval. On clearing away the soil the "run" may then be seen, and in this the Mole-catcher places his trap, covering all carefully to exclude the light from above.

Insectivorous Land Mammals

The Mole's nest is placed under one of the "mole-hills," as they are commonly termed. One of large dimensions usually proves the site for a handful of rootlets, grasses, and leaves, amongst which four youngsters may usually be found.

MOLE

Photo, J. Holmes

HEDGEHOG ASLEEP

Photo, T. Malloch

CHAPTER III

BRITISH FLESH-EATING LAND MAMMALS

1. *Wild Cat and Fox*

IT is in the inaccessible fastnesses of Northern Scotland where the few remaining specimens of *Felis Catus* are to be found to-day. Wherever the Wild Cat is located it is hunted ruthlessly, and its extermination is the desire of every game-preserver in North Britain.

The capture of this rarity is duly heralded and recorded in the daily Press, although quite a number of these newspaper notices, when sifted, turn out to be none other than the capture of a domesticated cat, run wild. When a House Cat once takes to hunting in field and wood it seldom returns to its truly domestic state. Sooner or later its poaching proclivities land it in some trap, or the gamekeeper's gun ends its career. Should this roaming House Cat be a replica of the Wild Cat in colour, then there is some slight excuse for many of the reports which are spread via the medium of the daily Press. But *Felis Catus* can be easily recognized as a distinct species. The House Cat owns a tapering tail, whereas the wild species has a cylindrical appendage quite blunt at the end, and distinctly ringed with deep brown and dull white markings. The tip of the tail is also black.

Flesh-Eating Land Mammals

The fur of the true Wild Cat is dense in texture, and of a yellowish-grey colour with dusky stripes. The most prominent markings of the body are the ones along the back and the transverse lines upon the sides. There are also two dusky bars along the cheeks. In most cases the tip of the nose and lips are black. The claws are large and the whiskers prominent. The head is very round and bull-shaped, and the limbs massive for the size of the animal. In length, the head and body run from 2 feet to $2\frac{1}{2}$ feet, the tail being about one third in proportion. The female is the larger of the sexes, and she has five or six kittens in each litter.

This Cat is a night prowler, and will not scruple to attack any animal over which Nature has given it power. For instance, a lamb or even the fawn of a deer may fall a victim to the claws and teeth of this lynx of the woods and rocks. Poultry, game-birds, hares and rabbits, are equally the prey of the Wild Cat when in need of a meal. The rocky mountain-side where man seldom throws his shadow is the place the Wild Cat haunts. In the recesses of some heap of stones thrown down the steep inland cliff, this animal will take up its abode, and issue forth as evening enters at the great gate of the strath. The Wild Cat leaves its cairn an outlaw, and returns having given and asked no quarter. *Felis Catus* fears no enemies within its domain—its only dread is the iron trap, or the lead poured from some ambush.

The Fox

In hunting counties the Fox is a valuable asset of the sportsman. There is no doubt that Fox-hunting represents a vast sum of money annually to the district hunted. Scotland is not a Fox-hunting country to the same extent as, say, the Midlands of England ; still, a few packs of hounds are kept north of the Tweed. Beyond the Tay this sport is practically non-existent, the Fifeshire pack being the most northerly in the kingdom.

There is no mammal in the British Isles that can compare with the Fox for external beauty, combined with size and muscular activity and endurance. The general colouring is a warm nut-brown over the back, with white front and underparts. The head is broad at the ears, but goes sharply off towards the muzzle. The ears are erect, and the tips are marked in black behind ; over the eyes there are whitish hairs, while the eyes themselves are shiny and cunning. The glory, however, of the Fox is his "brush," or tail. In Fox-hunting circles the rider that is first in at the death of a Fox is entitled to the "brush" as a trophy of his prowess in the saddle, in the same manner that the Red Indian claims the scalp of his victim in warfare. The "brush" of a Fox is long and bushy, of the same colour as the animal's back, but the tip is touched with white. Coloration varies with districts. Low-ground animals are usually whiter on the underparts than those that frequent the higher regions, the latter, as a rule, taking on a greyish tint. Again, it will be found that the tip

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of the tail is black in some specimens, but generally speaking this is not the normal colouring. Looked at casually, the Fox is the dog of the woods. If you open its mouth you will find a still closer resemblance to that canine. Its teeth are similar, as also its tongue. In its love for animal food the Fox also resembles the domesticated dog. It loves flesh in almost any form, and when hard pressed by hunger will devour carrion of any kind. In the central counties it is noted for its raids on poultry, while in the hilly sections of the country it vexes flock-masters during the lambing season. Rabbits are, perhaps, the chief source of supply for the Fox's larder, but mice, birds, etc., irrespective of species, are all welcome when Reynard is rearing a family. There are usually four, five, or six cubs to a litter, and these are born in what is known as an "earth," which, in other words, is simply a burrow in the ground. About the hills or sea-coast not a few of these "earths" are located amongst rocky débris, which goes to form a remarkably secure home for old and young alike.

Once a cub is on its legs it is a very pretty and interesting creature. Cubs a few weeks old may be seen at the mouth of the "earth" gambolling about and emitting sharp barks after the manner of dog puppies. Even at this early stage they are alert to danger, and on the slightest sign or sound will bolt to earth for shelter. When a few months old they will go afield and hunt the local jungle for small birds that

The Fox

may come in their way, or pick up a stray morsel in the shape of a flitting insect. Later in life the Fox-cub becomes a terror to the game-preserve, as then the coverts must give up a pheasant now and again to satisfy its appetite. Where no hunt is established Foxes are shown no quarter. Traps, guns, and poison are all employed to stay its depredations, if not actually to extirpate the animal from such localities. Yet all the ingenuity employed seems to have little effect upon the numbers inhabiting certain quarters. As the female Fox (or vixen, as it is termed) only produces one litter annually, it cannot be said that the presence of Foxes in such districts is due to any inordinate fecundity. More than likely the artfulness and cunning of the animal keeps it in its place.

A Fox does not plunder at home. It goes out into the wilds, far from its threshold, and carries its victim to its den, often piece by piece. If it kills a newly born lamb it will carry a portion to its cubs and return the following night for another titbit. This is the flock-master's opportunity. The vixen hunts as well as the dog-fox, only the latter kills much more than he eats or carries home. On the other hand, the vixen, once she has her teeth in the carcass of her victim, turns towards the burrow where her cubs lie asleep.

Before March winds blow the hill-slopes have their crop of lambs, and shepherds must watch their flocks by night when Reynard roams. From the fireside the

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man rises lazily, leans heavily upon the door-post, and listens intently for the sounds he knows so well. The night is clear, the clouds are afar off, and the stars twinkle coldly as he gazes up into the darkened blue above. There is music in the pine-wood behind the shielding, and as the wind dies away the shepherd passes from his door, followed by his companionable collies. The winds whistle by the wood edge, and retard the sounds from the uplands, so he wanders leisurely to the lee of the pine plantation, and listens expectantly. He can see the ridge of the hill finely lined against the sky, and as he intently notes each passing sound, a tiny spot glides along the crest of the mountain. Years of observation tell him that the form which moves just for a moment and then disappears is not a pasturing ewe. The ewes and lambs are mostly resting lower on the hill-side where the grasses are more succulent, and where the winds are less biting. There is no four-footed animal of the same outward form that roams after the stars are lit but the Fox. It moves stealthily, and sneaks over the land as if afraid of being seen. In the hills it has the heather to cover its presence, and on the low ground it is seldom seen outside the gorse and broom covers. In either place a Fox likes to have its back lower than the vegetation. If it has to cross a ploughed field, it selects a wide furrow, or slinks down the fence-side, thus shunning the open spaces. As yet there is no stir apparent amongst the ewes and lambs, and the Fox

The Fox

may be almost a mile from their sleeping-ground. The Fox keeps closely to its shelter. The whirr of a disturbed curlew sets his ears tighter, or the snort of a dozing deer may cause him to crouch just for a moment ; but on he goes directly towards the pastures, the bleating of a lamb guiding him directly towards his quarry. Once he gains the border of the pastures he stays to listen and reconnoitre. Dotted over the sloping meadows are the ewes and lambs peacefully slumbering. Furtively, Reynard draws his body over the edge of the corrie, and lies silently upon the mossy bank. The landscape looks bare, cold, and still. He moves forward to a clump of heather, and halts. Figures are moving out upon the hill-side, and an owl screeches as it wings its way across the meadows. Crouching and silent rests the Fox, with head laid close upon its outstretched paws. Here the cunning creature lies while the moving figures draw nearer and nearer. Then they pass on, and are lost to view in the darkness.

A ewe and lamb rise from the hillock not fifty yards out from the heather-bed, and with a muscular movement of its limbs the Fox narrows the distance down to ten. The bleat of the lamb appears to intensify the hunter's desire to slay, and with a crafty leap, the Fox strikes down the frail lambkin, while its mother rushes frantically around to defend its innocent offspring. There is a stampede upon the meadow, and every ewe is alert and bleating.

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The shepherd's dogs look meaningly at their master, who retraces his steps, hoping the noise arises from the shifting of some restless ewes, or maybe the crossing of moving deer. As he strides downhill his dogs whine ominously, and he discerns that there is unrest amongst the flock from some external cause. The dogs give tongue as they scent the trail of the Fox, and the shepherd chides them in case they disturb the ewes that lie at peace. A bleating ewe dashes in front, and as the man calls his dogs to heel he stumbles upon the carcass of a lamb. The dogs are howling with a savageness they never show in the presence of a flock, and in anger the shepherd goads them on to capture and kill. But the slayer has entered the corrie once again, and, knowing the path to the hill-crest from frequent wanderings, soon gains the ridge, and for a second its dim outline dots the sky-line. The raid of the Fox thus may end for a night, for Foxes hate a dog upon their trail, and seldom risk a second foray under the same stars. But on the morrow the Fox will again reach the plateau on the hill-top, and look down that hill-side and listen to the bleating of sheep. It will crawl through the darkness to the spot where it slew the lamb, and dine upon the cold carcass. The shepherd knows as much, and secretively places a trap, or impregnates the carcass with poison against such a visit. Where the trap is deftly set, the marauder may be found next morning by the side of its innocent victim. Where the unseen poison

The Fox

acts the part of destroyer, the dogs may follow the trail awhile, and maybe locate the offender. But if the poisoned flesh be carried off and eaten, it means death to one or two of the sheep-slayers on the mountain-side.

CHAPTER IV

BRITISH FLESH-EATING LAND MAMMALS (*continued*)

2. *The Weasel Family*

A DEAD Weasel looks a small animal when held in the hand. You can pull its body through the opening when you press the thumb and forefinger together. Yet a dead Weasel is entirely a different subject from the one that hunts along the hedgerow. It is a brown-coated creature with a lithe, elongated frame, rather rudimentary legs and tail, and a front and underparts of a white colour. A pronounced feature of this little animal is its deep black beady eyes. As a hunter, it is endowed with a singularly pliant body, and may be said to possess the sinuous adaptabilities of the adder. There is, indeed, no wild animal of the fields that owns natural endowments superior to the Weasel.

These talents are utilized to the utmost, and are transmitted from the one generation to the other with an exactness that is truly striking. The adult Weasel goes foraging with one aim—that is, to kill. It will slay a mouse under the hay-heap, and turn from its quarry to kill the Field Vole whose shadow it sees amongst the rank grasses a yard away. Once on the track, the Weasel seldom slackens its pace until it slays. Through the labyrinth of weeds the creature

The Weasel

works its way, leaping now and again in evident enjoyment of the hunt. It is said the animal owns an innate influence over the victim it pursues, and that once a Weasel starts upon the trail of its quarry it is certain to gain its object. This may be true to a certain extent, but, nevertheless, Weasels often misjudge their powers, and often fail to secure their coveted victims.

In the fall of the year these animals frequently lodge about open meadows, and make their raids from the deserted burrow formed by some other animal. In the heat of the autumn sun they may then be seen hunting mice and voles. These they capture by simple cunning. The chirping of a mouse strikes the ear of the Weasel, and its lithe form glides round the grassy tuft and stays awhile ; the little brown back moves forward as if propelled by some unseen force, and a soft note is merely uttered as the little hunter carries the dying mouse to its temporary home.

When winter approaches, Weasels sometimes settle about outhouses and rickyards, where they hunt for mice, but, generally speaking, these wild creatures prefer to be quite apart from human habitations. In the more open country the presence of a Weasel generally denotes others of its kind being in the vicinity. About buildings—such as those named—a single Weasel will remain for weeks if undisturbed, and hunt constantly.

Although by nature both cunning and alert, Weasels are by no means difficult to capture. I remember while

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on an entomological excursion observing a couple of Weasels basking in the warm sun on a bank-side. I threw my net deftly over the pair, and turned the gauze net over as one does when netting insects. The result was intensely amusing. The two Weasels dashed frantically about, and by their movements they actually formed their own shroud out of my tender butterfly-net. A smart tap on the nose killed both animals.

If armed with a gun one may rely on bagging a Weasel once the animal appears. Although allowed to go free, the evident inquisitiveness of the creature causes it to pop its head out of a crevice, and its beady eyes sparkle from the adjacent wall; then it can be quite easily shot. This same inquisitiveness on the animal's part enables the game-preserved to encompass its destruction. The odorous properties of raw flesh seldom fail to attract any of the carnivorous species, and this holds good in the case of the Weasel. A trap carefully set beneath a dangling piece of flesh is often the "bridge of sighs" to this roamer of the wilds.

Another method of capturing Weasels can also be traced to this inbred inquisitiveness on the part of the animals themselves. Where they are known to abound, a small rat-trap set upon some rising mound or hillock is likely to end the career of the little creature. Weasels somehow love to ascend hillocks and survey the landscape, and this habit may thus be taken advantage of by the trapper.

The Weasel

Dogs don't care to "mouth" Weasels, owing to the obnoxious smell they can give off when irritated. I was crossing a moor one day accompanied by a collie and a terrier, when a Weasel crossed the roadway, followed by seven young ones. A hunt ensued, but neither of the dogs would kill any of the vermin. The Weasels rushed hither and thither about my feet in sheer fright, until old and young got under cover, and the hunt proved one of the most unsuccessful I ever participated in. The same evening I came across a Weasel dragging a bird along the turnpike. As I approached, it left its quarry and darted into the bank. From sheer curiosity I sat down to see how it would act. After a little time it reappeared, and made direct for the carcass. It did not tackle its burden in a very masterly or leisurely fashion. It leapt like a tiger on its prey and shook it again and again, then pulled with all its strength. Once it had the body under way it made good progress, and on reaching the bank it went off as if it had given up the task entirely. I had surmised it had gone for assistance, but in this I was wrong, for in a little while it reappeared and darted at the carcass much in the same fashion it had formerly done. Then by energetic tugs it pulled the carcass into the hole, and the little drama was complete.

In length the male is about 8 inches, with a tail of $2\frac{1}{2}$ inches. The female rarely reaches within an inch of her mate. Weasels make a nest of dead leaves, grasses, moss, or similar material, and the domicile is usually

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in some hole in the ground, or in a wall or cavity about a tree-root. Here two or three litters may be seen in a season, with five to eight young to each nest. In the wilds of the shires there is no animal that will defend or protect its offspring so valiantly as a Weasel—despite the fact that its own life is practically given over to the invasion of the hearths of other animals. Nature, in the case of the Weasel, works in a mysterious way.

The Pine Marten is a woodland rover, living amongst the branches of the fir-trees. As a rule one usually hears the animal spoken of simply as the Marten, but in some districts of Scotland it is referred to as the Marten-Cat. The latter title seems to indicate that the rustic mind had classed the Pine Marten along with the Polecat and Wild Cat, just in the same way as fieldfares, redwings, and mistle-thrushes are designated “hill-birds” in many districts of Scotland.

At the present day the Pine Marten is a rarer animal than either of those named. It may be said, however, to be more widely distributed, owing doubtless to the fact that it is a less conspicuous animal, and from its mode of life is less likely to be detected. Its wandering movements also, in a sense, guard it from observation.

As in the case of the Wild Cat, the capture of a Pine Marten is usually recorded in the daily Press,

The Pine Marten

and this alone indicates that it has to be considered a rare mammal in the British Isles. Less than a hundred years ago these animals were by no means uncommon. In the year 1840 one reads of no fewer than two hundred and forty-six specimens being shot and trapped during the three preceding years in Glengarry. Since that time, however, it has to be granted that the Pine Marten has gradually decreased, and it is only now and again one hears of the capture of a single specimen. This extermination is not to be wondered at, considered from the game-preserved's point of view. Even flock-masters dread the presence of a Pine Marten, for the creature will exhibit no signs of fear in the presence of even a sheep that may stray within the precincts of its hunting-grounds. Be the quarry animal or fowl, the Pine Marten pursues it with relentless ferocity, and the taste of reeking flesh and blood alone can satisfy the creature's appetite.

Its arboreal habits give it special facilities in securing a full larder during the whole year. This is denied to many creatures of the woods, for most of them cannot climb the tree-trunks or crawl snake-like along a swaying branch in pursuit of prey. The Marten, however, is endowed with scissor-like claws and teeth, and whether amongst the tree-branches or on terra-firma it is thus provided with deadly weapons in the securing of its prey. In the tree-tops it is as agile as a squirrel; on earth it can vie with the Polecat or Stoat.

Flesh-Eating Land Mammals

The Pine Marten, lying outstretched upon a fir-tree branch, may be passed unnoticed by the casual wayfarer, so well does the creature's outline blend with the rough red bark. Even the sitting Wood Pigeon, incubating her white-shelled eggs on her little platform of twigs, is usually quite unconscious of the Marten's presence, until it feels the sharp claws rivet her to her nest. The Kestrel Hawk, that hunts the fields for wandering mice, finds in turn that Nature has fashioned the Pine Marten as its enemy. Nesting in the deepest recesses of the woods, the Kestrel returns to sit sullenly by the hearth where its youngsters dream the hours away. Like a red glint of sunshine, the Pine Marten springs from its aerial lair, slays the parent Kestrel, and callously lays waste the homestead in the trees. In the spring-time, before the Hooded Crow has laid its clutch, the Pine Marten sees the Squirrel digging amongst the dead leaves of the forest. The hunter draws its lithe form along in the shelter of the pine-needles, and patiently waits the Squirrel's return. Carrying a nut, the latter ascends the bole, and nestles in the forking branch to dine. The hunter has its teeth in its neck before its victim tastes the kernel. Such is forest law.

This creature's own home is often within the nest of a Hooded Crow, Magpie, or Squirrel that it has ejected or devoured. Sometimes it will settle in a hollow tree-trunk, or in some rocky crevice of an inland cliff. In such places it generally rears two

The Polecat

litters annually, and there are usually five or six young to the litter. In general appearance the Pine Marten is of a deep brown colour, with a dark buff throat and white chest. It is larger than either the Polecat or Stoat, but, unlike these, it has no offensive odour. It resembles them, however, in form, having a longish and extremely supple body, with short limbs and rounded feet. The ears are also rounded and well furred on both sides, while the tail is flowing and bushy. Male and female are very similar in outline, and both are of a like bloodthirsty nature.

Pine Martens are spoken of occasionally as being denizens of the English woodlands, especially where there are extensive tracts of heavy timber, but this is open to serious question. The remote and less frequented regions of Scotland may be marked down as the only districts now inhabited by this animal, and, indeed, in North Britain it is extremely rare, as already noted.

To-day the Polecat is a rarity in Britain. It used to be found in the rugged and wilder parts of Scotland, where it was known as the Foumart. About the years 1850-70, it seems to have been noted occasionally, but since the latter date Polecats have been, in a sense, erased from the British fauna. While saying so, it must be recognized that a stray specimen turns up occasionally, as, for instance, one I knew of personally that was trapped during its visits to a ferret-hutch

Flesh-Eating Land Mammals

belonging to a flock-master in the county of Kincardine, not many years ago.

The Polecat is an animal of some 2 feet in length, the tail being about 6 inches. It has a heavy neck, rather pointed muzzle, and prominent upper canines. The ears are short, eyes small and dark brown in colour, with a general expression of cruel ferocity impressed upon its ferret-like head. As a rule, the colour of the Polecat alters with climatic conditions. For instance, the summer coat actually overshadows many of the minor details, which the eye might otherwise note. Round about the ears and mouth there are touches of white hair, but when the denser coat appears these markings almost disappear, and the Polecat at a glance looks a grizzly blackish-brown colour all over. In the colder months it becomes paler, and these marks then appear more prominent.

The animal is a night-prowler, and does not halt at small game. It will kill almost any creature its own weight, be the latter clothed in fur or feather. It is intensely fond of young rabbits and leverets, but geese, turkeys, or barndoor fowls meet their fate when the Polecat is on the hunt. During the open season it takes up its headquarters amongst stony débris if such is available, or in any hole or crevice in a bank-side. When winter comes on, it seems to hug more sheltered places, such as the neighbourhood of buildings, where the winds are broken and the gales less irritating. A stone wall where there are many corridors

WILD CAT (*FELIS CATUS*)

Photo. R. Fortune

FOX CUBS

The Stoat

to traverse suits the Polecat well, after the season of breeding. These animals have young in May or June, and usually there are four to six in a litter.

The Polecat has been provided by Nature with a most offensive odour ; so much so that scarcely any doubt can arise that this obnoxious and sickening scent has been given the animal as a protective measure against its enemies. Perhaps this natural guard may date back to the time when the Polecat itself was preyed upon by more warlike mammals than it now has to contend with. To-day, the Polecat, when it appears, is master of the situation, bar man and his engines of war.

The Stoat is seldom seen about the habitations of men. It dwells remote even from the gamekeeper's cottage when possible, although at times it may rear its four or five youngsters in a burrow within sound of the keeper's kennel. Like the Hedgehog, too, it occasionally turns up in the most unsuspected places. For instance, I have known a full-grown Stoat to enter a fisherman's cottage, and another locate itself inside a greenhouse within the precincts of a town. Such instances, however, are unusual, and may be put down to the animals having lost their way in some manner or other. As a rule, Stoats remain in the backwoods, even more so than weasels. They are—casually looked at—big weasels, both in shape and colour. Unlike the weasel, however, the Stoat changes its colour during the winter season, and its fur is then white,

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with only the tip of the tail marked in black. The fur known in the commercial market as ermine is the winter coating of the Stoat.

It is a larger animal than the weasel, and a very much more daring one when at close quarters. It is an extremely bold raider, and when on the trail is a most determined assailant, be its victim bird or rodent. The larder of the Stoat means anything in fur or feather it can capture. The Stoat will dine on a grouse chick, or carry off a pheasant poult, with the same assurance that it will enter a rabbit-burrow and throttle the dam while she suckles her sightless offspring. Pressed by weather conditions, the Stoat will not hesitate to kill a mouse or rat, a hare, or a straying duck. I have known a Stoat to visit a hen-crib during successive nights, and destroy not only a great number of chickens, but also take possession of the nest-box, where the raider was ultimately found—fast asleep—in the early morning.

Although Stoats, as Nature has decreed, are robust hunters, yet they are feeble creatures when pitted against man. For instance, a smart rap on the head will “lay out” an adult Stoat. They are easily shot when found hunting; and were it not for the contour of the creature, its death would be encompassed far more readily than it is at the present time. Like the weasel, very little cover is required to shield the form of a Stoat. It passes through the herbage practically unseen, the grasses being scarcely disturbed by its

The Stoat

passage. Hence the gunner in many instances fails to detect the movements of the creature. To trap a Stoat is by no means a difficult matter. If one of these animals is killed and left upon the ground, the smell will generally attract any of its kind that may be in the district. In trapping, the contents of the bladder should be poured over the ground and the trap set in its place. Where, however, the surrounding ground has been over-disturbed it is wise to leave the spot for a time, as this upheaval seems to act as a warning to these carnivorous creatures.

In the hilly regions of our island, Stoats are perhaps the worst enemies the game-preserve has to contend with. Being powerfully built compared with their size, they are admirably fitted to capture and kill. Any living creature weaker than themselves they do not hesitate to slay; the amount of game even a single Stoat will kill in a month must be enormous. There is, indeed, some excuse for the gamekeeper who smiles complacently to himself as he nails the Stoat's carcass to the cross, amongst the thieves and robbers of the woodlands.

Throughout the length and breadth of the British Isles the Badger is now seldom seen. Yet year after year scientific and sporting journals print paragraphs anent the Badger's appearance in localities where the creature's presence had never been previously noted. This is one of the most peculiar features of the life-

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history of the Badger. One could overlook this peculiarity were it an insect, a bird, or even a small species of rodent ; but when it is remembered that the Badger measures $2\frac{1}{2}$ feet in length, and boasts of a tail of almost a quarter as long again, it seems surpassing strange that it should be found in, say, a rabbit-trap set by a gamekeeper, who may not have any previous knowledge of the animal's presence in his preserves. Added to this, the Badger cannot be said to erase, in the slightest degree, indications of its being a dweller in the locality where found. A Badger's "earth," as its deep burrow is termed, is usually marked by an enormous amount of soil and débris around its entrance, and this alone is a sure and certain sign of the animal having settled in the district.

There are, no doubt, Badgers in many of our larger woods and forests, whose presence is well known to proprietors of such domains, but it is not of these I speak. I refer more particularly to the animal's appearance in isolated instances, where it had been previously unknown. For example, I knew a taxidermist of almost forty years' experience, who had in his generation "set up" practically the whole of the fauna of his county, and yet that artist never was asked to stuff a local Badger except in one solitary instance. This single specimen turned up quite unexpectedly in the well-wooded policies of a neighbouring landowner, and was found by a labourer who chanced to be passing through the woods one morning. This was

Photo, R. Fortune

WEASEL

Photo, R. Fortune

FALLOW DEER

The Badger

the first and last Badger that taxidermist had seen in his locality during all the years named. He had been acquainted with the life of the fields for almost half a century, and this was the only example of the *Meles taxus* he had ever known as an indigenous animal of his neighbourhood.

Here and there, landowners have tried to reintroduce the Badger, and no doubt exists that were such attempts to be regarded favourably, the animal would establish itself in the shires. But against such laudable desires on the part of Nature-lovers the commercial spirit is arrayed. It is very evident that the disappearance of the Badger from our more northern woods can be traced to the demand for this animal's hide as an article of dress. The Highland costume embraces what is called a "sporrán"; and a sporran fashioned from the hide of a Badger was, and is still, a valued ornament of the Highland dress. On the other hand, Badger-baiting was in former years looked upon as one of the best of sports, both by the noble and the peasant. Like cock-fighting, it was at one time considered "the sport of Kings," but for many years it has happily fallen into disfavour. Still, while this brutal form of sport existed in our land, it did much to exterminate the Badger, if it did not actually erase the animal's name from many districts. From these and other causes, the Badger may now be written down as a rare animal in many counties where it formerly had its "earth."

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Once the Badger locates in a wood, its "earth" clearly denotes its presence, and this unmistakable sign at once leads to its discovery, and probably its destruction. The steel trap is brought into use, and the Badger's bulky figure latterly dangles on the gamekeeper's gallows-tree. No quarter is given to the creature; no excuse tendered for its virtues. Its failings are said to be that it is a most omnivorous feeder on all sorts and conditions of life and vegetation. In the spring-time it will suck the pheasant's eggs, and early summer sees it on the prowl for the straying partridge. It is said to pull down a newly born lamb and devour it, or it will plunder any outlying hen-house of both old and young fowls. When the grain is heavy in the head, it tramps through the corn-lands and dines sumptuously. These and similar accusations are common in every country-side, but such charges are open to question, and, indeed, may be put down as in a great measure mere conjecture. As a purloiner of the eggs of wild birds, the Badger may at times be an offender, but the animal does not habitually rob nests of their clutches. It, however, dotes on young rabbits, and seldom hesitates to dig up a nest of this rodent when such comes in its way. Yet Badgers are by no means dainty feeders. They will accept almost anything of an edible character, from an insect to a bunny, a ripe strawberry to an apple. The animal is credited with robbing the wild bee of its honey, and is said to be impervious to the insect's stings.

The Badger

A Badger once seen, its very outline and colouring unmistakably denote its species. Over the back it is pale grizzly, with black underparts, while a broad black streak passes across the ear and eye. The ears are short, the muzzle pointed, skull somewhat ridged, and the under-jaw very firmly locked into the socket. This rather singular formation of the creature's lower jaw doubtless accounts for what at one time lent zest to Badger-baiting. The animal's jaw, once it fixes upon an object, almost defies dislocation, and consequently it took an extremely game terrier to face and tackle the animal thus armed and underground.

The Badger rears three or four young at a time, and these are usually nestled amongst an accumulation of grasses and dead leaves. The burrow is roomy and kept scrupulously clean, and is generally approached by several subways. The animal hibernates for some months when the ground is ice-bound and the succulent vegetation lies sear and damp by the wayside.

Something must now be said about Otters, those pirates of the streams abhorred by all followers of Izaak Walton. The presence of these quadrupeds about a stretch of water is credited with being the cause of the otherwise inexplicable movements of fish. There is no reason for doubting that Otters disturb angling waters. The animal hunts and eats fish, and this fact alone must act in a measure against the quiet peacefulness that fish love so well.

Flesh-Eating Land Mammals

On the other hand, this creature does not confine its menu to fish, but will devour eels, frogs, water-voles, and even a stray duckling or a moor-hen. Eels and frogs are inveterate enemies of fish spawn, and as the Otter kills the former, it stands to reason that the fish-beds are thereby benefited. Then, again, crayfish feed largely upon the larvæ of *Ephemera* and similar immature developments that go to form fish-food. Crayfish will be found part of the Otter's food, and in devouring these the animal may, in this respect, be written down as a "paying guest." Vast numbers of coarse fish fall a prey to Otters throughout the season, and this aspect of the question may be looked upon as a special service to all angling streams that Otters frequent. While granting that Otters by nature do harm, it has to be acknowledged that the weeding out of the smaller and weaker specimens of aquatic life must improve the angling resources of a sheet of water.

This quadruped is native to our isles. Its nocturnal habits naturally account for its being seldom observed unless by those favourably situated. The "spur" of an Otter is quite easily distinguished by the side of a stream or pond. The "spur" is the impress of the foot, and this has five rounded and well-defined toes, which, on a soft, muddy bank, is readily detected. The Otter is fond of traversing the land, and on issuing from his subterranean quarters he usually pushes through the herbage before taking to the water in quest of prey. As a rule, Otters have

The Otter

their homes in holes under the stream's banks, and a very favourite place is just under a tree-root, where the animal can enter deep down in the water. Once the Otter gets on land, it shakes the water off its coat in dog fashion, and for the time being is a land animal. Though the fact is not generally understood, the Otter will live and bring up its family quite apart from the water. A reedy or ferny bed will answer this purpose, provided its home is not adjacent to danger. The young, in learning to swim, practise a good deal before they actually become expert divers and swimmers. Once, however, the animal attains proficiency in the art, it can execute almost lightning evolutions, and catch the swiftest fish in the stream. It is a very graceful swimmer when undisturbed. When swimming upon the surface it uses its fore-paws, merely dragging the hind-legs, and working its tail in rudder fashion. The animal can, and does, remain a considerable time under water when pursued.

As a rule, the Otter's menu consists of fish which it catches by its own dexterity. Occasionally two or three Otters may be seen fishing together, but this is not, as some suppose, by concerted arrangement. It simply means there are fish about a given place, and that such environments have for the time become attractive to the animals.

Looking back almost forty years, I can remember the two first Otters I captured. One evening I was

Flesh-Eating Land Mammals

exploring the rocky shore of Forfarshire, and observed an Otter upon a large flat stone quite a hundred yards from the water's edge. On observing me, it slid over the stone and instantly disappeared. Going direct to the place, I found evidences of the animal, and decided on trapping it if I could. Returning the following day with an ordinary rat-trap with an iron chain attached, I placed this in the crevice where I thought the animal lodged. I utilized no bait of any kind, relying solely upon the hidden trap for the capture of the animal. Allowing a couple of days to intervene, I then visited the spot. My trap and chain had mysteriously disappeared. The boulders were too heavy to move from their places, and I had almost given up hope of finding either my property or the Otter, and had turned homewards rather disappointed and dejected. As I did so, my eye caught sight of one of the chain-rings pressed firmly against the adjacent rock. For a time I worked hard to dislodge this from its place, and would assuredly have failed had not a passing fisherman lent his assistance. The result was we pulled the dead Otter from the inner recesses of the cairn, and I carried the quadruped landwards. I hid the carcass in some bent grasses, intending to remove it later in the day; but on my return to the spot I discovered some stray dog had mauled the carcass beyond recognition.

My second Otter I found under entirely different circumstances. While snipe-shooting along the banks

The Otter

of a stream one evening, I had sat down behind a reedy bed to watch the movements of a pair of teal. While thus engaged, I thought I heard the whistle of an Otter, and listened attentively for a few moments. The sound was repeated several times, and I felt sure I could not be mistaken in concluding the noise proceeded from such an animal. Then for some minutes the only sound to break the quiet was the low chatter of a tomtit in a neighbouring tree. The tension became irksome, and I rose to move down the bank-side. As I did so, I saw a big body glide under the drooping branches that hung over the stream, and I crouched expectantly behind the reeds. Peering over the vegetation, I saw a head above water, and my first impulse was to fire at the object, for it seemed to be making for the cover of the opposite bank. Undecided, I waited, and although the animal held on its way for some distance, it ultimately wheeled round and landed upon a shingly island formed by the stream dividing at this place. As it walked up the sloping side of the island, I fired. There was no noise once the echo of the report died down the valley, only the dead body of a full-grown Otter lay stretched upon the beach. I waded knee-deep across the stream, and carried the body ashore, forgetful of the movement of the teal-ducks. This specimen had a head and body of 28 inches in length, with a tail fully half as long. The Otter's head is flat and broad, and its tail strikingly flat and tapering. The ears are short and rounded,

Flesh-Eating Land Mammals

and somewhat hairy. The eyes are rather small, and of a fine black lustre. There is comparatively no difference between the neck and the body, while the limbs are very short and muscular-looking. The toes are webbed, and well furnished with curved claws. The "dog" or male Otter is larger than the female, and the latter usually brings forth four or five young at a birth.

CHAPTER V

BRITISH HOOFED MAMMALS

SCOTLAND is the land of the Red Deer. The wilds of Westmorland, Exmoor, and Epping Forest doubtless harboured Red Deer in the past, but to-day the Grampian range of mountains is the home of this noble animal. Were one to roll back the years, perhaps he would find the Red Deer inhabiting the lowlands and fertile plains and straths, but to-day the Red Deer seldom ventures far from the well-defined line where the heather is stayed by the plough and harrow.

In the days of Queen Mary, a great Deer hunt was convened in the Athol Country, "with immense pomp and at great cost," when over 2,000 animals were driven within a limited area, and some 360 were killed, along with quite a number of wolves and goats. Since Queen Mary's time the Red Deer has become almost a national asset.

This Deer is the largest of all the British species. In colour it is of a deep red-brown in summer, but as winter approaches this colouring becomes brownish-grey. Inside the flanks and thighs the colour tends to fawn. The muzzle is black, and, as in the case of all

British Hoofed Mammals

deer, the tail is extremely short considering the size and weight of the animal. The horns of the Red Deer are its crowning glory. It is when a stag (as the male is termed) has twelve points, or six on each antler, that it is said to carry a "Royal" head. The three points nearest the skull are termed the "brow," "bay," and "tray tines," while the three higher up constitute a cluster designated the "cup." This cup in olden times was supposed to be capable of containing a glass of usquebaugh.

The age of a stag cannot be properly determined by the number of points it carries upon its antlers. Formerly it was believed that a tine represented a year, in the same way that the woody pulp of a tree denotes its age. The modern deer-stalker, however, knows that these points are not fashioned in keeping with the calendar. Very much depends upon the succulent nature of the ground over which the animal roams; accidents have to be taken into account, as also the modern system employed in the larger forests of hand-feeding during severe weather.

A perfect "Royal" must have the three points formed into a cup-shape, otherwise the head is considered defective. The antlers of aged deer become bare, and the much-prized roughness that younger animals show is lost. The points, too, take on a less acute shape with age, no doubt the direct result of the declining vigour of the animal itself. Coveted although these antlered heads are by the sportsman, and reckoned

The Red Deer

as worthy trophies of the rifleman's art, they are year by year becoming scarcer under the more artificial conditions in which deer are now fostered in the Highlands of Scotland. These great horns, although infinitely valuable as modern trophies, may in the course of years vanish from the hills. In past times the immense antlers of the noble Red Deer served to shield it from the attacks of its forest foes, but the world has in the interval so altered Nature's plan that these defensive weapons have, in a sense, become almost useless. It is an open question if the hornless or hummel deer will or will not in the future become the monarch of the hills. Certain it is that a hummel stag can hold its own with the stag that carries the most unique "Royal" head. The latter cannot possibly vie with the hummel when it comes to a pitched battle on the rock-strewn mountain. The antlered animal wastes his power and strength in his attempts to strike with his cumbered head, while the hummel deftly hammers its adversary with its fore-legs and sends its opponent headlong into the bed of the corrie. The blood that in former years went to the formation of these mighty "Royals" may in the case of the hummelled animal increase the latter's stamina and weight, and thus give the hornless animal a power that the animal carrying the finely shaped antlers lacks. Perhaps, too, the unornamental animal may find it has to fight to survive; and Nature—ever kind—has in the interval sharpened its intellect to a degree far

British Hoofed Mammals

beyond that of its antlered opponent. Be that as it may, it is no uncommon sight to see a hummel stag at the head of a herd of hinds, and lord of the passes and the crags.

Early summer sees the Red Deer the most conspicuous figure on the Grampian range. Then the stag gathers around him a herd of hinds ; but once the rutting season is over he returns to the higher reaches, somewhat shorn of his grandeur and magnificence. It is then that he has to prepare for his winter campaign amid the snows and the hurricanes that sweep these latitudes. While the snows and icy blasts still encompass his sanctuary, Nature decrees that he must shed his lordly antlers.

Where the antlers of deer were shed was for long a profound mystery with the residents of the hills. These discarded relics were seldom discovered even by those traversing the hills in their daily occupations. This evident secrecy gave rise to endless superstitions in the Highlands. As stags not infrequently chew their cast-off horns, this in a measure accounts for their disappearance, and when it is also recognized that a deer will naturally seek some sequestered spot to rid itself of the loosening antlers, it follows that the wayfarer would not casually locate these articles.

In the more remote districts of the Highlands deer horns are greatly prized as remedies against sickness and family troubles. A matron will grind a horn to a powder and bottle the particles against the visitation of

Photo, T. Malloch

WILD RABBIT

The Fallow Deer

such a disease as diarrhœa, lung or chest troubles. Everyone knows the value of hartshorn, and the Highland matron has the knowledge handed down to her from ages past.

The hind, or female, of the Red Deer is a much smaller animal than the stag. She breeds when three years of age, and has one calf at a time. Twins, however, are not unknown, although rare. The fawn, or young deer, is not so dull in colouring as its parents, being more or less spotted with white markings.

The Fallow Deer gains its distinctive title from its yellowish-brown or faded yellow colour. It is also marked by white dots or streaks. There are differences in colouring, however, some being darker than others, and having few, if any, white spots. All Fallow Deer have a whitish mark on the buttocks, and this, again, is bordered with black; there is also a dark line running down the back to the extremity of the tail. The tail itself reaches almost halfway to the hock. In winter the spotted variety takes on a duller coat, and the light markings then become partly eclipsed. During this season, again, the darker-coated variety becomes greyer.

The spotted variety is the larger animal of the two, and boasts of more snags on its antlers. These are large and rounded at the base, and widen out into broad palmations as they rise. These antlers appear in the second year, and are then of a simple, rudimentary

British Hoofed Mammals

spike form. The year following, what are called the brow and trex tines develop, and the palm-like spread of the horn takes shape. The fourth year sees the hinder edge serrated; the fifth season gives these serrations a more acute shape, while the broadening of the horn becomes complete. In the sixth year the serrations become short points or projections, known as snags. It is only the buck that carries horns, the doe being hummel. The bucks are also larger than the does, and the latter breed in their second year, bringing forth one fawn at a birth.

In a sense the Fallow Deer is the tame deer of ornamental parks, although there are several wild herds here and there; these probably trace their pedigree to the herds encompassed by stone walls.

The Roe Deer is the smallest of all the British species. Its height, taken at the withers, is not more than 26 inches, and the average is somewhat less than this. The colour is a sort of tawny brown in summer, verging into a greyish tinge when winter comes on. The points of the hair then lose their warm red glow, and this lends a dull leaden hue to the coat. The female, or doe, is always paler in colour compared with the buck, while the fawns are warm red, with white dots on their hide.

The Roebuck's antlers are three-pointed, very upright, stout and short, and minus the brow-tine of bigger game. It sheds these in autumn, and renews

The Roe Deer

them before the grasses start in spring. The first year only a single spike is seen ; in the second season the horn forks into two ; and in the third year there are three points, when the head is complete. These horns seldom exceed 1 foot in length, and are rounded in form, with a rough exterior, and sharply pointed.

Roe Deer pair for life, and a family may be seen on the move, consisting of the buck, doe, and two fawns, browsing under the boughs of some spreading beech or chestnut tree, as the evening draws to a close. Where they are kept in enclosed parks it not infrequently happens that the surrounding district is furnished with venison from time to time, via the medium of escapes. As a rule Roe Deer seldom thrive under limited areas, and seem to be creatures of the wilds.

Native to Scotland, they have been introduced across the Border, but although breeding in several localities, they are truly animals of the northern latitudes. Any found in England cling tenaciously to the more northern counties, but a few may be located about Epping and Windsor Forests, and one or two other districts in the southern portions of our Island. In Ireland Roe Deer are practically unknown.

CHAPTER VI

BRITISH GNAWING MAMMALS

1. *Squirrels, Hares, and Rabbits*

IN the woodlands, where the Squirrel has its home, the landscape always seems to be richer for its presence. From end to end of our islands this little brown-coated denizen of the woods may be found. In some localities it is scarcer than in others, but in some quarters it actually becomes a distinct species of vermin. The animal has an intense love for the young shoots of forest trees, and where these are planted out Squirrels often do an immense amount of damage. In the pine-woods of northern Scotland a deadly warfare is annually carried on against these tree-dwellers. It appears, however, that towards the more southern parts of the country the Squirrel does far less harm than about the mountain-slopes. The animal has a partiality to the fruit of forest trees, and in the spring-time it will clear immense tracks of the sprouting buds, and frequently peel the bark from young trees that have just started into growth. Vast areas of silver-fir woods are irretrievably ruined by the concerted nibbling of Squirrels in the pine-forests of Scotland. Hence the repeated attempts that are made to thin their ranks or extirpate the animals. The misdeeds of

DORMOUSE

Photo, T. Malloch

BROWN RAT

The Squirrel

the Squirrel in this respect detract considerably from the poetic pictures of woodland life.

The Squirrel spends most of its time amongst the tree-branches, but may occasionally be seen romping about amongst the fallen leaves of the forest. In colour it is of a very warm brown, and its tail is extremely bushy, and curls up along the back of its body. When on the ground, however, the tail is always lowered and carried quite straight, similar to that of any other animal of the woods. It is extremely quick and nimble even when on the ground, but intensely so when amongst standing timber. It thinks nothing of leaping from branch to branch, and can travel the whole length of a forest without descending, provided the trees be of ordinary denseness.

In early summer the Squirrel's colour is deep red, and the ears are adorned by hairy tufts that give the animal a rather peculiar look. Later in the year the red coat becomes duller, and by winter it is greyish, while the tufts then disappear from the ears. The farther north the Squirrel is located, the greyer its coat becomes. While warm brown or red above, the front, from the throat downwards, is pure white, and these markings go to make this agile climber a striking figure to the casual observer.

In size, the animal measures something like 16 inches, including the tail. Both the eyes and ears are large considering the bulk of the animal. There are four digits in the hand, with a sort of rudimentary thumb,

British Gnawing Mammals

and in the foot there are five toes, resembling the fingers, having long, sharp claws, and wonderfully formed for climbing the outer bark of a beech or other tree.

Squirrels are never found outside the woodland area, unless by mere chance. They have their nest, or "dray," in some hole high up the tree-trunk, or in some cosy fork formed by the larger branches of the parent stem. The nest is composed of fibres and roots of a miscellaneous character, with moss and leaves intermixed. Here the young are reared about midsummer, and within this domicile there may merely be a couple of youngsters or as many as seven or even eight.

As a rule, Squirrels are rather epicurean in taste, and love to have a full larder against the demands of autumn and winter. They are given to hiding nuts and other foods about the woods, and may be seen in late autumn running about the forest, scratching here and there for these stores. At such times they also secure acorns, or other hard-shelled nuts, and it is quite an interesting scene to watch the animal dining on one of these encased morsels. The creature gets the nut in its hands, and at once sets its teeth into the outer skin and deftly scrapes this off. Then it splits the shell in two, and catches the kernel in its teeth. If disturbed at its meal, the Squirrel will mount the adjacent tree, and finish the nut while lying in the tree-fork above.

The Hare

Although the Squirrel hibernates during the severe weather of winter, still the animal seldom misses a raid through the woods when there is winter sunshine lightening the outer branches of the forest.

As an amateur trapper, the Brown Hare proved my first victim. From observation, I learned that Hares were distinctly nocturnal feeders, and that they generally moved from field to field by a well-defined route. Without any other knowledge as a trapper, I set a brass looped wire, where I had observed a Hare passing nightly, and next morning the animal had the wire round its neck—dead. This is a very common method of trapping the Brown Hare, and is carried out by the farmer who does not shoot, but who finds his turnips broken during the night season. The poaching ploughman often sets such a snare, and the wearied shepherd twists a brass wire and amuses himself by catching the timid creature. Professional poachers rely to some extent upon this same instrument to fill their bag, but, nevertheless, these men employ a surer and more deadly form of capture. As the twilight approaches, the poacher erects a net upon a field-gate and orders his lurcher to drive the field. As the dog quarters the meadow the Hare dashes for the gateway, strikes the net, rolls over, and a simple child-like scream ends the career of the hunted.

While it has to be granted that the Brown Hare is endowed for defensive purposes above many of its

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compeers of field and wood, yet it seems somewhat strange and puzzling to find the creature almost defenceless under special circumstances. A Hare appears to be entirely devoid of resource. On its own ground it is usually alert and vigilant, and any foreign sound or object is sure to disturb the animal and send it beyond the zone of danger. Its fleetness of foot is its safety. Taken unawares, however, the Hare dashes madly about, and often gives up its life by its blundering tactics. If a Hare is observed on the move during the daytime, it is a sure sign the animal has in some way or other been disturbed in its "form," as its bed is termed. Living as it does entirely above ground, the animal is accustomed to rely solely upon its fleetness as a protective measure against its enemies. For its size no British mammal can compete with it in this respect.

Tranquil pastures are the Hare's paradise. Quietness gives the animal confidence, and its innate nervousness seems to be erased where these conditions prevail. The Ground Game Act has in a measure thinned the ranks of the animal so far as the lowlands are concerned, and this Act has to a certain extent sent the Brown Hare into the more remote regions. Hares are thus decreasing in the arable lands, and increasing where pastures alone are in evidence. The sanctuary of the hills has thus been taken full advantage of by these animals ; so much so that they have become, in a manner, a menace to the owners of grouse moors.

The Hare

Hares are not by any means welcome guests where the Red Grouse breeds. The heather on the mountains is burned solely for the sustenance of the birds named, but where Hares abound on such grounds they feed voraciously on these young and tender shoots, and thus rob the Red Grouse of their food. They are also liable to upset the dogs employed upon such moors during the shooting season.

The Hare's "form" is a simple depression in the soil, or it may be within a tuft of grass. Here the animal rests throughout the day, shielding itself as best it can from the wind and rain. As evening draws its curtain over the landscape the Hare leaves its bed and goes out to the fields to dine on cereal or root-crop. A single Hare can do an immense amount of damage when located upon arable land. Just as the turnip blade is breaking the soil the animal nibbles the tender shoot and kills the budding germ. Amongst sprouting grain or clover the animal will practically retard the growth of such for many square yards before it returns to its "form" in the dawn. Even in the dead of the year, the Hare sets its teeth into the skin of the turnip, and leaves the frost and thaw to complete the destruction.

About the third month in the calendar of the year the Brown Hare seeks a mate. It is then the animals may be seen chasing each other wildly, leaping, skipping, and gambolling in the grasslands, from which the expression "mad as a March hare" has been coined.

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These romping antics last for some weeks, after which the animals settle down to the ordinary cares of family-rearing. A pair of Hares will have three or four litters in a season, with about four young ones in each nest. The young have their eyes open when born, and once they gain strength of limb they ramble beyond the home circle as the day verges into night.

In general appearance the Hare is rabbit-like in form, with a greater length of limb. In colour it is a grey-brown over the back with a warmer brown about the sides, and this, again, fades into white about the underparts. In winter the brown hue turns to a brownish-grey. The ears are narrow and concave, black tipped and rounded, and somewhat longer than the head itself. The tail is black above, and its under-surface white. Distinctive features of the Hare are its thick, bristly and deeply cleft upper lip, and the oblong pupils of the eyes. The latter are very large and prominent, and set well back into the head. The build of the frame is lanky and rather compressed in appearance, and this lankiness is most apparent when the animal is in motion. The long hind-legs account for this impression. In length the average Hare measures 22 inches.

What has been said of the Brown Hare applies in great measure to the White or Mountain Hare. Unlike the Brown Hare, however, this species is never seen upon the lower reaches of the land. It is purely an Alpine resident. The colour also varies more than

The Hare

in the case of the brown species. The summer coat is a grey of various shades—a buff or light brown being quite common, but when ice and snow invade the highlands the fur turns pure white, with the exception of that on the ears. These are nicely marked in black at the tips. Throughout the whole year the underparts retain their white colouring. The head of this hare is not so flat as in the brown species, while the ears are shorter in proportion. Both the Brown and Mountain Hares are equal so far as size is concerned, but the latter has not so much length of hind-leg as its compeer.

Although thus handicapped, as it would seem, the hare of the hills is as fleet of limb as the denizen of the lowlands. For food, in the warm months of the year, it finds abundance of grasses upon the hill-sides and in the shaded corries where the deer roam. When autumn comes there are the heather fields at its disposal, and during the inclement weather around Christmas it crops the lichens and gleans the pine-seeds in the recesses of the forest.

Given a wild waste of land, a pair of Rabbits, and solitude, the face of the landscape may be visibly altered. A perusal of any of the modern treatises on the fauna of the Shires will show that not a few localities were of recent times practically free of this wild rodent. Then, by some erratic movement on the part of the individual, the Rabbit was introduced, and

British Gnawing Mammals

with the Rabbit a change came over the scene. The writer, even, can recall special districts that knew not Rabbits. He can also remember their introduction in some districts and the consequences. Without printing names, I can point specially to a Shire where fifty odd years ago the Rabbit was unknown. Since that date I can chronicle the animal's devastations, involving serious loss to both landlord and tenant of grazing lands. So acute, indeed, in one instance, became the situation that the landlord would be carting turnips in a severe winter to keep the Rabbits alive, and in the summer following he would generously give the tenant his rent back, because of the damage the animals had done to the pastures.

Broadly speaking, Rabbits afford good sport for the gunner, and when kept within due bounds prove a minor asset to an estate. When allowed to multiply irrespective of all commercial considerations, this wild rodent becomes not only a prominent example of vermin, but proves a distinct nuisance, and consequently a loss to everyone concerned. Considered as one of the more prominent of the four-footed denizens of the fields and woods, the Rabbit is an interesting and engaging animal. One hears it often spoken of in juvenile language as the "bunny," while the Americans call it the "coney."

In Britain we find the animal thrives best where there is a sandy or gravelly soil. It loves dry places. Yet this is not always the case. As an instance

The Rabbit

entirely opposed to this natural selection of site, I may mention that I have found as hardy and robust Rabbits under entirely diverse circumstances. For instance, there are quite a number of watery ditches about my house, where extensive colonies of Rabbits live, move, and have their being. One of these banks is so moist even in midsummer that, when walking over it, the foot actually sinks in the mossy ground. A glance into the burrows where the Rabbits live gives one the impression that the corridors leading to the nests where the young are laid must be of a very damp and uncongenial character. So engrossed with this aspect of the Rabbit's life did I become that I decided on digging up a few of these ditch-side burrows. I got a spade and set to work. A foot from the water-edge the soil was still damp and baked hard by the tread of the animals' feet. Beyond this it became harder and drier. Here the hedge-rootlets penetrated the soil, and seemed to suck the moisture from the ground ; and at the far end where the cavity deepened, and where the nest was located, the soil around was absolutely dry. When thus opened up the real home of the bunny was absolutely dry and free of all signs of dampness.

The Wild Rabbit is truly wild in the broadest sense of the word. It is cradled in the bowels of the earth, where it breathes its first days in a nest of fluffy fur provided by its wild, yet considerate dam. In its early days, before even its eyes are open, it lives

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luxuriously within its cushion of fur, fed meanwhile by its mother's milk. During those days its parent, as it leaves the dark recesses of the burrow where its offspring sleeps, carefully throws the loose earth against the entrance of its tunnel, while it goes out to feed upon the bulging turnip or succulent blade of wheat.

Until the hour that her nestlings' eyes are open the dam acts thus, day after day. From that hour the young Rabbit is a savage of the wilds. Capture one of those rodents and place it in a hutch ; in all probability, eight years hence, if it lives, it will still be a savage of the wilds. Eight years is about the average life of a Rabbit. It is seldom the wild rodent takes kindly to artificial surroundings, although in many instances it may be found in colonies close upon the habitations of man.

Like the Blue Rock Pigeon, it retains its colouring, despite all attempts to introduce an alien marking. It approaches the artificial surroundings of man, and yet retains its wild individuality. It is a truly wild creature, and will ever remain so. Its race is of long pedigree, not only in blood, but as free rovers of the woods and meadows.

By its habits the Rabbit is guarded from many enemies. The open daylight seldom sees it abroad, unless to lie peacefully in some grassy tuft, awaiting the afterglow. As twilight draws over the fields it stretches its limbs after its long siesta, and hops into the turnip-

The Rabbit

field or corn-land to dine. In the dense darkness of night it is again in its burrow, but in the dewy morning it once more moves afield.

When alone there is no creature of the wilds more alert than a Rabbit. It observes the slightest motion on the landscape, and detects any unusual noise, with an acuteness that is surprising. A Rabbit lying in a reedy tuft of grass within a stone's-throw of a roadway will crouch low down while a motor dashes past, but were it feeding in the open, the instant that machine comes within its hearing it will dash straight for its burrow. Let the locomotive steam along its iron track beside a Rabbit warren, and the animal will merely set its ears erect and hop a few paces through the grass blades. The whistle of the schoolboy or the bark of a frolicking terrier sends terror into the creature's heart, and it scurries off to the security of the bank with its earthy tunnels.

Where a colony is feeding, the position is even more astounding and inexplicable. When in concert, there appears to be little or no wariness exhibited. In the clover field, the little rodents will be busily nibbling the tender tops of the early clover. All is peace, contentment, and evident security. Clap the hands loudly, and here and there a head will appear as if questioning the source. Clap again, and you will see a single bunny hop nearer its home—that is all. If you actually disturb the creatures, you will observe a white tail bounding towards the bank at a quickened pace,

British Gnawing Mammals

and if you continue the noise, the whole colony will ultimately make tracks for their security.

In this they somewhat resemble sheep. Once one is frightened, the whole colony will make a general stampede.

CHAPTER VII

BRITISH GNAWING MAMMALS (*continued*)

2. *Rats—Real and Unreal*

WHILE year succeeds year, scientific and sanitary experts issue tirades against Rats as being the medium of spreading disease throughout our islands. In this connection the Rat specially referred to is none other than *Mus decumanus*, alias the Brown, Grey, or House Rat. This animal is the common scavenger of the sewers and drains, where it devours much of the garbage that might otherwise become offensive and dangerous as disease-hatching material. Feeding, as the Rat does, on decomposing and other matter, in such underground quarters, the animal, while in a sense ridding the sewers of what in itself would undoubtedly prove dangerous to man, may at the same time carry infection from one quarter to another. The question, however, arises whether the Rat really does more harm than good in this way, and as yet some doubt exists whether the animal is such a menace to public health as some investigators seem to make out.

In a general sense, however, Rats have to be written down as the vilest of vermin. Rural dwellers hate them, and city folk abhor them. In the country the outcry against the animal is very pronounced, more

British Gnawing Mammals

especially throughout the winter season of the year. These rodents do not, as a rule, infest buildings or outhouses during the summer months, for the simple reason that they can then earn a livelihood about the ditch-sides or in the fields and woods. When the vegetation is abundant and the grain crops are upon the ground, Rats live sumptuously, and do not then require to forage for provender. About the hedge-rows they can easily find a callow brood of robins, or in a rabbit's burrow in the bank-face they can rob the warm nest of its contents. When, however, the nestlings can mount the hawthorn twigs, and the rabbits are able to visit the fields, and the grain is garnered, the Rat finds its larder bare, and hunger sends it towards the farm-buildings or similar shelter. Here the animal finds its winter quarters, and here, too, it enjoys the greatest variety of food. While the ploughman builds his massive corn-stacks, the Rat settles amongst the grain, and will live there throughout the winter, with abundance of food around him. When these stacks are thrashed out enormous numbers of Rats are often dislodged, while the amount of grain destroyed in the interval becomes a serious loss to the farmer.

Although Rats take kindly to such shelter, the animals do not confine themselves absolutely to the rickyard. They will infest a drain or burrow under floors, or be equally at home amongst the rafters of a building. No place is sacred to a Rat.

Rats—Real and Unreal

In the city the Rat is not so well known, because the creature can there secure an abundance of cover denied it in the open country. Yet it is somewhat peculiar that Rats, while extremely shy and wary of noises in the country, will form colonies about warehouses or other buildings in the city, and seem quite unconcerned by the incessant bustle of commerce and the general commotion incidental to city life. Once a Rat settles about a city building, it does so practically for life. Not so in the country. In rural parts it is a migratory animal, and moves with the seasons. The gamekeeper may select a secluded spot to hatch and rear his pheasants, and be satisfied in his own mind that no vermin are likely to disturb his broody hens. In his rounds, however, he discovers an egg rolled out upon the grass, and questions whether the hen had carried it out accidentally under her wing. On removing the hen he finds half the clutch gone. Investigations prove that a Rat has been the thief, and it is truly wonderful how the animal can carry off eggs long distances without leaving a chip upon the shell. Rats are very partial to eggs of every kind, and once a Rat locates itself near a sitting fowl, it is almost a certainty it will pillage every egg, or, later, devour every chicken as it is hatched. While fond of eggs and chickens, these creatures seem to be extremely so of young ducks. I have seen a whole brood of ducklings carried off, one by one, within the space of half an hour, and the fluffy mites' remains afterwards dragged

British Gnawing Mammals

from under the dog-kennel while the canine slept. At another time my ducklings—then almost half grown—were foraging amongst the rank meadow grass in the dusk, and I observed a number of Rats leaping here and there, after the fashion of a dog pursuing a hare or a rabbit in a cornfield. On the ducklings becoming aware of the presence of the enemy, they rushed over the meadows towards their pens, with the Rats in hot pursuit. Had it not been for my presence, there would certainly have been a tragic ending to the hunt. Before morning dawned, however, the Rats had renewed the attack, and killed no fewer than seven out of the ten ducklings. One or two of them were alive when I visited the pens in the morning, although the Rats had actually eaten the major portion of their backs. Most of them, however, were dead, practically nothing being left but the bony carcasses and the heads and legs. While thus doting on duck-flesh, Rats are in the broadest sense omnivorous in their tastes. Driven to straits, they will sustain life where many rodents would die. They rear large families, and are perhaps the most prolific animals native to Britain. An average nest will contain a dozen youngsters, and the earlier born of these will be breeding before winter comes on. This species is credited with annihilating the old British Black Rat, *Mus Rattus*. From all accounts handed down, it seems the original Black Rat was less carnivorous than the one previously named. Although it cannot now be looked upon as a

Rats—Real and Unreal

British species, still examples are reported at times. These are surmised to be importations by means of sailing-vessels. Specimens may be seen of the true Black Rat in most museums. It is an animal about 7 inches in the body, with a tail quite as long. The head is rather slender and the muzzle pointed and somewhat projecting. The ears are ovate in shape, inclined to be smooth rather than hairy, and, as its name implies, it is black in colour, but this fades into a lighter shade on the underparts. This Black Rat is said to breed three or four times during the year, and has six to ten youngsters at each litter.

There is still another Black Rat, so called, which is not infrequently confused with the one just named. This is the Water Vole (*Arvicola Amphibia*), and is aquatic in habits. It is exclusively a vegetable feeder, and may be seen about the sides of ponds, streams, and waterways, usually where quietness reigns. In general colour it is blackish, but a greyish tint may be discovered upon close inspection. An adult Water Vole will measure 8 inches, with a tail half that length. This rodent can be quite easily distinguished from the true Rats even by a casual observer, merely by the colour, if nothing else. Apart from this, the Water Vole is stouter in build, has a denser coat, its ears are small and its tail short. True Rats, on the other hand, have longish bodies, are smoother in the fur as a rule, and have prominent ears and long tails.

British Gnawing Mammals

The burrow of the Water Vole is dug out of the bank by the animal itself, and usually has an entrance below the surface of the water. Thus, when disturbed, the Vole can dive and enter its hidden doorway, and thus reach its nest at the far end of the burrow. It is an adept swimmer, yet its feet are not webbed, and when swimming the animal largely employs its hind-legs as propellers.

Unlike Rats, Water Voles are slow breeders. They may have three or four litters annually, but these are generally limited to two or three young ones, although seven or eight are occasionally recorded. To put down five as the average would doubtless be near the mark.

While these Water Voles are found solely about the borders of streams and waterways, it has to be said that the Common Brown or Grey Rat is much given to burrowing in similar localities. Doubtless the presence of the latter in some measure accounts for the impression often formed that a black rodent upon a bank-side must be the almost extinct species referred to. It is not so, however, but an entirely different animal—viz., the Water Vole.

HARVEST MOUSE

LONG-TAILED FIELD MOUSE

CHAPTER VIII

BRITISH GNAWING MAMMALS (*continued*)

3. *Mice and Voles*

THE most familiar of all the Mice is the House Mouse. It certainly calls for little or no introduction, as its presence is too much impressed in divers ways upon the average householder. Although in the main confined to the precincts of inhabited dwellings, still the House Mouse takes very kindly to outhouses and fields generally. Its size is about $3\frac{1}{2}$ inches, measuring the head and body, and the tail is quite as long. The ears are rather big and rounded, and the eyes small and coal-black in colour. It is a gourmand in more senses than one. Nothing appears to come amiss to this little nibbler, be it cheese or ham, biscuit or apple-tart. Failing household dainties, it will fall back on the scraps about the cesspool, or hunt the plantation for stray nuts. The same cosmopolitan attributes are shown by the House Mouse in its selection and furnishing of a home. It will take up its quarters either under or on the floor, in the wall crevices, or amongst the rafters. For material to construct its nest, it will carry cloth, paper, straw, wood shavings, or any household sundries that may come in its way. The nest is by no means tidy, but

British Gnawing Mammals

it is always warm and comfortable, wherein the female has five or six litters a year, with perhaps four to eight at a litter. These youngsters are quite bare when born, and are blind, but in ten to fourteen days they are on their feet and roaming in search of scraps and crumbs. The House Mouse, in its typical colour, is greyish-brown, but there are very diverse shades and variations, down actually to the albino and fancy Mice, as seen at modern exhibitions. In days gone past, Mice were looked upon, in some districts of the country, as the medium for the cure of coughs and colds.

One must journey well south to meet the Dormouse. At times a specimen turns up in the more northern regions, but it is in the southern counties of England that the Dormouse is truly a native. Amongst the hedge-rootlets, brambles, and thick patches of low bushes, the nest may be discovered, and in such places the rodent forages for its food-supply. Fruit, nuts, and the like, are loved by Dormice, and for these they will readily climb the stems and dine before returning to terra-firma. Any sort of grain is also looked upon as a dainty by these creatures, or, indeed, almost any seed suffices to quench the hunger of the Dormouse once it is out in quest of food. Failing vegetable substances, a stray insect or a caterpillar is not passed unwittingly. As autumn approaches, the animal takes on a certain amount of fat, and meantime has built

Mice and Voles

a globular nest, wherein it stores food against its lengthened winter rest. Should it awake during the colder months it, squirrel-like, dines on its secreted provisions, and goes once more into slumber-land. The Dormouse brings forth three or four young at a birth, and these are born blind. In colour the youngsters are greyish, but this hue soon gives place to a warmer tint, and in the adult stage Dormice become pale tawny-brown above and yellowish underneath. They have rather pointed noses, with bright, prominent black eyes, and rather large heads and ears. Including the tail, the Dormouse measures about 6 inches. Its arms are much shorter than its legs, and the thumb is rudimentary. The animal uses its paws much in the same fashion as the squirrel. A Dormouse in early spring is a lanky-looking creature, its sleep of some months usually consuming the fatty matter laid up by the creature on its retirement from its woodland activities in the preceding autumn.

The Harvest Mouse is some $2\frac{1}{2}$ inches in length, and the tail, which is somewhat prehensile, is about 2 inches long. In colour the animal is of a pale, warm brown over the back and white below. The ears are broad and rather lengthy. By nature the creature is a climber, and its paws are formed for this purpose. It is quite an adept at scaling cornstalks, or any stem capable of bearing the weight of its tiny body. As a rule, the Harvest Mouse erects its nest

British Gnawing Mammals

in the corn-lands, but this is not always the case. Any suitable herbage answers equally well for this purpose. As winter draws near, these Mice seek shelter in some earthy burrow, where a store of food is laid up against the needs of the season. Here the animals hibernate the greater part of the days of ice and snow, only feeding at odd times, when awakened by a change of temperature. Not a few of these Mice, when driven from the cornfields, secure winter quarters amongst the farmyard ricks, and here they live in peace and plenty until the steam-thrasher sounds on the adjacent ground. While very pretty and entertaining in their ways, these Harvest Mice are inveterate warriors, and give and take no quarter from any of their kith or kin. Not only will they fight tenaciously with one another, but they will kill their opponents, and devour the carcasses with evident gusto. Like the Dormouse, the spring sees the Harvest Mouse a mere shadow of its autumn proportions. It takes only a few weeks, however, to fatten this little animal, and fit it once more for the duties that are its lot, when summer winds shake the loaded heads of the wheat-fields.

There is another Field Mouse which is almost double the size of the one just named. This is known as the Long-tailed Field Mouse, or Wood Mouse. These two titles are, perhaps, necessary, for the fact is, the animal takes as readily to the field as to the wood. There can be no mistaking this Mouse,

Mice and Voles

as its size and colour clearly denote its species. Above it is faint brown, with white underparts, and a brown patch upon its breast. The feet are long and white, head long, and ears also long and oval in form. This Mouse generally builds its nest amongst grass or matted herbage, and in winter seeks out some hole wherein to hibernate during the inclement season of the year. Against this time of inactivity, the creature stores up nuts, acorns, grain, and any cereals it can gather, and it seems not to know when it has enough laid aside for its winter wants. By the early spring days the Long-tailed Field Mouse has its garner much reduced, for it eats ravenously once it is awakened out of its dormant state. When the dull grey fields are taking unto themselves their summer greenness, the Long-tailed Field Mouse is hunting with his mate amongst the succulent blades, fearing no foe, unless the furred and feathered bandits of the wilds.

In the chapter "Rats—Real and Unreal" the Water Vole has been noticed. There are only two others to note here, but these are most interesting natives of the woodland wilds.

By way of studying these creatures, let us take the Field Voles collectively. First of all, we see that Voles are somewhat removed from the true Mice by the arrangement of their teeth, which in mammals is always a distinctive feature. Again, Voles have shortish tails, while Mice have longish ones, and the same

British Gnawing Mammals

difference holds good as regards nose and ears. Added to these distinctions, the Voles have smaller eyes and more dumpy limbs compared with Mice, but over and above all, the Voles' contour is more plump-like than the true Mice. A Vole is a rounded animal, while in comparison a Mouse is of an elongated shape.

The Common Field Vole is an animal that ranges from the loftiest peaks of our insular mountains to the lowest grass-lands. Quite an ordinary name for this rodent is Short-tailed Field Mouse or Vole. It was this little animal that created the so-called Vole plague about the Borders in the year 1876, and again an outcry against its depredations was raised in 1883, and still later in 1891, when the Board of Agriculture tackled the question. The distribution of this species of Vole is wide, and practically unlimited. It devours every blade of grass within its area, or, failing to eat it, it so pollutes the ground that no other stock will crop it. It certainly prefers grass-lands to cultivated fields, as it seems to love vegetation in any form rather than places where it has to hunt for its food. It is greyish-brown above and paler below, but darker again about the feet. Head and body measure about $4\frac{1}{2}$ inches, and the rather hairy tail is about a third of this measurement, but these Voles vary very much in size. They breed three or four times annually, and have four to seven in each nest—the nest being formed of moss, grass, and leaves, usually in some well-protected hollow of the ground.

Mice and Voles

The other Vole is the Red Field Vole, Bank Vole, or Red Bank Vole. This is a most lively and pretty example of the Vole family. In colour it is reddish-brown, with slate-coloured sides, pale underparts, and a very bristly tail, of a dull brown tinge above and white beneath. The body, including the head, is 4 inches, with a tail half that length. The ears are larger than those of the last named, but in most other respects it resembles the Short-tailed species. Unlike the latter, however, this one is frequently found in woodlands, evidently delighting in quarters where there are rootlets abounding, under which it can form its nest. An oak coppice or a well-drained fir-wood seem likely spots to unearth a specimen of the Red Field Vole. As a rule, however, this species may be looked upon as distinctly local in its dispersal compared with its relative described above. Not so many years ago this species was considered quite a rarity, and its capture was chronicled in the daily Press much in the same way as that of an eagle, a wild cat, or an ermine is to-day. Still, in many quarters of the country the Red Field Vole is by no means uncommon, and may at odd times be found even within the walls of the rustic garden.

CHAPTER IX

YESTERDAY AND TO-DAY

TIME was when the Roman soldier hunted the dense forests of North Britain, and counted the Brown Bear as a prize. The echo of those days tells of the Brown Bears of Caledonia being carried to the Courts of Rome to provide sport for the people. These animals, however, had roamed the dense jungles of Northern Britain long before the soldiers of Rome penetrated these Highland forests, and no doubt Brown Bears existed many years after the Roman armies had withdrawn from the land of brown heath.

Then there were Beavers about the inland waterways in Scotland and towards the southern portions of the British Isles. Tradition asserts that Beavers lived not only in England, but that the animals had pushed their march northwards towards the higher mountain ranges of Scotland. Giraldus refers to the Beaver as frequenting one of the rivers of Scotland, while Boece mentions it as being located about the shores of Loch Ness.

Civilization, even in those rude times, gradually became irksome to the hunters of the brook-edge and sedgy swamps, and almost imperceptibly the Beaver moved backwards to the less frequented districts. By

Photo, T. Malloch

FIELD VOLE PEEPING OUT OF NEST

Beaver and Reindeer

degrees they became restricted to certain areas, while their ranks year by year diminished, until ultimately the Beaver became rare—then extinct.

In recent times attempts have been made to reintroduce the Beaver, but, like all other movements of a similar nature, these have ended in complete failure. There is no more room in the twentieth century for the Beaver than there is for the Reindeer on the hills or the Wild Boar in our woods. The Beaver might ornament a baronial lake merely as a unique specimen of a once native mammal of the British Isles, but the day of the Beaver as a wild animal is numbered with the things that were.

Of the Reindeer, historians write that this animal was at one time far more abundant in our island than even the Red Deer is to-day. It is also said that Reindeer existed in Britain as late as the middle of the twelfth century. That Reindeer roamed in Britain is beyond dispute: history relates so, and the remains which have been found of extinct animals confirm the fact. But centuries have rolled away since the Reindeer flourished in our island, and although several instances are recorded of attempts being made to re-establish the Reindeer as a British mammal, none of these laudable enterprises have borne fruit. Space cannot now be given the Reindeer in our insular area. The Midlands are seething with humanity, the Highlands with Red Deer and Grouse. The day of the

Yesterday and To-day

Reindeer has passed, and cannot return so far as our sea-girt islands are concerned.

Deep in the recesses of the centuries the ancient Briton hunted the Wild Boar from the rim of either shore, for the distribution of this animal appears to have been extremely wide. Even down to the sixteenth century the sport of hunting was not complete without the hunt of the Wild Boar. To-day the only remnant of the Boar-hunt lingers amid the quaint place-names of hill and hamlet.

Of all distinctly British mammals the Wolf stands out most prominently in history, tradition, and romance. No one can now fix the date when this animal first appeared upon British soil, but it is very evident that during its occupation it constantly proved a source of dreaded danger to the natives.

Passing on to the fifteenth century, one finds Pope Pius II. writing that "there were no Wolves in Scotland." Even then, Wolves were by no means scarce in the more secluded parts of the country. From whatever source His Holiness had gleaned his information, it was quite erroneous to write so, because it was not until the middle of the eighteenth century that the last Wolf was killed in Britain. Amongst quite a budget of instances following the above statement by the Pope named, one finds from ancient records that "Woulffs" were included in the lists of animals slain during many of the sporting excursions undertaken by the nobles of a much later date. For instance, the hunt provided

Wolves

by the Earl of Atholl for King James V. entirely upsets the Pope's declaration. This was in the year 1528, when Wolves were numbered amongst the victims of the raid then made. Again, in 1563, one reads of an organized hunt within this same Earl's domains, when Queen Mary was being entertained in Perthshire. This sovereign lady "ordered one of the fiercest dogs to be slipped at a Wolf" on this occasion; and it seems that the miscellaneous bag of game then captured or slain embraced no fewer than five Wolves.

In 1577, again, one reads in the old *Statistical Account* that "the spittal of Glenshee—an hospital, or house of refuge for travellers from Wolves—" had been erected on this frontier of the Grampian range. Many such havens of security against the attacks of Wolves, it would appear, had been previously built, clearly indicating that the animals were even at that day dreaded by the natives.

Various claims have been put forth anent the slaying of the last Wolf in Scotland, chief amongst these being that of Sir Ewen Cameron; but tradition seems to cling tenaciously to the name of one Macqueen in this connection. Macqueen was a small laird at Pollochaig, and owned allegiance to The Mackintosh. He is said to have stood almost seven feet in height, and was proportionately built, yet agile as a Roebuck. The story goes that one evening a lone woman with her two children were crossing Strathdearn from Cawdor

Yesterday and To-day

when the party was attacked by a ferocious Wolf. The woman escaped, and made her way to Moy Hall, the stately residence of The Mackintosh, where she related her terrible experience. The chief immediately convened his clansmen and vassals, and at dawn set out in pursuit of the Wolf. Macqueen had been ordered to attend, but it seems he delayed his coming out. When he did appear The Mackintosh reproved him for his dilatoriness. Macqueen questioned the hurried character of the gathering, when the disappointed and impatient chief shouted, "The Wolf, man, the Wolf!" evidently desirous that the mighty hunter should recognize the importance of the event. "Oh, the Wolf," retorted Macqueen; "I think I've come soon enough for all that's to do," meanwhile drawing the animal's head from under his plaid and tossing it at his chieftain's feet.

The narrative further proceeds that Macqueen, as he crossed the ravine, had encountered the Wolf, which was at once attacked by his hound and despatched by his strong man's dirk. So pleased was The Mackintosh at this fortunate turn of events that he rewarded the hunter by bestowing upon him a ten-acre field beside Pollochaig. This was in the year 1743, renowned in traditional lore as the closing scene of the Wolf as an indigenous animal in the British Isles. Macqueen himself departed this life 1797. Moy Hall, as named in this chapter, is situated at the head of Loch Moy, a

Wild White Cattle

charming sheet of water between Aviemore and Inverness. By this loch-side may still be seen the remains of ancient Wolf-traps. These are nothing more or less than secluded pits, wherein were fixed some savoury bait. The unwary Wolf, once inside the pit, could not get out, and the hunter then despatched the captive at his leisure. The passing of the Wolf left the Wild White Cattle of the pastures the sole and only link of the more gigantic land animals between what was and is. Speaking of this species, history asserts: "In Boethius's days wild everywhere," and Sibbald, writing of his times, says: "A wild white breed was found in the Scottish hills."

Time has passed since then, and to-day only one or two noted herds of White Cattle represent the ancestors of the years that have fled. Chief amongst these herds is that of Chillingham in Northumberland. Confined although these bovines are within a limited area, they still retain some of the traits owned by their wild predecessors. They have the fiery eye, the agile limbs, the restiveness and suspicion, that truly belong to creatures of the wild. Like their ancestors, they hide their calves, and the herd browse only when the sun is sinking in the west.

As the student peruses the literature of the past he gradually reaches the date when the old order of things verges into the new. The animals recognized as formerly resident in our islands, but which have

Yesterday and To-day

ceased to exist, are recorded in history. No doubt, as time slips silently into the coming ages, several animals we now write of as existing will in their turn be only known to future generations by the stuffed mummies in our national museums and the writings of naturalists in the intervening years.

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