

## REPTILES AND AMPHIBIANS IN BRITAIN

By ALFRED LEUTSCHER, formerly Secretary of the British Herpetological Society

In Britain there are three snakes, three lizards, three frogs (two of them introduced), two toads and three newts. This poor list, only fourteen species, can be explained by the intense cold of a past Ice Age, during which it is doubtful whether any of these cold-blooded creatures survived. If not, they must have returned after the melting of the snows and glaciers. During the great thaw Britain was for some thousands of years still connected with the Continent. Then, as the sea-level rose and a certain amount of earth-sinking took place, much of the land became waterlogged. Finally, about 8,000 years ago, the last land bridge was severed, the sea cut through to form the Straits of Dover, and Britain became an island. It should be noted that all our species are found also on the Continent, and that they diminish in numbers and species as one travels north. Ireland has the poorest supply, since it was the first to break away.

Reptiles and amphibians have never enjoyed great popularity. The prejudice against them is often kept alive by a host of popular misbeliefs and superstitions which it is difficult to correct. Consequently they suffer from much persecution and neglect.

Extinction of animal species may be natural or brought about artificially. In the former case it may be due to changes in environment, or simply "death from natural causes". The stock wears out from racial sterility, as the biologist terms it. There is little we can do about this.

Extinction, in which man takes a part, may be considered broadly under antagonism, collecting, progress and introduction of other species. Under the first we have man's desire to destroy what he considers to be harmful, and in this, deliberate killing either for food or pleasure can be included. Collecting would cover all those activities which go on, from a schoolboy with his jam-jar and net to a museum expedition. Progress, in a human sense, means upsetting the environment. This can happen each time a house goes up, a tree comes down, land is cleared and ploughed, or a pond is filled in. Oil pollution, river sewage, insecticides, all form part of the march of progress which takes its toll of wild life. Finally there is "introduction". Such a practice should always be treated with the greatest caution, even in cases of useful biological control.

To appreciate how these factors may affect our native reptiles

and amphibians, we must understand a little about their needs and dislikes in relation to their homes. All our amphibians have the typical "double life" of the amphibia, that is, the aquatic gilled tadpole stage, followed later by the lung-breathing adult, which can live on land. These adults have naked, unprotected skins, sensitive to changes in humidity and heat, and cannot live for long in dry, exposed surroundings. All are, broadly speaking, insectivorous, catching small animals and in turn providing meals for a host of enemies.

The sort of picture we conjure up is a small, shy creature which hides away in damp and dark places, by habit often nocturnal, living not very far away from a pond which is the nursery for its family. It follows that we must have our ponds and other water spaces if we are to keep our amphibia. Since a pond is nearly always man-made, it is never a permanent feature of the landscape, and in time is liable to disappear. Invading plants, silt, etc., gradually fill it up, and the amphibians go away. Man can claim a pond by filling it in, but so can nature. Consequently the more ponds we keep open, by periodic clearance, the greater is the chance of survival of the amphibians.

It is surprising how amphibians appear whenever water is provided. Garden ponds are often colonized their first year, and undoubtedly help to preserve amphibians in built-up areas. They turn up, almost overnight, in water troughs, rain butts, bomb craters and drowned gravel pits. Apart from this greatest hazard—a breeding site—amphibians in Britain have other dangers to face. The common frog, *Rana temporaria*, may appear almost anywhere. Every year thousands are collected for schools, colleges and laboratories. Our frog now has a commercial value and people who know its habits can clean out a whole colony in one breeding season.

The two introduced frogs do not suffer to such a degree as the common frog, being far more active and aquatic and also very local in distribution. The edible frog, *Rana esculenta*, has been with us now for over a hundred years. One of the first introductions was in 1837 into the Foulmire Fen, in Cambridgeshire. Since then it has been freed in many other places, and at one time swarmed in the marshes and fens of East Anglia. To-day it is practically extinct there and might have disappeared entirely from Britain had it not been for further introductions nearer London. Its near extinction is hardly due to collectors. Herons and other natural enemies may be partly the cause, but there is always the possibility of some essential factor, present on the Continent but missing in England.

A similar thing is happening to the much bigger marsh or laughing frog, *Rana ridibunda*, which comes from eastern Europe and which in 1937 was freed in a garden pond on the edge of the Romney Marsh. To-day this frog exists there in thousands in dykes and canals, and the sound of its chorus on warm summer nights has to be heard to be believed. Will this rapidly increasing colony end in the same way as that of the edible frog? Only time can tell. Meanwhile there is some evidence to show that the native common frogs, newts and some aquatic insects are not so common as formerly. The marsh frog has a hearty appetite and can easily swallow newts, small fish, large worms and even small rodents. It feeds both in and out of water.

British toads, recognized by their dry-rough skins, shorter legs and blunter snouts, are more creatures of habit than are frogs. They are inclined to be more nocturnal, and tend to frequent certain definite waters during breeding. The annual migration to its particular pond by the common toad, *Bufo bufo*, is a well-known but mysterious operation. Certain ponds are always visited and others ignored. Where the invisible routes cross a roadway many toads are run over. A more serious danger, however, is from collectors, and it is unfortunate that this toad's breeding season coincides with the Easter school holidays. I have seen them crammed into tins and jars, still in the mating embrace, and on inquiry have been told they are to become house pets and will be fed on bread and jam! Many others are collected for research, especially in connection with the famous pregnancy test. The natterjack, *Bufo calamita*, is a more local toad, living in colonies, especially along the coast in sandy areas. It will tolerate a certain amount of brackish water. Its main danger seems to be the loss of breeding sites.

An excellent way to help in the preservation of our frogs and toads is to collect spawn and place it in as many ponds as possible where the species concerned does not occur already; but the marsh frog, because of its size and appetite, should not be spread in this way.

Our newts may be taken collectively, as they are closely related and have broadly similar habits. Distribution of all three is widespread and the chief restricting influence is usually the presence of small boys. This may explain the very local distribution of the large crested or warty newt, *Triturus cristatus*, which is often scarce near large towns. It is now much rarer in the London suburbs than when I was a boy, and I remember how eagerly we sought for it. Other reasons for the presence or absence of a newt may be the soil condition or nature of the

water. The little palmated newt, *Triturus helveticus*, is more of a mountain species, and I have noticed, is often the only species found on acid soils. The smooth newt, *Triturus vulgaris*, has a wide distribution, but is missing from parts of the west country. Nobody knows why.

British reptiles include the viviparous lizard, *Lacerta vivipara*, whose eggs are retained until they are at the point of hatching; it is widespread and seems fairly secure. It is the only reptile native to Ireland.

The position of the slow-worm, *Anguis fragilis*, is more precarious. Here and there it is locally abundant, especially in undisturbed places in woods, along railway lines and, of all places, in country churchyards. The usefulness of this harmless little lizard should be made known to every gardener and countryman. It feeds largely on small slugs.

The sand lizard, *Lacerta agilis*, prefers the sandy areas of heaths and dunes, and belies its scientific name, for it is much easier to catch than the viviparous lizard. It is now becoming increasingly rare, for the seaside holiday habit has destroyed many of its old haunts along our coastline. There is a certain price upon its head because of its rarity, but attempts to reason with dealers, in order to save the species, usually end amicably and the lizards are left alone.

Of the three British snakes the grass-snake, *Natrix natrix*, is the most active and can rely on its speed and swimming powers to escape from its enemies. The adder, *Vipera berus*, can easily be overlooked, as it lies in harmony with its background. Both snakes are highly sensitive to earth vibrations, and have usually moved to cover before an enemy is in sight. In fact, people living in "snake country" often say they have never seen one. In July grass-snakes are inclined to concentrate on farm land in order to lay their eggs in manure heaps and under hay-ricks. When such an ideal incubator is removed hundreds of snakes, as well as their eggs may be destroyed, for no apparent reason save that they are snakes. The adder is more widespread than the grass-snake, occurring all over the mainland, whereas the grass-snake decreases northwards and is absent from most of Scotland.

Our rarest snake, the smooth snake, *Coronella austriaca*, is now confined to the heathlands in the southern counties, with the New Forest as a centre. Only a few records occur each year, but it may be far more common than is supposed. It is quiet and inoffensive, but may bite if handled. This habit and its faint resemblance to the adder may account for its occasional death,

but probably it lives on because of its remote habitat. Its principal food is lizards.

There is much that every nature lover can do to help preserve these interesting creatures. Propaganda is required to overcome the superstition and prejudice which still exists, even among well educated people. Whenever possible the animal itself should be shown. At animal and pet shows displays of these "farmer's friends" are invaluable, for at the moment there is no popular demand for their protection. Regarding all kinds of collecting, as opposed to actual destruction, a law making it illegal to collect until after the breeding season would be a great help. The bogy of the adder should be exposed. Recorded deaths for England and Wales during the last fifty years amount to less than a dozen. Our amphibians must have their breeding sites and these should be cleared from time to time to save them for future generations.

Finally, how can we avoid the effect of the advancing wave of bricks and mortar? One way would be to incorporate amphibians into our town communities. Each garden can become a nature reserve, especially if a pond is present. The same applies to the local park, heath or common. In the Bournemouth area there is now a sanctuary for the smooth snake in the gardens of certain residents, who are proud to harbour this rarity and who leave it alone and in peace.

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