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Common lizard (viviparous lizard)

Lacerta (Zootoca) vivipara

Physical Description

Common lizards are usually between 10 and 16cm, long although they can grow to 18cm in length. They have long bodies, short legs and a long, tapering tail. They have coarse scales which range from grey, brown, bronze or green on the back, and males are generally darker than females. They have a series of white spots down the flanks, which fuse to form a line, and a black line along the back. Common lizards also have numerous black spots scattered over the body. These spots can be used to identify individual lizards by their pattern and distribution, particularly near the posterior of the animal.

Sexing the Common Lizard

The underside of males is brightly coloured usually yellow or orange, but sometimes vermilion and densely covered in black spots. Females have a yellow, grey or greenish occasionally orange underside with few or no spots. Pregnant females are easy to spot due to their bulky appearance and

should not be disturbed or stressed for fear of possibly harming the unborn young.

Worldwide distribution

The range of the Common Lizard extends across central and northern Europe (but does not include the Mediterranean region) and through to northern Asia. It is one of the most wide-ranging reptiles in the Northern Hemisphere. Surprisingly, they

are also the only reptiles found in Ireland and debate exists over how these scaled vertebrates colonized the island. The most obvious route would see them migrate via a land bridge from either England or further south in Europe. However, the identity of this founder population is not known and details regarding the mechanism and time of colonization have yet to be determined. Currently there is a large genetic database from lizard populations in Europe, with

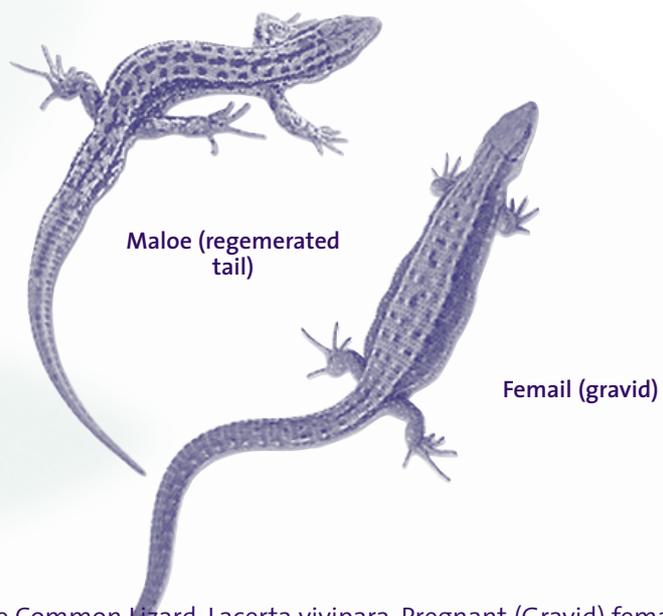


Fig 1: The Common Lizard, *Lacerta vivipara*. Pregnant (Gravid) females will be visibly fatter and will be seen basking a great deal on warm days. Missing tails will regenerate, but are a different texture and colour from the rest of the body.

much work done by French scientists in particular, and a similar effort is expected in the near future regarding the Irish populations. This should lend some insight into the colonization time, and origin of our native Irish species.

Where to look in Ireland

Common Lizards are widely distributed in throughout Ireland. They have been recorded in a range of habitats, which include woodland, marshes, heathland, bogs, sand dunes, hedgerows and even gardens. Generally speaking, any place that offers a suitable basking spot (such as rocks, reflective sand etc) and a quick escape route into cover is likely to be adequate for lizard occupation. Common lizards exist in breeding pairs and generally protect an area of habitat that supports the above criteria. In spring the males and females bask in the open to absorb the heat from the sun. Later in the summer it is usually only the pregnant females that are seen to bask. They will often use a stone, log or grass tussock close to cover for basking. If disturbed they often return to their favourite spot soon afterwards.

On the menu

Common lizards typically hunt any small invertebrates they can catch and overpower, such as insects, spiders, snails and earthworms. They stun their prey by pouncing upon it and shaking it in their mouths, before swallowing it whole.

Behaviour

Reptiles, unlike birds and mammals, are ectotherms. That means that they have no internal temperature regulation system. They rely on the characteristics of their environment and on their patterns of behaviour to control their internal temperature. When they are too cold they bask in the sun, if they get too warm they move into the shade. They also contain specialised blood vessel systems (rete mirabile), which contain veins carrying warm blood from the skin crossing in close proximity to cold-blooded arteries originating at the heart. In this way, heat is transferred across the mesh of blood vessels, conserving body heat.

Lizards can typically be found basking on sunny days in the morning or the afternoon, but not generally during the middle

of the day, when they are in danger of overheating. After cooling overnight, they need to increase their body temperature to somewhere in the region of 30 degrees Celsius (86 degrees Fahrenheit) before they can hunt effectively. Because they rely on the sun's heat to remain active (heliothermic), lizards are forced to hibernate through the Irish winter. Another strategy practiced by Common lizards for deriving heat from the environment is thigmothermy, where body heat is derived through contact with warm surfaces (rocks, logs etc.).

They disappear around October and hibernate until the following March, often in groups, occasionally emerging during warmer spells. After coming out of hibernation in spring male lizards establish a breeding territory and defend it vigorously against other males. Breeding takes place from March to May. Common lizards are viviparous, which means that the young develop within egg membranes inside the female's body.

Breeding & reproduction

After emerging from hibernation, the males defend breeding territories from other males. Courtship is a rather boisterous affair with the male grasping the female by the head in his jaws before mating with her several times. During the three-month gestation period, the pregnant female basks as much as possible to encourage her eggs to develop healthily. They may however remain inside the egg membrane for several days before breaking out (using their heads rather than an egg-tooth to rupture the membrane). In this way the young break free from their eggs whilst still inside their mother and emerge as free-living reptiles. This can be mistaken as a form of live birth, like that of placental mammals, but the young do indeed develop within eggs like other reptiles, but those

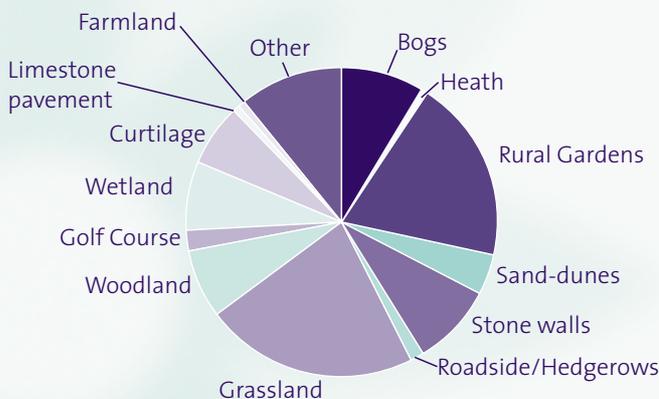


Fig 2: Habitat preferences of the Common Lizard. Taken from 2004 Lizard Survey by the Irish Wildlife Trust (not published). These results are derived from a survey and are merely an indication of the type of habitat occupied by Common Lizards.



eggs are simply contained within the mother. This is why the name "viviparous" is sometimes used, as it means bearing live young, as opposed to laying eggs, and is thought to have arisen as an adaptation to life in the colder regions of Europe and Asia. This is supported by the observation that *Lacerta* populations in warmer regions south of France do indeed lay eggs. Litters of 3-12 young are born from June to September, after which time the mother shows no parental care. The young feed actively from birth and quickly disperse. Males become sexually mature around 2 years and females around 3 years of age.

Predators and pets

Any larger predators can eat lizards, but as they are active only during the day, they rarely encounter nocturnal threats like foxes and badgers. They are taken by birds of prey (they typically form part of the kestrel's diet), and stoats and mink will kill them whenever possible. Domestic cats pose a real problem for lizards, especially early in the day before they reach full operating temperature. When they are cold the reptiles are sluggish and are easy prey for an inquisitive feline.

To redress the balance somewhat lizards have an intriguing escape mechanism that allows them to evade predators. If caught by the tail, lizards have the ability to shed the lower portion, leaving a bemused predator with a twitching stump while the lizard makes good its escape. If it survives the encounter the lizard will soon grow a new tail.

What else could it be?

Sometimes the common lizards could possibly be confused with our only native newt species, the smooth newt, *Triturus vulgaris*. Newts are amphibians and are always slow moving creatures

when on land. During the day they hide in thick grass and under logs and will barely move if disturbed. A lizard will bask in the open during the warmer months and will move very quickly. In the colder months common lizards will also move slowly, but on closer examination they will be seen to be scaly as opposed to having the soft velvety or warty skin of newts. Lizards also have much longer fingers and toes than newts. If you see an animal of this basic body shape swimming in a pond, it is most probably a newt.

Conservation status

Common lizards are widespread and not considered to be endangered. However, recent studies of amphibian and reptile populations in Britain and mainland Europe are suggesting a decline in population density in recent years due to both natural and man-made threats. The status of the Common Lizard in Ireland is unknown at present with only a handful of research efforts having taken place since the 1980's. Nationwide surveys by the general public in the early 1990's, and more recently in 2004 until present, are painting a rather skewed picture of Ireland's lizard distribution due to a large response from hikers and wildlife enthusiasts who are more likely to encounter and report sightings. This apparent bias is pushing the known distribution of the common lizard into scenic areas that are popular and easily accessible to the public.

More scientific research is required to determine the state of our only reptile and to establish whether specific conservation efforts are required to maintain a healthy Irish population. Interest has risen in recent years at the prospect of studying the species and there are suggestions in the last section on how you, the public, can contribute to our knowledge

of this elusive reptile.

Lizards and the law

As both our only native species of reptile, and an important part in the islands biodiversity, the Common Lizard, *lacerta vivipara*, is protected by Irish law against harmful disturbance, harm or capture. These creatures are a beautiful part of our countryside and can be observed freely by any prospective lizard spotters, however there can be no justification for killing, hurting or intentionally disturbing them. If you do turn over a rock to find a small, sluggish lizard below, please return it to its original position so as not to alter the countryside in any way.

What can you do to help?

Currently, the Irish Wildlife Trust (IWT) is running a nationwide survey that is calling for members of the public to send in a record of any sightings of the common lizard in Ireland. If you have seen a lizard in the past and wish to help, then there is a copy of the IWT record form on the back of this article. Send in completed record sheets to the IWT at: Sigmund Business Centre, 93A Lagan Road, Dublin Industrial Estate, Glasnevin, Dublin 11. You can also download the survey sheet and information from the IWT web site (see references).

References

The Irish Wildlife Trust Lizard Project
Website:
<http://www.iwt.ie/lizards1.php>

Mailing address for completed sighting forms:
Sigmund Business Centre,
93A Lagan Road, Dublin
Industrial Estate, Glasnevin,
Dublin 11

Further Reading

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Reptiles and Amphibians of the UK (RAUK) http://www.herpetofauna.co.uk/common_lizard.htm

Text prepared by Michael Curran and Sean Fagan, two recent science graduates of University College Dublin who are currently working with University College Dublin and the Irish Wildlife Trust respectively on a new project into the distribution of Lacerta vivipara in Ireland. They may be contacted at lizards@iwt.ie by anyone with questions, sightings or local information from anywhere in Ireland on the Common Lizard.



NATIONAL COMMON LIZARD SURVEY OF IRELAND
(*Lacerta vivipara*)

Surveyor's Name:	Note: Identification details and instructions on reverse. Please read carefully.
Address:	On completion please return to: National Lizard Survey Sigmund Business Centre 93A Lagan Road, Dublin Industrial Estate Glasnevin, Dublin 11 or Email: lizards@iwt.ie
Telephone No.	
Email :	
SIGHTING DETAILS:	
Date:	Grid Ref:
County, locality:	*GPS (if possible):
	Elevation (approx):
WEATHER DETAILS:	
Time of Day:	Weather Description:
Note: Description at time of sighting.	
HABITAT DETAILS:	
Habitat description:	Habitat Evaluation & Lizard Behaviour : e.g. Basking, feeding
Human Impact:	

NOTE: Please fill out the above as accurately as possible, including where possible visual records such as photographs.
*GPS or Global Positioning System is a feature on some mobile telephones. Checked and recorded at site of observation, it will allow us to plot more accurately sightings.





Issued by:
ENFO – The Environmental Information Service,
17 St Andrew Street,
Dublin 2, Ireland.

Tel: (01) 8883910
Locall: 1890 200191
Fax: (01) 888 3946
e-mail: info@enfo.ie
www.enfo.ie

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