

Reptile

CARE

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Special Double Feature

Leopard Geckos

All you need to know about this popular reptile

Ultimate Snakes

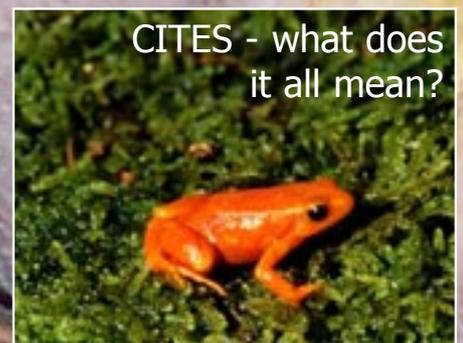
The Green Anaconda

Breeding

Ridge Tailed Monitors

Posters

The Kayaudi Dwarf Reticulated Python



Housing, Feeding, Breeding and Much, Much More...

Good Breeding

Terry Thatcher gives us the basics behind the rewarding activity of breeding smaller Monitors.

Baby Ridge Tailed Monitors are remarkably good-natured, are tolerant of handling and generally laid back. This more placid nature, and their smaller size make them ideal for the less experience keeper and breeder, not least because they don't require the large amount of space that their larger cousins demand, but rather a decent sized home vivarium.

A cage with a natural rock background can look very nice and double the usable area for the animals, as can pyramids of ply shelving or ridge tiles, giving hiding, climbing and basking areas. Natural looking rocks can be built with polystyrene sheets cut to natural shapes and coated in PVA glue and silver sand. This can be built up layer upon layer to suite. Fibreglass rocks and backdrops are available commercially and some look extremely good.

They were a joy to maintain and if you intend to breed them it is best to buy 3-5 babies and rear them up together. This will normally give a good chance of a mixed sex ratio, and will usually mean that fighting won't be a problem. The babies will need to be fed on a good variety of insects and pink mice, and they will even take meat. Use low fat meats, though, such as chicken or heart, kidneys and liver chopped, which can be frozen into little packs for defrosting. It should be emphasised that a diet with too much rodent and

meat content will cause the monitors to become overweight, particularly if they are not going to be breeding. Females will need a greater food and vitamin mineral intake than males during the breeding season, but with this varied diet and the addition of a vitamin and mineral supplement they will quickly grow. If using high UVB lights, though, care may be needed with their vitamin D3 intake.

Good lighting is very important and, although expensive, the new generation of high UVB bulbs available should alleviate the need for vitamin D3 in the diet. The lizards produce D3 naturally during basking, and it does away with the danger of over dosing, which can be as bad as under dosing. Excess dietary D3 can cause the demineralisation of the skeleton, as the animals are unable to regulate their take-up of calcium. By synthesizing D3 via sunlight or UV bulbs, however, appropriate calcium take-up is regulated (provided it is available in the diet), and any not used for growth or egg production is passed through the body. A powdered vitamin mixture with fairly low levels of D3 can be given once a week as a precaution, particularly when UV Bulbs are getting towards the end of the most useful part of their lives. Vitamin A supplements are being used less now because of suggested links to toxicity problems, so it is suggested that live crickets, carrots or other vitamin A rich vegetables are a

better choice in this case.

As the group starts to mature, it is likely that there will be changes in the interactions between certain individuals. There should not be too much aggression, but males will start to experiment with females, and even clamber over other males in a sort of ritualised mating behaviour. Males also appear to scent-mark their territory when females are present by pressing their tails onto the substrate while walking around. As time goes on, true mating will be seen in the characteristic lizard fashion, with the male lying alongside the female, placing his tail under hers until the cloacas match up allowing him to mate with her.

Egg laying normally takes place four to six weeks after mating, but before the female begins to put on weight an egg laying container, which also serves as a hide-box should be introduced for her to become used to. An appropriate medium for her to lay her eggs in, such as silver sand must be kept moist enough so that she can dig exploratory holes without them collapsing. It is sometimes a good idea to place a section of thin slate over two thirds of the surface to slow down evaporation in the high temperatures of the cage, and a layer of damp sphagnum can also be useful.

Clutch size can vary from six for a small young female, to 18 for a heavier bodied animal. The eggs should be removed as soon as possible

and placed in a suitable incubator (such as large margarine tubs), which should be filled with a mixture of 50/50 by weight water and vermiculite, or 25% perlite mixed with 25% vermiculite and 50% water. Two small holes at opposite ends of the incubator lid will allow air exchange. The incubation period is normally between 80 and 170 days depending on temperature range, which would normally be between 29 to 31 degrees Centigrade. However, larger ranges of between 28 and 32 have been recorded successfully.

From the first slit appearing in the egg - as the juvenile starts to cut it way out with their egg tooth - to full emergence should take from eight to 24 hours. Youngsters will start to feed after a further 24 hours, and it is wise to place young on a clean damp paper tissue base until the umbilical region is fully healed. They can be reared together in small groups separate from parents, but with larger groups it may be necessary to provide more than one basking area for correct thermoregulation. A number of hides, placed in different temperature ranges will also be needed.

If you are intending to breed this interesting and attractive creature it is, of course, vital that you carry out full and in-depth research before you get started. With proper preparation, the results can be gratifying and the effort will be well worth it. 



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Less of the Common



Chris Davis meets the Viviparous Lizard, better known as the common lizard.

This lizard is better known as the “Common Lizard,” but as it is no longer particularly common, perhaps it is slightly more apt to refer to it by its proper name, the Viviparous Lizard. Certainly it is widespread, being found throughout the British Isles and in certain locales it can indeed be quite common, but over during the latter half of the twentieth century its population has declined catastrophically. It has not been reduced to the undesirable “endangered” status of its larger cousin, the Sand Lizard (see *Going Native* in issue one of *Reptile Care*) but it is nevertheless threatened.

As its distribution suggests it has a fairly wide habitat range as it is not dependent on loose well drained soil (i.e. sand) for refuge, hibernation or incubation and it can be found with the Sand Lizard on heath and dune, but isn't restricted to this habitat. It does tend to favour South facing banks covered in rank, predominantly grassy vegetation and can also be found on woodland edges or clearings and in open spaces with appropriate foliage. A particular favourite is old brown field sites where the combination of rank vegetation with rubble and numerous interstices in the historically

disturbed soil provides excellent habitat. While the Viviparous Lizard is a weak burrower, it is a complete opportunist when it comes to finding and adopting suitable refuges such as under logs or rocks or abandoned rodent burrows.

Its primary claim to fame, of course, is that it has live young which is one of its primary adaptations to extreme cold temperatures. This is reflected in the fact that throughout much of its range it can even be found north of the Arctic Circle. The range is itself quite remarkable extending from the Northern extremities of Europe, Southwards as far as the Pyrenees and Eastwards across Asia to the Pacific coast. Yet another of its claims to fame is that it has one of the widest distributions of any of the world's vertebrates.

Until recently it was placed in the Genus *Lacerta* but it is now generally accepted that it differs so much from other lacertids that it now has its own monotypic genus – *Zootoca*. There are four sub-species although we have only *Zootoca v. vivipara* in the British Isles.

This is a surprisingly difficult lizard to describe as there is considerable variation in

markings, particularly in males. Typically they grow to 13-15cms in total length of which nearly two-thirds is tail, and larger individuals have been seen in the UK vying with some adult Sand Lizards for length - but with considerably less mass. The basic marking and colouring usually consists of a brownish body (although this can be grey or a dark green) with a vertebral stripe and two dorso-lateral stripes in dark brown or black. These are often edged with cream or white. Unfortunately these stripes are frequently broken and occasionally there are markings on the back between them, and in some specimens the breaking up of the strips and additional markings can appear as small ocelli. The flanks are generally darker than the dorsum and this, together with the occasional green colouration, can lead to confusion with the Sand Lizard. Immediately after birth, the young usually appear completely black. Closer inspection will, however, reveal that while they are very dark, the adult patterning is still present.

Males can be distinguished by the relatively massive head and a bulge at the base of the tail that is pronounced enough even to be seen from above. There is a marked difference in the underside of males and females, the females usually having a fairly plain creamish underside, while the male's is a vivid chrome yellow, sometimes orange, almost red, with black markings. Despite the remarks about some individuals being confused with Sand Lizards, once one has seen adults of both species the differences are considerable and they are not mistaken again.

Viviparous Lizards can emerge from hibernation as early as February in Southern England although early March is more likely. Their tolerance of cold can be illustrated by the fact that they have even been seen running across snow when there is sufficient warmth from the sun for them to get to a desired temperature basking in a spot sheltered from the cold. The males emerge first and the females a week or two later. Hibernation and a following period of basking and warmth are necessary for the development of both sperm and ova.

Mating takes place as early as March but peaks in April or early May. During this period the males can become quite aggressive - though injuries seldom arise. Unusually, mating is often initiated by the female and there is little of the courtship display that Sand Lizards are so well known for. While a female not wishing to be mated will bite any male suitors and deter them quite effectively, they will usually mate several times and often with a number of males.

Throughout the entire season Viviparous Lizards are great baskers, alternating between basking – usually returning to a favoured location – and hunting throughout the day. This becomes particularly apparent with a gravid female, who is responsible for the entire development of the eggs she is carrying. At that point she is less likely to run away when basking, depending instead on her natural camouflage.



Despite the Sand Lizard's specific name of *agilis* the Viviparous Lizard is far more agile. They can run very fast and their ability to dodge is outstanding. They are also superb climbers, able to scuttle up and deer the sheer vertical surfaces such as old flintstone walls, even when these are completely smooth to the touch. It is also noticeable that these animals thrive in quite damp locations often being found in quite boggy areas, literally jumping from one tussock to another, or even entering the water to swim to a new location or to take prey.

The lizard's prey consists of most small invertebrates. Hunting tends to follow established routes but the sight or sound of a prey item will readily lead to a diversion to seize and eat it. Throughout the summer months they feed avidly - particularly the females who need the additional sustenance to assist in the development of eggs.

Depending on the weather, young are produced between the end of June and the beginning of September in a particularly poor summer. The female will seek out a secluded spot - often a hollow in damp vegetation and an average

of around 7-8 young are born, each still wrapped in a membrane which they rupture and emerge from within a day or so, and immediately start hunting for their own food. It is interesting to note that in the extreme south of its range in Northern Spain and the Pyrenees that the Viviparous Lizard is not viviparous at all, but an egg layer.

During September and October the adults prepare for hibernation and are usually in their winter retreat by the end of October, even in the South of

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England. The young, with much less body mass, are able to warm up under the autumn sun more easily and can remain active well into November. Amazingly enough, little study has been made into this lizard's winter behaviour, but it is presumed to favour hibernation locations underground or under stones or logs in frost free locations. Certainly they have been accidentally found in such locations in the winter months, so it would appear that these animals do have some degree of frost tolerance.

Where it is found, a good healthy colony will include between 300 and 500 individuals of all ages,

giving an impression that it is, indeed, common. Conversely, having found such a colony one could travel 50 miles to find another - consequently the term "common" is undoubtedly a misnomer. I have already mentioned the almost catastrophic decline in the population.

In one small area, it is estimated that in just thirty years the existing population is less than 5% of what it was and that the remaining 5% is at risk. To an extent this has been recognised and the

Viviparous Lizard, while not as rare as the Sand Lizard and consequently not endangered, is still demonstrably threatened. This is reflected in British law under which it has become an offence for them to be killed, injured, sold or traded in any way in this country..

This has resulted in conditions being placed on Planning Applications whereby lizards must be protected or relocated if they are likely to be killed or injured as a result of the proposed activity. This has at least slowed one of the main reasons for their perilously fast decline. RC



Where can you see the Viviparous Lizard?

On the face of it the answer would appear to be almost anywhere. Certainly, wherever you live, if you know of areas of heath, or well vegetated sand dune, or of long standing rank vegetation, there is a chance of seeing these lovely little lizards. Keep your eyes open though. Your best opportunity is when they are basking. If they stay still then their camouflage may protect them, but if they move they are very, very fast. Particularly in areas of heavy predation (especially cats) they are very nervous and will disappear while you are still 3 metres away from them. If you do glimpse one, then stay a little way from where it was basking, very still and very quiet and the chances are the lizard will return in few minutes.

What can you do to help the Viviparous Lizard?

The lizard does have some legal protection, but one immeasurably useful thing you can do is make yourself aware of your local lizard colonies, particularly in areas where there might be proposals to carry out development. Should you become aware of such proposals make sure that the Council involved is informed of the presence of these animals, if need be reminding them that the animals are protected and that they have a duty of care to ensure that the planning applicant's proposals comply with the law. The specific legislation is the Wildlife and Countryside Act 1981, subsection 9.1.

This page: A male Viviparous Lizard (below); Opposite page (clockwise from top right): The Viviparous Lizard (bottom) is often confused with the Sand Lizard (top), but the latter is stockier with different markings; The underside of the female viviparous lizard; The underside of the male viviparous lizard.

