



Care & preservation of Surrey's native amphibians and reptiles

Reptile Identification Guide

This identification guide is intended to act as an aid for SARG surveyors.

Adder, *Vipera berus*

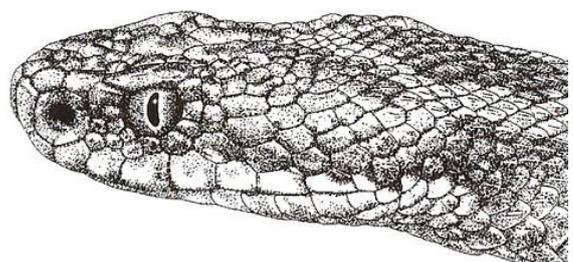
A short, stocky snake with almost always a distinctive zig-zag vertebral pattern from head to tail. Usually up to 60cm in length. A row of dark spots can be seen along the flanks (usually more conspicuous in males). The scales are strongly keeled on the dorsal surface. The adder is our only venomous snake so care must be taken when lifting refugia.



Black (melanistic) individuals are often encountered in some areas of Surrey. Despite the dark appearance, the zig-zag pattern is still visible along the back.

Males (left) tend to be silver/grey with a black zig zag pattern, and females (right) with a light brown background and brown zig zag.

The adder has a distinctive vertical shaped pupil (right) with a reddish/copper coloured iris, unlike the eyes of the grass and smooth snake. Like other members of the viper family, the head is quite distinct from the neck giving the head an arrow shaped appearance.



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Males (left) can have a brown/beige background colour but the zig-zag is usually always black. The spot markings along the flanks are quite conspicuous. In the female (right) the zig-zag is usually brown and the row of spots along the flanks are less visible.



Juveniles (left) tend to exhibit a reddish/ginger colouration. Specimens such as these are difficult to see in the field, and if encountered don't seem as shy.



Female adder (right) basking on a mossy ant hill.

Sometimes confused with...



Grass snake

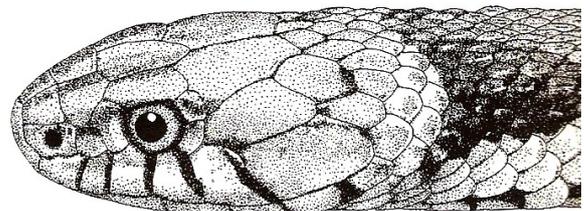


Slow worm

Grass snake, *Natrix natrix*

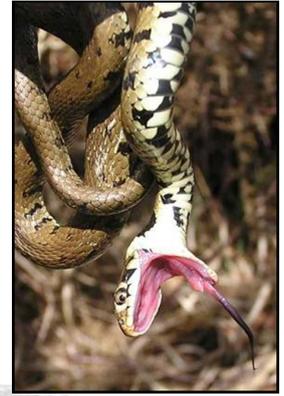
The slender grass snake is the largest of Britain's reptiles and can reach over 1 metre in length. They usually exhibit a distinctive yellow collar just behind the head and vertical bars along the flanks. Background colour is often olive/green to grey but much darker specimens have been recorded. These snakes are highly alert and can be difficult to spot in the field.

The grass snake has a round pupil (right), unlike the appearance of the adder. The lip scales (labials) appear large as do the head scales. Like the adder the grass snake has keeled scales (the ridge on the middle of a single scale).





The characteristic yellow collar (sometimes faded) just behind the head (left) can also be cream/off white in colour. Males (below left) are usually smaller than females (below right). Males usually have a narrow head, while females have more pronounced arrow shaped head and are larger animals. The checkered belly (ventral) scales pattern can be seen in this snake (right) feigning death.



A clutch of up to 40 oval eggs (far left) are laid around June and are 25-30mm long. Juveniles (left) can measure 15-20cm in length and are miniature versions of the adults.

Sometimes confused with...



Adder

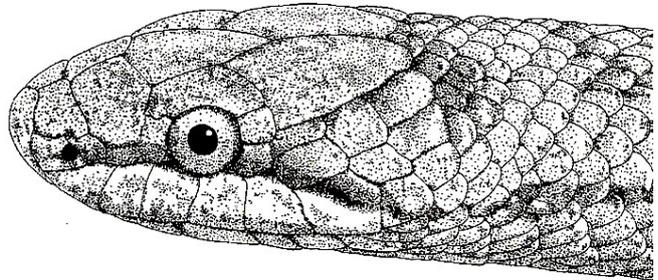


Slow worm

Smooth snake, *Coronella austriaca*

This non-venomous snake is the rarest reptile in Britain and doesn't often exceed 60 cm. As the name implies, the scales are smooth and lack the keels. Background colour ranges from shades of brown (often male) to grey (often female). In Britain, these secretive reptiles are confined to lowland heath in southern England.

The head is poorly defined from the body. The pupil is round (right) with an orangey coloured iris. A dark streak runs from the nostril to the eye and on towards the back of the head. Dark paired markings (sometimes fused) are visible along the back (below middle and right) which can be used for individual ID. Male sometimes exhibit a yellow/ginger colouration on the throat/underside (below left).



The smooth snake will bite when feeling threatened and will coil into an 'S' position (left) ready to strike. Like the adder and grass snake, females are larger than males. Males have a longer tail with a penial bulge at the base. Females have a shorter tail which tapers quickly. Tail ID in snakes can be difficult in the field from a distance.

Smooth snakes are live bearing (viviparous) and the juveniles (right) are approximately 12cm long. They sometimes appear darker at this age, but the paired markings are still visible.



Sometimes confused with...



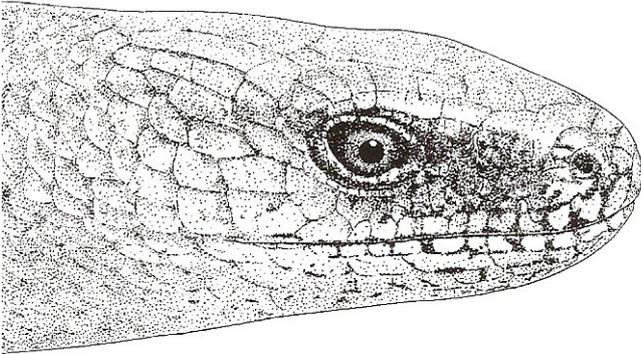
Slow worm



Adder

Slow worm, *Anguis fragilis*

This slow worm is a legless lizard that is often mistaken for a snake. It is the longest of our native lizards and can reach 40cm long. They have a smooth glossy appearance which aids their secretive lifestyle through the leaf litter. Colours vary from grey through to brown, with some individuals exhibiting a spotty appearance.



Examination of the slow worms head will reveal features that separate them from snakes, such as blinking eyelids, and a notched tongue (not forked). They also have the ability to shed their tail when threatened. Male slow worms (right) tend to be more uniform in colour, heavy bodied, and have larger heads than the females.



Some males have blue spots (left) along the flanks and back. Females have darker coloured flanks which contrast with their back (below middle and left). Also, a long dark vertebral stripe is present from the head to the tail tip (below left). Juveniles have striking colour variations with dark flanks and a strong vertebral stripe



Sometimes confused with...



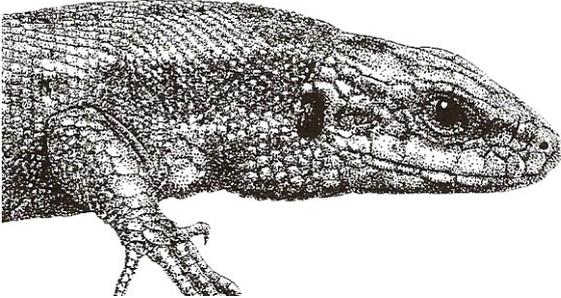
Adder



Smooth snake

Common or Viviparous lizard, *Zootoca vivipara*

Small to moderate sized lizards with well developed limbs and usually reaching up to 15cm (including the tail). Colouration is typically brown with spotty or striped markings. Yellow, green, and black individuals are also encountered. The tail is approximately two thirds of the total length and has a rough appearance.



Males tend to be more speckled (far right) and have a spotty bright orange belly (right). Females (below left and right) have dark flanks and a conspicuous vertebral stripe. Juveniles are usually very dark when born but take on the adult appearance as they age.



Dark speckled juvenile male (right) and juvenile female (below). The vertebral stripe is less conspicuous but visible.



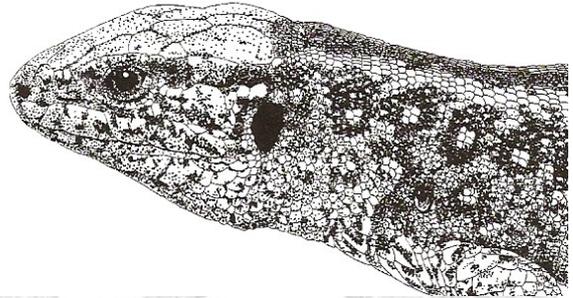
Sometimes confused with...



Sand lizard

Sand lizard, *Lacerta agilis*

A rare stocky looking lizard with short legs usually reaching from 15-19cm in length. Background colour is usually brown to grey-brown. Sand lizards are considerably larger than common lizards and have deeper chests. Both sexes have distinctive ocellated 'eye spot' markings (ocelli) along the dorsal surface and flanks.



The male (right) exhibits a striking 'Kawasaki' green colouration along its flanks in the breeding season. Also, the male's flank markings are less bold than the female. The female (above) exhibits bold ocelli on her back and flanks, and is more heavy bodied than the male, although the male has a more robust head.



Juvenile sand lizards (above and above right) can be difficult to tell apart from some sizes of common lizard. The former clearly display, although paler, the ocelli (dark spots with creamy/white centres) like the adults. An experienced eye will also notice that sand lizard juveniles have a blunter snout than their common lizard counterparts.

Sometimes confused with...



Common lizard

Sloughed skins

The discovery of sloughed skins can be a good way of identifying the presence of our native reptiles out in the field. Scale appearance/shape, and retained markings can be used to distinguish one species from another.



A Sand lizard slough (above left) clearly retains the distinctive ocellated markings. A well preserved grass snake slough (above right) usually shows the large scalation on the head as well as the presence of the characteristic collar marking just behind the head.



An adder slough (above (middle slough)) showing the retention of the zig zag pattern along the dorsal surface. The presence/absence of keeled scales and smooth scales can be used to rule out the smooth snake, and adder and grass snake respectively.

Photographs courtesy of Jamel Guenioui, Steve Langham, Jon Hawkins, SARG stock photos, Amphibian and Reptile Conservation.

Illustrations by Paul Veenvliet, as seen in the Surrey Atlas: Amphibians and Reptiles of Surrey by Julia Wycherley and Richard Anstis.

