

VIPERA BERUS (common viper): FEIGNING DEATH. On a sunny afternoon (17°C) in June 2013 a fox (*Vulpes vulpes*) was surprised worrying something on the ground on the North Downs, in south east England. The fox retreated at speed and within one or two seconds of arriving at the location a female common viper (*Vipera berus*) was found. The snake's body was supine, loosely coiled, motionless and with the posterior third of the tail coiled in the opposite direction to the rest of the body (Fig. 1). The head was positioned below and extended slightly beyond the coils, and was turned 90° so that one eye could observe what was happening (Fig. 2).

Gradually, over a period of about two minutes, the snake returned to the prone position, remained still for a few seconds, and then moved fast into cover. It appeared that it had been feigning death. When the animal was stationary both ventral and dorsal surfaces were inspected for any signs of injury. The only damage that could be seen was a tear running across two ventral scales (Fig. 2) but this looked like an old wound. The viper's vigorous retreat suggests that she was unharmed and that her strategy had paid off.

This particular viper is well known to the 'Adders in Decline' monitoring programme of the Kent Reptile and Amphibian Group; she was born in late summer of 2008 and had been seen 15 times. To date it is uncertain whether she has bred, although she is now certainly old enough and big enough (about 45 cm) to do so; her relatively light build and rapid movements suggest that she was not gravid. At the time of the encounter a moulting cycle was imminent since 5 days later she was observed with eyes opaque.

Common vipers have a repertoire of active defensive behaviours that include fleeing, coiling tightly, rapid inhalation and exhalation of air accompanied by hissing, and if cornered, striking with mouth open or



Figure 1. Female adder apparently feigning death.



Figure 2. Detail of the head of the adder positioned below the coils of the body.

closed. To this might be added the adoption of a 'corkscrew' posture but this has only been described once and may instead be related to the poor health of the animal (Arbuckle, 2012). Feigning death is a well known, although not necessarily a frequently observed, phenomenon in several snake species but appears not to have been described previously in *V. berus*, or at least certainly not in standard texts on the British herpetofauna. On the internet, the ARKIVE website (www.arkive.org) mentions a picture of "a female adder feigning death on a rock", however the link to the picture has been lost and it is not clear whether it

actually refers to *V. berus*. On asking other herpetologists only one experience of this behaviour was reported and this happened when handling *V. berus* (Brett Lewis, pers. comm.).

The British grass snake (*Natrix natrix*) feigns death with a display that may include a completely limp supine body and head, mouth gaping and tongue protruding. Gregory et al. (2007) observed that 66% of captured grass snakes exhibited some or all of these features. The sham put on by the viper appears to have been less elaborate with no mouth gaping or protruding tongue. Other differences from the grass snake may be the position of the head beneath the coils, head turned to look upwards (although some pictures of supine grass snakes do show the head rotated so that one eye could be watching), and perhaps also the opposing curve of the last third of the tail. This last feature was quite eye catching and pictures on the internet show it to be part of the death-feigning display of the Hognose snake (*Heterodon platyrhinos*). It may be intended to look like contortion or *rigor mortis* so making the sham more realistic but alternatively it may be intended to be eye catching, perhaps drawing attention

away from the head so offering a safer target if a predator proceeds to attack.

The conditions leading to the release of this display in *V. berus* might be thought to occur frequently when people walk their dogs off-lead in suitable habitats but the apparent absence of any accounts from dog walkers suggests this is not the case. So it would seem that either this behaviour is restricted to the repertoire of a few individuals (due to genetic predisposition or life stage) and/or the conditions that trigger its release are uncommon and, as in other species, it may be a behaviour of last resort.

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