

KRAG *news*

NEWSLETTER OF THE KENT REPTILE AND AMPHIBIAN GROUP

In This Issue:

Have we got it wrong about Grass snakes..?

Harry has a problem with a snake..!

Grass snakes & Death feigning..!

NUMBER 24

AUTUMN 2008



Grass snake © Brett Lewis

The grass snake is Britain's largest snake and is easily identified by its slender body and olive-green, grey or brown coloration. Along each side of its body is a row of black bars. Its older name, the ringed snake, is derived from the distinctive yellow and black collar behind the head. A regular garden visitor the grass snake takes advantage of the ready supply of amphibians and fish from our ponds. To find out more about grass snakes including their behaviour, ecology and distribution please visit our website at www.kentarg.org

Have we got it wrong about Grass snakes...?

Chairman Lee Brady is the guardian and developer of the KRAG database which now holds over 19 thousand records of herpetofauna from across Kent; and a few from other places. Recently, Lee has used this great volume of records to create summaries of our disparate observations to tell us what we have actually seen over the years.

For British reptiles, herpetologists expect to make more sightings during the mating season (April/May) and again later in the year (August/September) when both the young are born and foraging activity is intensified to ensure sufficient weight gain for hibernation. Lee found a good example of this in adder, slow worm and common lizards sightings. The plot for adder shown below gives graph lines with two distinct peaks in just the right places. However, we do know that such graphs hide differing behaviours of the sexes and of immature and mature individuals.

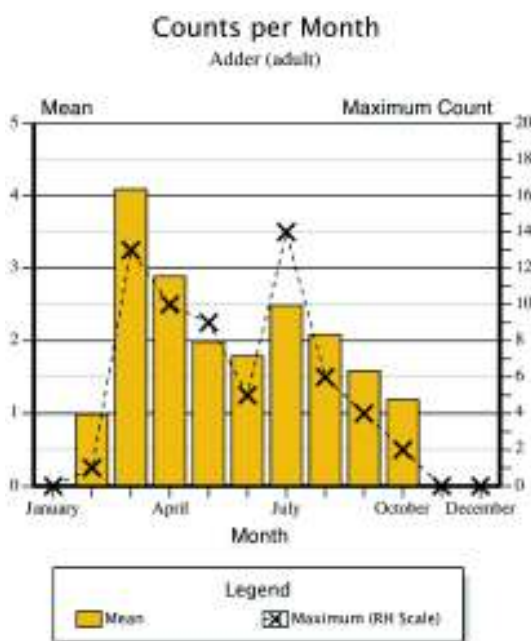


Fig 1. Mean & Maximum encounters of adders by month, from Kent sites.

Now for the surprising bit...

When Lee plotted the grass snake sightings he found mean numbers rose early in the year, remained fairly constant until August and then fell although maximum counts tended to be highest in May and June when adders and slow worm sighting were in decline. There was also an apparent rise in grass snake sighting in October but this is based on very little data so can not be relied upon.

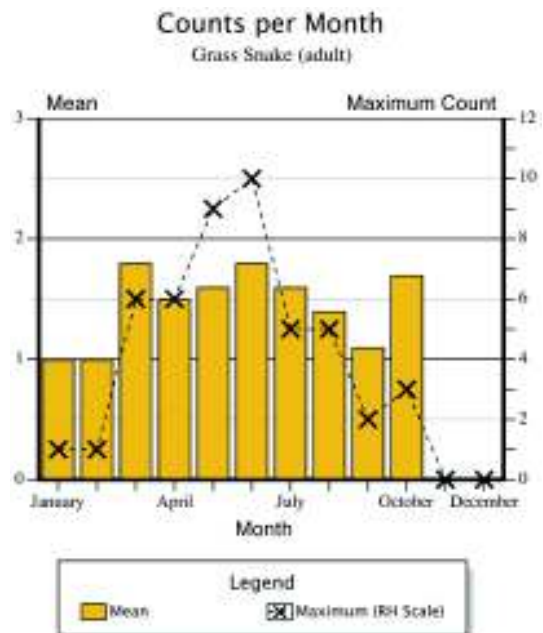


Fig 2. Mean & Maximum encounters of Grass snakes, from Kent sites.

Something is clearly different about grass snakes. They are of course egg layers, while slow worms, adders and common lizards all bear live young. On the database we have actually got only two records of grass snake eggs and relatively few of new born grass snakes. It seems we are missing something...

Continued...

In the crucial period of August/September when eggs and new born grass snakes would be evident, herpetologists in Kent don't seem to be finding their way into typical grass snake egg laying territory which would normally be heaps of rotting vegetation such as compost heaps or reed piles. Lee's view on this is that much of Krag's reptile survey work has focused on adders.

These sites may represent poor grass snake breeding sites. Sites where grass snakes do breed may be characterised by locations that traditionally are not considered to represent good lizard/slow-worm/adder sites, e.g. shaded woodland, isolated vegetation/muck heaps that are surrounded by structurally simple swards. When one does enter woodland areas well away from water it has been surprising how many records you can get of neonate grass snakes.

So be on the look out for grass snake egg laying sites, check them in August/September for hatchlings, this can be done by placing refuges close to the sites in sunny locations, also go deeper into the woods in grass snake habitat. Then send your records to Krag by post or submit them on line using our website. I wonder if Krag's graphs of grass snake sightings in ten years time will show twin peaks. That said, we are confident that the detection rate of adult grass snakes really does drop off at a time when sightings of adders, slow worms and common lizards are on the rise, so it seems that adult grass snakes do behave differently.

Rick Hodges
Krag Honorary Secretary

Nets good at catching grass snakes..!

During the summer it is very common that grass snakes have to be rescued from garden netting. They get trapped in nets over fruit or put across ponds to deter herons. Very often they don't survive this experience, death resulting for damage of their internal organs caused by their own struggles or they overheat in the sunshine as they may be fully exposed.



Tragic realities of Grass snakes caught in garden netting

My neighbour recently bought me a sad example of this. A net bag used for feeding nuts to birds had become a lethal weapon against a sub-adult grass snake. Despite the fact that the small snake (11 inches) was considerably thinner than the net aperture, it clearly became completely and fatally entangled. But why is it that grass snakes become trapped in this way but never slow worms despite being far more common in gardens and also being long and thin? Perhaps the much smoother shiny skins and rather different body proportions offer slow worms a degree of protection or perhaps naturally they don't meander in and out of netting in a way that would get them entangled. Might be an interesting study in applied herpetology to find out but the really important message is, next time you see a bit of netting lying around, best pick it up and dispose of it safely.

Rick Hodges
Krag Honorary Secretary

KRAG members get chytrid disease from president of the BHS...!

On Friday 7th November, KRAG members learnt about the chytrid fungus pandemic and its threat to our amphibian wildlife, from the president of the British Herpetological Society, Prof Trevor Beebee. Trevor gave an excellent presentation to the Group at Tyland Barn, the home of Kent Wildlife Trust.



© Rick Hodges
Prof. Trevor Beebee addresses KRAG audience
At KWT, Tyland Barn, Maidstone.

Trevor drew attention to the international dimensions of this problem and emphasised that amphibian deaths to the fungus are largely restricted to the mid-to-high altitude range and are especially prevalent in central and south America and Australia. Chytrid mortality is also known in Europe and in the Penalara national park in Spain's high Sierra de Guadarrama the midwife toad has been severely affected but in the same location natterjacks have been unscathed; in eastern Sardinia the mountain salamander is under threat. Strangely the Mallorcan midwife toad has the disease but in a less virulent form so has not suffered serious mortality.

Despite the fact that the disease is known to have infected African clawed toads as long ago as the 1930s, little is actually known about it and the way it spreads. To date identification of the fungus is not always reliable and lab testing of amphibian susceptibility has given contradictory results.

In the UK, the fungus is established in a few populations of common toad, at least two of these are in Kent, and in Cumbria several natterjack populations have tested positive. However, there are no indications of mass mortality nor any certainty that the disease will spread as it has done in south America where on a wave-like front it has moved at rates as fast as 282 km/year in Colombia/Ecuador/Peru/Venezuela. This spread appears unconnected to biologists sampling amphibian populations. Nevertheless, in the UK it is proposed that as a precautionary principle, herp workers should sterilise clothing and equipment between sites. Trevor considers that these biosafety routines could discourage and hinder the survey effort that is badly needed in support of amphibian conservation and in any case fail to take into account the fact that the fungus is equally likely to be spread between water bodies by anglers, children, other mammals, aquatic insects etc., that would not be subject to any restriction.

Research effort on amphibian disease has been significant and since the year 2000 there have been eight times more scientific publications on this subject than on habitat loss. Yet since the 1960s in lowland areas in Europe, amphibian populations have suffered dramatic declines due to the rise of agro-industry and associated habitat loss. This is the overwhelming threat to amphibians and it is essential to have more research on amphibian populations and how their habitats can be protected, restored and repopulated. Trevor emphasised that in the battle for amphibian conservation it is vital to have the right priorities.

Rick Hodges
KRAG Honorary Secretary

Harry has a problem with a snake..!

Among the duties of the Krag Secretary is answering queries from the public. This can be interesting but doesn't often result in much positive feedback. However, Harry's query had a happy ending which he told me about.

Hi

I'm looking for help/advise concerning a snake because we have a snake in the house. My wife saw it disappearing between the wall and the boiler in our utility room. We thought we had it trapped in the utility room as we had to go away for the weekend. On returning today we found droppings in the utility room but also, unfortunately, in the family bathroom upstairs. Is there any way of luring this snake out into the open or any way of trapping it? While I don't want it dead I equally don't wish to live with it. My wife reacts badly to snakes!!!

Harry

Harry Hi

It is unusual for our native snakes to get into a house, I have come across it only once before. It is even more unusual for one to go up stairs because there is usually no cover when mounting the stairs. So it seems more likely that this is an escaped exotic. Do you have any neighbours who have lost a pet snake recently? Pet snakes should in theory be harmless as a pet owners would require a special licence to purchase and keep a poisonous snake and the facilities would be subject to inspection by a vet.

Snakes can live a very long time without food, not so long if there is no water, but several months all the same. Recapturing snakes can be difficult, especially if there are lots of hiding places. The best you can do is to have something like a bucket handy to put over it in case you find it out in the open. Once under the bucket you can call the RSPCA to take it away.

Hope that helps a bit.

Rick

Hi Rick

Re my email about a snake in our house. Panic now over. My wife's scream led me to the snake - in her built-in wardrobe. Its a grass snake. Caught it in a large biscuit box - its now crawling its way to wherever in the far end of our garden or the fields beyond. I think it got upstairs via water pipes from the boiler in our utility room into the family bathroom upstairs. The stairs would have presented quite an obstacle as they are wooden and open. Incidentally the snake was approx. 2 feet long. In any case we're just glad to have caught it and presumably it's glad to be still alive and in its natural habitat.

Harry

All in a day's work.

Rick Hodges
KRAG Honorary Secretary

Opportunity to attend the Herp Worker's Meeting 2009..!

As some of you will be aware, the Herp Workers Meeting this year will be in Lancashire on the weekend 31st Jan/1st Feb. This is an annual event organised by ARG UK and of great interest to any Herp enthusiast, offering a wide ranging programme of both talks and workshops.

KRAG would like to pay the full costs (plus reasonable travel expenses) for a KRAG member to participate in both days of this meeting.

The only thing we would ask in exchange is that you write an article for the next KRAG Newsletter on your experiences and impressions. One or two photos would also help but if you don't have a camera they could be solicited from other attendees.

The closing date for this offer will be Friday 9th January, so if you are interested then please contact me on or before that day.

Regards

Rick Hodges - KRAG Honorary Secretary
info@kentarg.org

Million Ponds Project Amphibians & Reptiles



Million Ponds Project

The Million Ponds Project is supported by The Tubney Charitable Trust and managed by Pond Conservation www.pondconservation.org.uk to create new, ecologically valuable ponds in England and Wales. The project aims to restore the number of ponds in the countryside (excluding garden ponds) to historical levels of one million, reversing a century's decline in both pond numbers and quality.

Phase 1 of the Million Ponds Project (2008-2012) will create 5000 new, high quality ponds to bring about a significant and lasting increase in freshwater biodiversity and water quality.

Biodiversity Action Plan Priority Herpetofauna

The Herpetological Conservation Trust and Pond Conservation have jointly developed a herpetofaunal element of the Million Ponds Project, targeting BAP priority species associated with ponds (great crested newt, common toad, natterjack toad, pool frog and grass snake). We want to see high quality ponds created or restored for these species.



Partnership Working

The project is designed to work in collaboration with other conservation practitioners (e.g. LBAP officers, Amphibian and Reptile Groups, local authorities, conservation NGOs). It's a great opportunity to deliver a programme of pond creation and restoration work throughout England and Wales – but the project depends on local partners.

If you know of a site where pond creation or restoration could benefit BAP priority amphibians or grass snakes, then please contact the Ponds Project Officer, who is looking for The HCT's Pond Officer will be an additional 'helping hand', providing that extra momentum to facilitate local pond projects.

How you can help

- > If you know of a site where pond creation or restoration could benefit BAP priority herps, then please contact the Project Officer (David Orchard) and we will look for money to support your project.
- > If you are planning survey work – then please be on the look out for pond creation or restoration opportunities, with a view to partnership working.

Potential projects could involve single or multiple ponds, but the emphasis should be on pond networks.

For further information please contact David Orchard, The HCT Ponds Project Officer, 01204 529312, david.orchard@herpconstrust.org.uk



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THE tubney
CHARITABLE TRUST

Pond Conservation
For Life in Fresh Waters

Science Corner

Death Feigning by Grass Snakes (Natrix natrix) in Response to Handling by Human "Predators"...



A recent paper (2007) by prominent herpetofauna scientists Pat Gregory, Leigh Anne Isaac, (University of Victoria) and Richard Griffiths (University of Kent) describe at length the phenomenon recognised as 'Death Feigning' in Grass snakes (*Natrix natrix*) in response to handling by human "predators".

Perhaps the most dramatic example of an apparent passive defensive display is death feigning (also known, inter alia, as letisimulation and thanatosis). Death feigning is a more complex variant or elaboration of tonic immobility, which is widespread in animals. Species exhibiting tonic immobility or death feigning include, among others, insects, amphibians, reptiles, birds and mammals.

Death feigning is usually interpreted as a last resort anti-predator measure and is apparently a fear mediated response to physical handling or restraint such as that imposed by a predator, but death feigning sometimes occurs spontaneously without contact, presumably in situations in which capture by a predator is otherwise inevitable. Throughout their study, Gregory *et al* recorded death feigning in 66% of wild caught snakes, but failed to observe the behaviour in hatchlings from laboratory incubated eggs. The main indication of death feigning observed was a gaping mouth with the tongue hanging free, but in more dramatic cases involved voluntary supination and/or lack of muscle tone.

Aside from hatchlings, which did not feign death, there was little variation in the frequency or intensity of death feigning with body size.

There was no effect of body temperature on death feigning nor were snakes that were mov



© Brett Lewis Photography

Grass snake in typical
Death feigning pose observed by P. Gregory *et al*.

ing when caught less likely to feign death than those that were not moving.

Interpretation of the adaptive value of death feigning in grass snakes or in other animals is hampered by lack of evidence of this behaviour in the field in response to natural predators.

The main conclusions that were drawn from the study were as follows: (a) death feigning is a common response of grass snakes to handling by humans, but it's timing and intensity are variable; (b) except for the absence of death feigning in hatchlings, little of that variability is accounted for by body size; (c) Temperature had little or no effect on death feigning on those observed and (d) activity of snakes prior to capture apparently also has no effect on their propensity to feign death.

If you would like to read the full article please contact me or search the following reference:

Gregory P.T., Isaac L.A. & Griffiths R.A. (2007). *Death Feigning by Grass snakes (Natrix natrix) in response to Handling by Human "Predators"*, Journal of Comparative Psychology, Vol. 121, 2, 123-129.

Brett Lewis
Krag - Newsletter Editor

Forthcoming Events..

Come and join the KRAG team on a wide range of projects, events and presentations. Below are some forthcoming events, however these are updated frequently on our website (www.kentarg.org) so please get in touch if you would like a full list of dates and to get involved.

E-mail - Events@kentarg.org

24th January 2009

KRAG Annual General Meeting
Talks by Dr Lee Brady & Dr Rick Hodges
KWT - Tyland Barn, Maidstone
14:00hrs - 17:00hrs

31st & 01st Jan/February 2009

ARG UK - Herp Workers' Meeting
Dunes Conference Complex - Pontin's Blackpool
www.arg-uk.org.uk

13th February 2009

KRAG Evening Talks
GCN Double Bill..!
Dr David Sewell & Brett Lewis

Article Submission..

As news letter editor I am always on the look out for interesting articles to add to our publications. If you have time to jot down some of your activities or new and interesting records, please send them in to newsletter@kentarg.org

Please use this e-mail address to forward any or all of the following for entry into the forthcoming newsletters:

Articles, Reviews, Photographs, Events, Conference news, Education or anything else that may be of a herpetological interest....

You can also post articles for submission to

KRAG Newsletter
C/o KMBRC Tyland Barn,
Chatham Road,
Sandling,
Maidstone,
Kent,
ME14 3BD

For the next newsletter - April 2009, the deadline for submissions is 30th March 2009. Please continue to send in articles that I can stockpile for future use.

Brett Lewis - KRAG Committee and
Newsletter Editor

Become A Member Here or Online..!

To help reptiles and amphibians in Kent and receive your copy of **KRAG News** or renew your membership (Subscriptions due in November), use the tear-off strip below.

Tear/Cut Here or Visit: www.kentarg.org

To join KRAG, simply send this voucher and £5.00 (payable to Kent Reptile and Amphibian Group) to **KRAG, C/o KMBRC Tyland Barn, Chatham Road, Sandling, Maidstone, Kent, ME14 3BD.**

Name

Address

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Phone Email