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## Green Agenda in Tatters?

Tony Gent, Chief Executive ARC Trust

One of the roles of nature conservation Non-Governmental Organisations (NGOs) is to pick up on any positive messages from Government and use these to raise the profile of wildlife, as well as ensuring that the key issues remain at the heart of Government decision making. The aspiration to be the 'Greenest Government Ever' from Prime Minister David Cameron, shortly after taking office, offered an ambitious basis for developing a positive nature conservation programme. It also provides a useful benchmark against which we can judge the Government's performance. Sadly, though, we have not seen the actions necessary to achieve this aim and, indeed, the biggest noises are seemingly pushing in the opposite direction. Whether it was the 'bonfire of the QUANGOs', the large cut in DEFRA's budget, the attempted sale of the public forests, or the 'Red Tape Challenge' (looking to reduce environmental regulation), the situation for biodiversity conservation in England looks pretty grim.

environment commitments (www.wcl.org.uk/nature-check.asp), raises questions over the Government's ability and willingness to

meet its commitments and voices concern over the likelihood of a coherent long-term strategy for conservation. Using a 'traffic light' system to assess progress, only two of the sixteen commitments scored 'green', while seven each scored 'amber' and 'red'. This preceded the Chancellor George Osborne's autumn statement in which, whilst saying that 'nothing will stand in the way of economic growth', announced a review of the Regulations that implement the European Bird and Habitats Directives (in England). So does this leave the Green Agenda in tatters?



(Adder copyright James O'Shea)

In an attempt to raise awareness of this, Amphibian and Reptile Conservation (ARC) joined 28 other members of the Wildlife and Countryside Link coalition in preparing a review of the Government's performance against its own commitments. The report *Nature Check: an analysis of the Government's natural*

While it is appropriate to be concerned, the *England Biodiversity Strategy* could provide a useful mechanism for positive conservation work. This document, launched in August, is a Government strategy arising from the *Natural Environment White Paper*, which itself achieved 'buy-in' from across Government. Natural England has been charged with developing an implementation plan which is required for early 2012 and a new structure has already been developed for overseeing its delivery. But will this be fit for purpose – and start reversing the declines of our wildlife? At this stage it is hard to know exactly how this will pan out.

Although a Governmental strategy, the document emphasises the importance of involvement from others, including NGOs, volunteers, landowners and businesses. It is uncertain what influence NGOs will have, for example it is unclear whether there will be 'Lead Partners' in the sense of the previous

Biodiversity Plans. No matter what, ARC intends to engage both actively and positively – we remain of the view that statutory plans *should* provide the best opportunities for nature conservation and we will do our best to help this happen.

So what of the Chancellor's autumn statement? We feel that his bald statement about the European Directives is a massively retrograde step and undermines the ambition of achieving truly sustainable development. This will make NGOs very cautious in the way we engage with government. Yet we (and many will agree) do not feel that the way the legislation is implemented in England necessarily achieves the best for biodiversity conservation. There are a number of shortcomings in the approaches used, the support provided and the quality of information on which decisions are made and the monitoring of the results of this work.

However, these are fixable: there is scope to develop a new approach to implementation that will fully comply with the law, a greater focus on achieving positive conservation outcomes and reduce the burdens on all those involved. We should therefore aim to see the proposed review provide better regulation and not simply less regulation. There may still be opportunities to make this the Greenest Government Ever – we will do our bit to help Government find them!

## Chytrid Study

### **Freya Smith, Institute of Zoology**

In a fungal genetics project led by Rhys Farrer, scientists have been comparing chytrid fungus collected from a range of amphibians and habitats with interesting results. They have found differences in the microscopic morphology of different strains and, through comparison of genomes, demonstrated that chytrid consists of at least three lineages (potentially different species). Each lineage is likely to have been spread via trade in amphibians. The most virulent lineage appears to be the result of hybridisation between two strains. The resulting form, which probably emerged sometime in the twentieth century, has been found in the UK.

Meanwhile in the field, Freya Smith co-ordinated the UK's second national chytrid survey (also known as 'The Big Swab'), in collaboration with ARG UK in 2011. Dedicated swabbers across the country collected samples from over 3,000

amphibians at 120 different sites. A huge thank you to the swabbers who contributed a collective 1,162 hours to this research and to the landowners who allowed access to ponds across the country. The results of the Big Swab will provide critical information about the state of chytrid infection in the UK; where it is, what amphibian species it is infecting and how this picture compares with the results of the 2008 national survey.

Analysis of samples is currently taking place at the Institute of Zoology and is expected to be completed by June 2012. There are no plans to repeat the survey next year so you can hang up your swabbing caps for the moment and look forward to the full results of this year's labours.

To date, the Institute of Zoology has received no reports of chytrid-associated mass mortality of amphibians in the UK, but chytrid does appear to be more prevalent in some species than others. For instance, chytrid is very widespread among natterjack toad populations and this is the focal point of Pete Minting's PhD project. A sample of chytrid from Cumbrian natterjacks suggests that it is the most virulent strain. Pete's research also provides further evidence that the survival rates of natterjacks decrease with increasing chytrid score (how much chytrid the animal is carrying). However, despite this pattern, most of the populations under study are not showing rapid declines.



*HARG Chytrid swabbing © Rachel Hardy*

About the researchers: Freya and Rhys are PhD students co-supervised by the Institute of Zoology and Imperial College working on aspects of chytrid. Pete is a student at both IoZ and the University of Sussex, and is studying the effect of chytrid on natterjack toads in Cumbria.

## 100% Support for Merseyside Sand Lizards

(Ray Lynch and John Baker)

This year the ARG UK *100% Fund* has provided financial support for an unusual project – the construction of a vivarium for the rearing and release of Merseyside sand lizards.

The vivarium has been built by Ray Lynch, a member of North Merseyside and Fylde Amphibian and Reptile Groups, as part of the sand lizard rearing and release programme coordinated by Amphibian and Reptile Conservation, which also guided and provided financial support for the project.

The sand lizard is a rare species which has declined in numbers and range. The complete loss of lizards from locations where natural re-colonisation is impossible means that rearing and release is an essential element of the national conservation effort for this species.

In May this year two male and four female lizards were captured by Paul Hudson, under licence from Natural England (managed by Amphibian and Reptile Conservation). The lizards were taken from the frontal dunes at Southport and released into the completed vivarium. All of the lizards appeared to settle in to their new home well but the poor weather this summer limited their basking and feeding opportunities. Fourteen eggs were hatched and the young lizards grown on and then released at Ynyslas Dunes, North West Wales, supplementing another 29 youngsters from Chester Zoo.



*The new sand lizard vivarium built to support Amphibian and Reptile Conservation's rearing and release programme (Ray Lynch)*

The rearing and release protocols developed by members of the captive rearing group ensure that female sand lizards are better fed than they might be in the wild, which means that they generally produce more eggs, usually two clutches each year. This, combined with incubating the eggs in a protected environment and feeding up the young lizards prior to their release, means that the programme is highly productive in terms of the numbers of young lizards released. To carry out a reintroduction, typically, fifty young lizards are released per year over a three-year period so that by the third year the first released animals should be sexually mature.

Weather permitting, it is anticipated that the new vivarium will produce greater numbers of young lizards in 2012 and beyond, with further releases planned for the dunes north of the Ribble.



*One of the two male Merseyside sand lizards basking in the new vivarium (Ray Lynch)*

## The Record Breaking 50 Pond Challenge

(A. Julian, Pond Conservation & J. Cranfield, Essex ARG)

On 22nd October 2011 some of the key local and national amphibian-related conservation organisations converged on a wildlife reserve in Nevendon in Essex to hand dig a record-breaking number of new, clean-water ponds. The team comprising representatives from Pond Conservation (Million Ponds Project), ARG UK, Amphibian and Reptile Conservation, London ARG, Essex ARG and the students of Writtle College, dug a total of 50 new clean water ponds in just eight hours (which isn't bad going, considering the ground was solid clay).

These new ponds will create additional vital habitat for amphibians and freshwater invertebrates in this area. One of the local rarities that we are hoping to attract is the nationally scarce Great Silver Water Beetle *Hydrophilus piceus*. Despite its impressive size – it vies with the Stag beetle as the UK's largest beetle – measuring almost 5 cm in length, it is threatened by loss of its habitat. It prefers the unpolluted waters of ditches and ponds on ancient coastal grazing marshes, an extremely vulnerable habitat threatened by pollution from farms and towns on the landward side, and squeezed into an ever narrowing strip of the coast by rising sea levels. Great Silver Water Beetles are all but confined to the Somerset Levels and the coastal marshes of Sussex, Kent, Essex and Norfolk.

*Great Silver Water Beetle (Neil Phillips)*



*Scarce Emerald Damselfly (Neil Phillips)*

The other rarity that we are hoping to attract is the Scarce Emerald Damselfly *Lestes dryas*, which lives almost exclusively in the eastern part of Britain, with strongholds in the coastal marshes of Kent, Essex (around the Thames Estuary), Norfolk and Lincolnshire.

We are also providing homes for some of our more familiar aquatic residents including amphibians such as the Common Frog and Smooth Newt. Although 'common' these species are also finding it tougher to survive in Britain's countryside today, and it is only by creating new habitat that we can ensure that healthy populations will survive into the future.

The ponds created reflect the key Million Ponds Project principles:

- Creating a mosaic of ponds – some large, some as small as 1 m<sup>2</sup>, providing homes for a range of creatures and creating a series of 'stepping stones' to allow populations to spread over a larger areas;
- Clean, unpolluted water;
- Not too deep - with shallow gently-shelving margins, which will be rapidly colonised by aquatic plants, so providing lots of habitat for invertebrates and amphibians

More good news is that Essex ARG has reported that within only a few weeks, the ponds were already filling with rainwater, suggesting that by the spring of 2012, they will be providing an important habitat for the local freshwater wildlife. We'll be out then looking for spawning frogs and the Great Silver Water Beetle.

## Scottish Herpetology Meeting – November 5th 2011

### **Erik Paterson**

This cold, clear unassuming autumnal morning was the beginning of a remarkable day in Scottish herpetological conservation, with the advent of the first Scottish Herpetology Meeting. It was a fantastic day – the speakers and atmosphere were excellent, not to mention the attendance of some sixty people, from four of the five Scottish Amphibian and Reptile Groups; Amphibian and Reptile Conservation Trust; Froglife; The British Herpetological Society and several other organisations. The day was filled with talks from a variety of people, each working in different areas of Herpetological conservation.

Anna Muir, Chairperson of Clyde ARG, chaired the event and opened by introducing Froglife Glasgow's Roger Downie who talked about the Glasgow Living Water project in Glasgow and North Lanarkshire. His presentation showed the excellent habitat improvements and creation towards which Froglife has been working. Following Roger was Fife ARG's David Bell, who spoke of the work Fife ARG has done for Great Crested Newts on an SSSI. David reported that, despite putting in some 70 ponds, the GCN population is not increasing and explored possible reasons for this.

After a Coffee break, Trevor Rose from The Friends of Angus Herpetofauna took the floor to provide an interesting and amusing account of protecting a local common lizard breeding site from development in to a cycle path. His presentation was illustrated by interesting photographs and press releases published in support of the cause. It was inspiring to see someone so clearly passionate really making a difference.

Chris Cathrine spoke of stumbling into Grass Snake distribution in Scotland. Chris's talk was absolutely fascinating. He discussed his methodology and conclusions and it was great to see genuine ecological science at work. His conclusion too was interesting – contrary to what we are often told – there are *definitely* grass snakes in Scotland, even if they're only just over the border!

Next up was Dorothy Driver, whose opening words were, 'I love Great Crested Newts.' That sums up Dorothy's obvious enthusiasm for her chosen topic – Great Crested Newts, their distribution in Scotland and working on ARC's Habitat Suitability Index for Great Crested Newts. We heard that the HSI obviously works – four new GCN breeding sites were discovered in Scotland in 2010! Dorothy went on to discuss NARRS and other ARC projects and concluded with a short talk about Natterjack Toads. It is excellent that local groups are being set up and trained to monitor and improve habitat for this gorgeous little Toad.

After lunch, the last talk of the day was from SNH's Licensing officer, Ben Ross who discussed the various types of licenses and their associated protocols. This was a light hearted but informative look at a subject that is essential for conservation workers.

All in all, it was a wonderful day – an excellent chance to network and to hear much more about the behind the scenes work that goes on in the day-to-day running of Herp conservation projects. The speakers were each different and each interesting; knowledgeable and passionate about their subjects. It was excellent to spend a day with so many like minded people, discussing the animals we love and the work we enjoy so much.

A big congratulations and thank you must go to Anna Muir for organizing this highly successful event. Let us hope that it is the first of many!

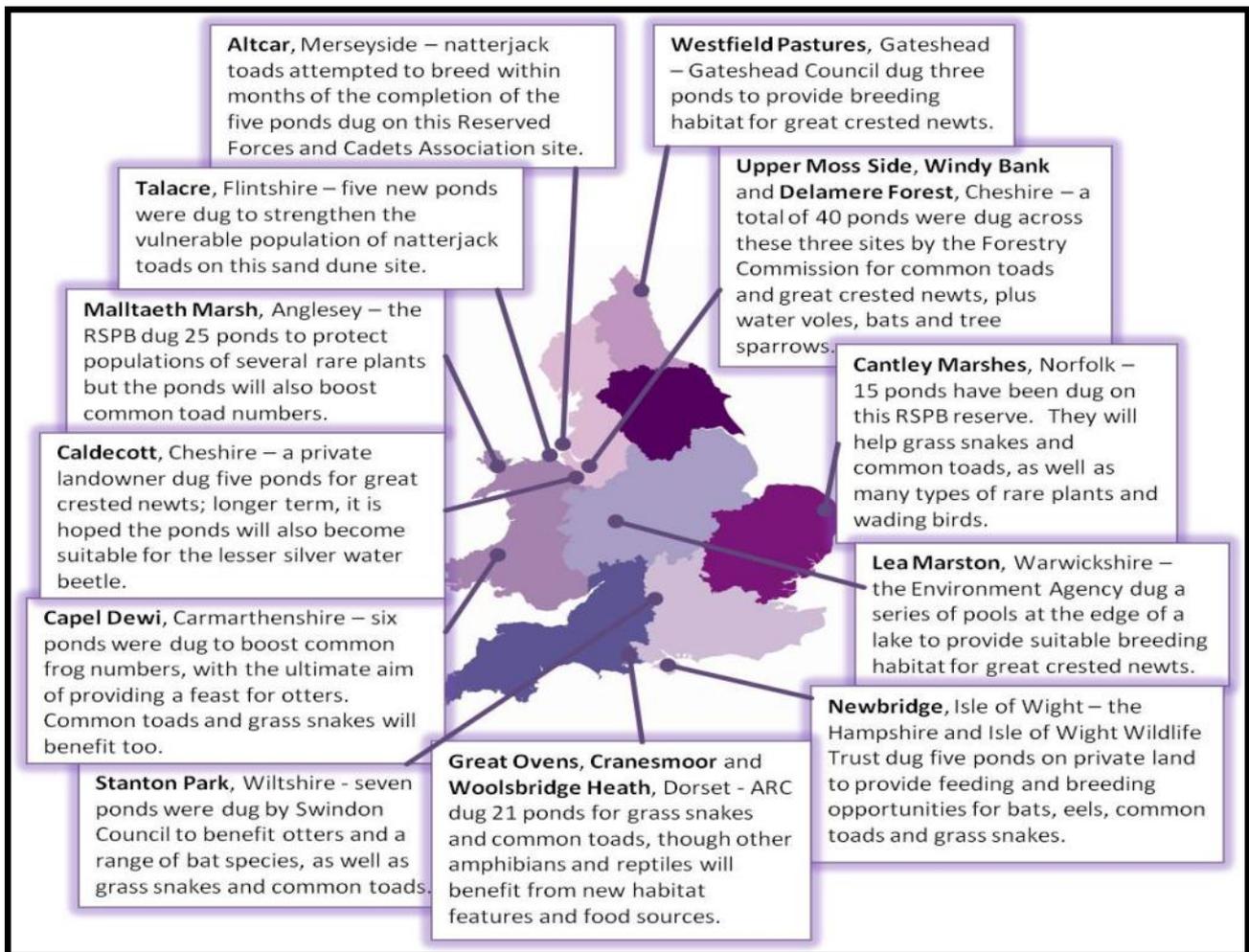
*Revealed as a resident of Scotland, despite what it says in the books - the Grass Snake (Photograph by James Liam O'Shea)*



## Million Ponds Project Update

### Becca Cleaver, Pond Conservation

The Million Ponds Project is an ambitious initiative involving many partners, including ARG UK, who are working to create a network of clean water habitats across England and Wales. The project attracted a large grant from Biffaward, and this money has been used to fund hundreds of ponds creation schemes for Biodiversity Action Plan species, including amphibians and reptiles. Here are just a few of the sites where ponds have been dug during 2011 with support from the Million Ponds Project.



A key aspect of the support that the Million Ponds Project offers is the Pond Creation Toolkit, comprising 50 factsheets on many aspects of creating clean water ponds. If you are thinking of creating a pond, whether in your garden or the wider countryside, the Toolkit is well worth a browse. Among the many new factsheets added over the last 12 months is the Species Dossier *Creating ponds for amphibians and reptiles*, written in partnership with ARG UK and ARC.

To find out more about the Million Ponds Project or to download the Pond Creation Toolkit for free visit [www.pondconservation.org.uk/millionponds](http://www.pondconservation.org.uk/millionponds).



Above - Altcar natterjack toad temporary ponds, where the toads attempted to breed just months after the ponds were dug  
(c) David Orchard

Below - New ponds at Lea Marston showing the rough finish and multiple basins that provide suitable conditions for a wider range of plants and animals to colonise (c) Becca Cleaver



## Big Pond Thaw: Investigating the factors influencing amphibian winterkill

**Angela Julian & Jeremy Biggs,  
Pond Conservation**

The winter of 2010/11 was the second hard winter in a row in the UK, and people again saw unusually large numbers of dead amphibians in their garden ponds. To investigate this we launched the 'Big Pond Thaw' survey to try to find out more about the causes of the deaths, and whether anything can be done to reduce them in future. We had a big response, with over 1000 records over the two winters.

### Results of the Surveys

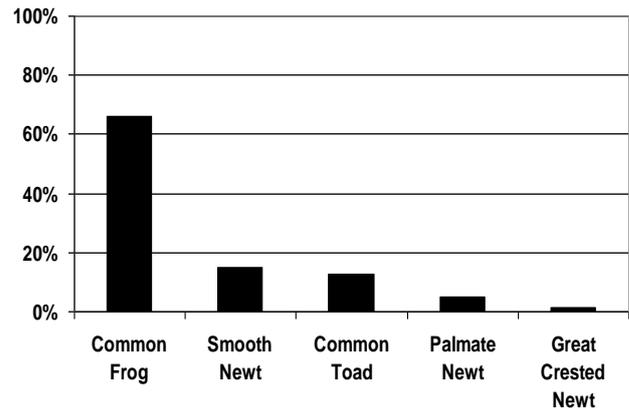


*In 2010/11 this South Yorkshire garden pond lost over 50 frogs. It was ice covered for four weeks, with three weeks of snow (copyright Jane Ross)*

The survey data showed a clear north-south divide in the effect of the winter weather on ponds. In the north ponds were ice-covered for an average of three or four weeks, whereas in the south of England ice cover lasted only two weeks. Snow cover - which blocks light and stops oxygen production by photosynthesis - was also three times longer in the north than in the south, and this may be why ponds in the north had higher amphibian mortalities.

Most people lost around 10 or so frogs, but an unlucky few suffered much larger mortalities. The worst single case was 300 individual frogs in a medium-sized garden pond, and in 2010/11 a number of ponds recorded over 50 deaths. There were also small numbers of mortalities of Common and Palmate Newts, Common Toads, and Great Crested Newts. A lot of people also lost ornamental fish - 40% of all the reports we received involved fish deaths.

*Percentage of amphibian mortalities reported in the Big Pond Thaw from 2009-2011 by species*



The bad news is that there is little evidence that any of the recommended winter pond management techniques can reliably prevent these deaths. Neither making a hole in the ice, breaking the ice, nor clearing snow, had any significant effect in reducing amphibian deaths.

Another worrying trend was evidence that mortalities were higher in smaller ponds, of 1 m<sup>2</sup> to 25 m<sup>2</sup>, typical of garden ponds, rather than in the bigger ponds more typical of the countryside. If garden ponds are a stronghold for amphibians, then this is a matter for concern.

### Questions remaining:

- what is the optimum pond design to improve oxygenation of the water?
- what are the best management methods for overwintering amphibians?
- how can we help small, deep ponds retain more oxygen?
- are toxic gases (e.g. ammonia/methane) involved in amphibian mortalities?
- what are the proportions of male and female amphibian mortalities? If most frogs overwintering in ponds are males, then the numbers of egg-laying females should be unaffected.

The good news is that many of the ponds that suffered amphibian deaths still had spawning frogs once the weather warmed up. In 2012 we are following up on this, by launching the Big Spawn Survey, asking people to count the number of spawn clumps in their garden ponds which will allow us to assess the population of spawning female frogs. You can join in at:

[www.pondconservation.org.uk/bigponddip](http://www.pondconservation.org.uk/bigponddip)

## Scientific papers 2011

**Trevor Beebee gives a round-up of the year's top ten papers of interest**

### **Amphibians**

**Usefulness of volunteer data to measure the large scale decline of "common" toad populations.** A. Bonardi *et al.* (12 authors!). *Biological Conservation* **144**, 2328-2334 (2011)

This paper highlights the uncomfortable fact that common toad declines are not confined to England. Volunteer groups (essentially 'toads on roads' personnel) collected data on 33 *Bufo bufo* populations, all over north-central Italy, from 1993 to 2010. Statistical analyses were performed taking account of different sampling efforts and variation in detection probability to assess overall trend. The results were disturbing. Seventy percent of populations decreased strongly over the last decade and there was an estimated 76% cumulative average decline. The authors considered various possible causes, essentially the same list that has been postulated to account for declines of amphibians everywhere, but came to no definite conclusions on that score. *Déjà vu* UK.

**The role of road traffic in the near extinction of common toads (*Bufo bufo*) in Ramsey and Bury.** A. Cooke. *Nature in Cambridgeshire* **53**, 45-50 (2011)

The impacts of road traffic on migrating amphibians, especially common toads, has been a worry for many years but until now there has been no fully convincing evidence of effects on this species at the population level. This study changes all that. Toad numbers breeding at three ponds in Cambridgeshire and numbers killed on roads around them were recorded over several decades (the first starting in 1974) and correlated with each other and with traffic information. All three ponds are protected but despite that, toads are now almost extinct in the area. The strong correlations convincingly implicated increased road traffic as the primary cause of these declines and extinctions. It remains to be seen as to how widespread this explanation of toad declines will turn out to be but this research certainly refocuses attention on a longstanding concern that evidently requires renewed attention.

**Viability analysis of a threatened amphibian population: modelling the past, present and future.** E. Di Minin & R.A. Griffiths. *Ecography* **34**, 162-169 (2011)

Efforts to conserve the last surviving population of natterjack toads on the southern heaths, at Woolmer Forest, started in the 1970s and have slowly but surely increased the toads' population size. This paper used a modelling approach to assess how management influenced the recovery and infer the most critical factors for future viability prospects. The results suggest that minimising the frequency and severity of premature pond desiccation, and maximising the survival of juveniles will be the most important aspirations. Ponds can be managed fairly easily but influencing juvenile survival will be more challenging. The model also predicts that despite the best management efforts this population will run a substantial risk of extinction, due to environmental fluctuations, for decades to come. But at least we're winning so far.

**Mass mortality of great crested newts (*Triturus cristatus*) on ground treated with road salt.** J.P. Duff, K. Colville, J. Foster & N. Dumphreys. *Veterinary Record* **168**, 282 (2011)

This short but dramatic account demonstrates that it is not only toads that suffer on the British highway system. More than 70 dead great crested newts were found in a Cumbrian railway station car park and its environs in March 2010, presumably on migration to a breeding pond. This followed an unusually severe winter that had not long receded and the site had been treated only a couple of weeks earlier with a large quantity of road salt. Post-mortems revealed that the corpses were mostly not crushed and those that were had been run over after death. There were no signs of disease. One surviving newt, initially showing uncoordinated behaviour, recovered completely after washing with tapwater. So although circumstantial, the evidence points clearly towards mortality caused by exposure to high salt concentration – an entirely plausible explanation since amphibians have highly permeable skins. Fortunately such cold weather so late in the season is a rare event and with the prospects of continued climate warming is likely to become even more so.

**Multiple emergences of genetically diverse amphibian-infecting chytrids include a globalised hypervirulent recombinant lineage.** R.A. Farrer *et al* (15 authors!). *Proceedings of the National Academy of Sciences* **108**, 18732-18736 (2011)

Among the annual bounty of papers on chytrid infection (Bd) and its impact on amphibian populations, this one is in my opinion by far the most important. Using high tech methods the authors analysed the genomes of 20 strains of the fungus isolated from all round the world. The results provide, for the first time, a convincing explanation for the origin of this pathogen. In doing so they effectively rule out one of the two main hypotheses, notably that Bd had always been around but was only activated recently by an environmental trigger such as climate change. No, Bd in its severely pathogenic form emerged as a new lineage within the last 2-300 years, almost certainly as a result of humans bringing into contact previously isolated strains. Some of the new varieties are relatively benign, such as the one infecting midwife toads in Majorca. However, the highly dangerous strains all round the world constitute a single clade in which various close relatives have each undergone complex genomic rearrangements. I believe the authors are premature in blaming the amphibian trade for this (field workers are at least as likely culprits) and we're no nearer stopping Bd in its tracks. But at least we now know how and when the problem arose, surely a big step forward.

## **Reptiles**

**An integrative study of ageing in a wild population of common lizards.** M. Massot, J. Clobert, L. Montes-Poloni, C. Haussy, J. Cubo & S. Meylan. *Functional Ecology* **25**, 848-858 (2011)

Precious few investigations have tried to find out how fitness and physiology change with increasing age in wild animal populations. This paper presents just such an attempt with *Zootoca vivipara* in southern France. Individuals were marked and followed through life from 1989 to 2002. Female maturation in early adulthood at either two or three years old influenced litter size and general breeding success. Older females produced larger litters but during senescence offspring survival decreased.

However, there was more investment in individual offspring and their 'quality' (body size, corpulence) increased. Senescence was only apparent, however, in females that made a big reproductive effort early in life. Full senescence is rare in most species, including lizards because annual survivorship is low, primarily due to predation. This study revealed an interesting trade-off, with lizards following different life trajectories. Some made a big early effort at reproduction but later senesced while others 'took the risk' of starting later and produced offspring consistently for longer.

**In hot pursuit: fluctuating mating system and sexual selection in sand lizards.** M. Olsson, E. Wapstra, T. Schwartz, T. Madsen, B. Ujvari & T. Uller. *Evolution* **65**, 574-583 (2011)

This is another paper from a lab in Sweden that has made many valuable contributions to knowledge about *Lacerta agilis*. A ten-year study on free-ranging lizards assessed annual variation in the operation of sexual selection. When there was a high ratio of males to females, there was strong selection in favour of the larger males irrespective of temperature. However in warm springs, although mating activity was higher than in cooler ones, there was no temperature-related increased selectivity by females. On the contrary, multiple paternity increased and offspring fitness was at its highest. The authors conclude that, at least at the northern range limits, global warming may well benefit sand lizards by increasing multiple paternity rates and therefore fitness and survival of offspring. With double-clutching by sand lizards on the increase as well, perhaps climate change is good news for some.

**Assessment of an established population of atypical grass snakes *Natrix natrix* in the Aire Valley, UK.** D.J. Nash. *Herpetological Bulletin* **115**, 12-15 (2011)

For 20 years prior to this study, odd looking (strongly striped) grass snakes were regularly reported in part of West Yorkshire. Using capture-mark-recapture methods the population size of these snakes was estimated as being between 28 to 106 individuals, with a mean of 46. A combination of morphometrics and genetic analysis showed the animals to be distinctly different from native British grass snakes and mostly likely to have originated in the Balkans. So we have yet another, semi-cryptic alien among us although not sufficiently different as to warrant designation as a separate species.

No obvious habitat barriers control the atypical snakes and it will be interesting to see whether they spread further in future.

**The potential demise of a population of adders (*Vipera berus*) in Smygehuk, Sweden.** T. Madsen & B. Ujvari. *Herpetological Conservation and Biology* **6**, 72-74 (2011)

A paper with all the hallmarks of a Greek tragedy. This adder population was made famous more than a decade ago by the discovery of severe inbreeding problems and their subsequent remedy by genetic management. The introduction of 20 male adders from a different location effectively removed the genetic load, improved offspring survival and generated a rapid increase in population size. Then in the mid 2000s a house and wall were constructed in the middle of the site, preventing migration and extirpating 75% of the snakes. Thus a groundbreaking conservation exercise was wrecked by mindless approval of a planning application. This comes at a time when the genetic status of British adder populations is being assessed. Can we hope for a more enlightened response by UK authorities if comparable situations arise?

**Fine-scale population genetic structure and sex-biased dispersal in the smooth snake (*Coronella austriaca*) in southern England.** A.P. Pernetta, J.A. Allen, T.J.C. Beebee & C.J. Reading. *Heredity* **107**, 231-238 (2011).

Study of our rarest and most secretive reptile is difficult at the best of times and the use of genetic markers can be especially fruitful in such situations. Blood samples were collected non-destructively from smooth snakes at 10 localities within Wareham Forest in Dorset, an area where the species has been the subject of long-term ecological investigation. Genetic diversity and population structure were then studied using microsatellite markers. Despite the relatively close proximity of the sampling sites (all were maximally <6 km apart) there was significant genetic differentiation across the Forest that increased linearly according to the distance between them. The widely recognised low vagility of this snake was therefore confirmed. Interestingly, though, the genetic data did demonstrate a significant difference between the sexes with males dispersing further than females. What remains uncertain is whether this extra male dispersal occurs during

adulthood or in the juvenile phase but presumably it helps to reduce inbreeding risk in an otherwise rather sessile species.

## Online Chytrid Survey

We would like your help with a questionnaire about chytrid. This is being organised by RACE, a pan-European network of scientists who are working to assess the potential risk of chytrid to European amphibians.

The UK group within RACE is based at the Institute of Zoology in London. Many ARGUK volunteers have worked with Freya Smith from that Institute, collecting samples for the Big Swab.

As a part of the European study RACE have put together a questionnaire aimed at different groups who are associated with amphibians. The questions relate to species/species groups, volumes, husbandry practices and bio-security, as well as personal views on handling wild amphibians. They hope to collect sufficient data to give a perspective on knowledge of chytrid fungus at a regional, national and international level (the focus countries are France, Spain, the United Kingdom, Germany and Switzerland). They also hope that this will also inform EU policy, so the more reliable data the better.

For more information go to:

<http://www.ufz.de/index.php?en=21442>

## On the Internet

### Colin Williams

The internet is obviously a vast resource, as much for herpetology as other things. I hope each issue to point out a site that may interest readers.

This time I should like to briefly feature The Sticky Tongue Project (thestickytongue.org), a project based in the Netherlands and run by herpetologists Iwan Hendrikx and Candace Hansen. Included on the site are short films on herpetofauna, especially that of the Netherlands, with its obvious similarities to that of the United Kingdom, and much else of interest.

The Project also has an active Facebook page and Twitter feed, which readers may find interesting.

## Around the ARGs

### Sussex ARG Update

#### **Barry Kemp**

SARG has been in a hibernation phase for the last 18 months with key committee members taking maternity leave and other members standing down due to personal reasons.

There has still been some activity, though, mainly confined to the 'everyday' tasks that all ARGs deal with such as "Adder" callouts and yes, we did really have an Adder in a living room this year, coiled up in front of the TV – the owners were scared to change channel or turn the TV off in case it got upset!

Another quirky encounter was the discovery of a new toad crossing site in Hastings. Neighbours called SARG when they noticed toads getting squashed in the hospital car park. Some of the toads were even walking into the hospital through the emergency doors. It seems toads prefer NHS since none would go in the private hospital next door.

We were able to arrange a SARG reptile day this year, to the Knepp Castle Estate where the owner has taken 1400 Ha of his land out of agriculture as part of a "Re-wilding" scheme. One outcome of our visit was an agreement with the Knepp Estate and Pond Conservation to create ten new ponds a year for the next ten years.

Five other reptile sites were also surveyed by volunteers this year, loosely under the SARG banner, four of which have been found to support Adders.

The highlight of the year was an agreement this week to designate a disused Southern Water site as an SNCI (Local Wildlife Site). SARG has been monitoring the site since 2004 and volunteers have been undertaking vegetation management to keep the many south facing banks open. One of these volunteer days was a 'cross-border' event with KRAG. It's true to say that Southern Water have not been terribly supportive over the years, preferring to let the site degenerate, hence why we chose to designate it as SNCI (this is the highest designation that can be achieved without the owners' consent). SNCI designation was not

easy since there has been no new SNCIs in East Sussex since the early 90's and no existing mechanism for designation. SARG had to work with Sussex Wildlife Trust, East Sussex County Council and Wealden District Council to achieve this. Fortunately after years of our cajoling an uninterested Southern Water to do the right thing (and largely being ignored) a new man at Southern Water has taken up the cause and is exploring the possibility of selling the site to SARG, or letting it at a peppercorn rent.

SARG is 25 years old this year and in order to re-invigorate the group a meeting was held to recruit new members. Twenty people turned up for a meeting in West Sussex, six of whom offered to take a committee role. Another meeting is due this week in East Sussex where another 20 people will attend, so expect a brand new SARG for 2012!

### Surrey ARG Update

#### **Danial Winchester**

Surrey ARG's regular activities and achievements this year include:

- Advertising and supporting habitat management tasks with ARC Trust and Surrey Wildlife Trust
- Training days - Amphibian ecology and conservation at Surrey Wildlife Trust's Nower Wood Centre; and NARRS training
- Reptile rescue after heathland fire at Lighwater Country Park
- Reptile surveys at Black Down on Surrey/W. Sussex border specifically monitoring of re-introduced sand lizards
- Reptile walk for National Trust at Box Hill
- Adder survey at Hydon Heath
- Attending with native species the following events; Surrey Wildlife Trust Hythe Park Fun Day; Sayers Croft Trust Heritage Open Day; Surrey Hills Wood Fair; and Surrey Wildfire Awareness Day at Hindhead
- Amphibian surveys at ponds such as Hever's Pond and Headley Heath
- Toad crossing support, liaison and gathering data for the 39 crossings across Surrey
- Responding to email and phone enquiries from members of the public
- Supporting two MSc students with natterjack toad research projects
- Chytrid swabbing of non-native and native species at Beambrook; plus natterjack toads at Frensham.

A sign of our membership strength is that we have 130 Facebook members.

We have also undertaken pond management at Hever's Pond, Bletchingley. This is an important ancient pond that supports breeding populations of common frog, common toad, great crested newt, smooth newt and palmate newt.

We are also committed to natterjack toad monitoring at Frensham. We aim to work with ARC Trust to re-introduce natterjacks to other suitable sites in Surrey.

Another commitment is the Adder Project, which aims to map adders within the Home Counties and inside the M25, sharing data across all the relevant ARGs with the object of furthering adder conservation.

The Rare Reptile Training Course continues to remain very popular and has generated data for SARG, ARC Trust, Sussex and Hampshire ARG and land managers, including new records of smooth snake.

Three new Committee members have joined SARG this year:

- Heather Hickman - Hampshire Liaison Officer;
- Fiona Haynes - Surrey Wildlife Trust Liaison Officer;
- Bonnie Holloway - Volunteers Officer.

I would like to thank all the volunteers, surveyors and SARG members (including Committee members) who have contributed to this amazing list of activities.



*Pond management at Hever's Pond*

## Wild About Chew

### **Sarah Milne, ARAG**

Following the success of the 2009 event, ARAG was invited to contribute to the second 'Wild About Chew' event. Chew Valley Lake is a large reservoir and the fifth-largest artificial lake in the United Kingdom (the largest in south-west England), with an area of 1,200 acres (4.9 km<sup>2</sup>). The lake, created in the early 1950s and opened by Queen Elizabeth II provides much of the drinking water for the city of Bristol and surrounding area, taking its supply from the Mendip Hills.

Managed by Bristol Water the lake is an important site for wildlife and has been dedicated as a Site of Special Scientific Interest (SSSI) and a Special Protection Area (SPA). It is a national centre for bird watching, with over 260 species recorded, including some unusual sightings. The lake has indigenous and migrant water birds throughout the year, and two nature trails have been created. The flora and fauna provide habitats for some less common plants and insects as well as grass snakes and a range of amphibians.

Over 3,500 visitors joined local wildlife groups, Michaela Strachan and Bristol Water at the beautiful lakeside setting with the aim of celebrating the diverse users of the lake and surrounding habitats.

The ARAG stand proved very popular. At the 'grown-ups end' of the stand, our team answered numerous questions and encouraged people to submit their records of local amphibians and reptiles. We also managed to hand out large quantities of current guides and leaflets ranging from creating garden ponds to recognising our native snakes.

Meanwhile, children took part in our 'find the species' treasure hunt, eagerly bringing back their 'treasure' (aka a laminated herp photo!) and were rewarded with frog-shaped chocolates or other prizes. The frog raffle, toys and other games all helped to raise awareness and some funds for ARAG.

We ran numerous pond dipping sessions throughout the day. Bristol Water had kindly built a platform over the wildlife pond, enabling children to safely explore.

## Peak District Adder Project

**Chris Monk, Derbyshire ARG**

This work started in 2005, with surveys for the Make the Adder Count project which was launched that year to monitor the numbers of adders emerging from their hibernation sites in the spring. In the very first year it was obvious that there were many more hibernation sites than the handful known by the Peak District National Park ecologists. Every year since then not only have there been counts at known hibernation sites but our volunteers have located new hibernation sites and followed up all casual sightings of adders reported by the public, site staff and local residents. Several hibernation sites are now known that are within 10 metres of well used recreational paths, including one major route used by more than 100,000 visitors a year. Despite six years of surveys there are still large parts of the 1,500 ha area of moorland, heathland, acidic grassland, woodland and bog that have not yet been covered. However, the knowledge which has been gained has already been put to good use with the location of known adder hibernacula passed onto land managers and also forming the basis of a research project.

*Capturing an adder (Steve Docker)*



The survey area is owned by the National Park Authority, the National Trust, Severn Trent Water and private agricultural holdings. National Trust rangers had been keeping their eye on their one known adder hibernaculum site for some years but we have found two more hibernacula, one of which has the second highest count of adders across the survey area.



*Tubing an adder (Steve Docker)*

The National Park land has been leased out to a new management partnership formed by the RSPB and National Trust, who have held a series of consultations over a new five year management plan. Derbyshire ARG has been represented at the consultations and supplied the details of all known adder sites. The draft management plan published in Autumn 2011 has a series of proposals based on archaeological and ecological surveys, and includes some proposals for management by burning, flailing and heather harvesting. All the hibernation sites have been marked on the Partnership's alert map, so that the destructive management methods mentioned above will not be carried out on or around them. We hope that this will be more successful and the site will not be added to the unfortunately growing list of adder sites damaged or destroyed by conservation management or heathland restoration elsewhere in the UK.

A research project from Manchester Metropolitan University into the landscape and conservation genetics of the adder has also commenced this year based on our knowledge of the site. David Carter is using molecular genetic techniques together with ecological landscape mapping to investigate the population structure and genetic connectivity of this relatively undisturbed adder population. Members of Derbyshire ARG took David around various hibernacula in the spring for him to take samples by cloacal swabbing from basking animals, to be analysed for micro-satellite DNA. This started late due to administrative delays in obtaining licences from Natural England and permissions from the owners but still 55 snakes were swabbed and several skin sloughs were

collected from areas where no snakes were found at the time of the visit.

A further season of sampling is proposed for spring 2012 to obtain many more samples for the research.

Thanks are due to all the surveyors who have contributed to this Project over the past seven years, which has also produced records of common lizard across the area and increasing sightings of grass snakes.



Taking a cloacal swab from an adder (*Steve Docker*)

## Slow-Worm Relocation

**Andy Ryder,**

### **Avon Reptile & Amphibian Group**

This autumn, ARAG was contacted by the local council regarding reducing an area of blackthorn scrub to make way for two extra allotments and a wildlife area at a larger allotment site. The council had already commissioned an ecologist to survey the area and wanted to complete the work in line with his recommendations. As slow-worms are present at the allotment site they wanted ARAG to oversee the work and ensure that suitable provision was made for the needs of this species. As we have a number of ecologists within our ranks, for whom such work is routine, we agreed to oversee the project.

The work was completed within two days and during this time we constructed various hibernacula and brush piles. We have committed to undertake follow up surveys to check that the population has not been negatively affected and to suggest other ways in which the habitat could be managed to benefit reptile and amphibian populations.



*Juvenile Slow-worm (ARAG)*

During our two days on site we met a large number of local people and allotment users who had raised their concerns about possible loss of wildlife habitats when the initial allotment expansion was announced. They had invested a good deal of time and effort in making sure that the allotment board and the local council protect the wildlife they enjoy whilst tending their allotments. It was great to be able to talk them through what we were doing and reassure them about the prospects for the slow-worms and other wildlife. We also managed to pass on some tips for making their plots or gardens more wildlife-friendly whilst extolling the virtues of some organic gardening practices. The council were delighted with our efforts and made a generous donation to ARAG.

## Hampshire ARG Update

**John Poland**

**Events:** The HARG Members Open Day in March was attended by 40 members. The event consisted of a series of talks, live animals for ID and field trips to nearby sites of herpetological interest. There was even a light-hearted quiz to test attendees' general herp knowledge!

A reptilary and sand lizard breeding programme meeting was held in the New Forest in May. Over a dozen members and public saw herps at close range and learnt of the importance of captive breeding in re-introduction programmes.

**Public queries:** notable queries including avoiding possible impacts to great crested newts (GCNs) at a school pond in N. Hants.

**Increasing links with neighbouring ARGs:** the HARG committee welcomes the first Hampshire Liaison Officer from Surrey ARG.



**Training:** Hampshire Wildlife Trust ran a GCN training day, in April for 20 volunteer surveyors.

**Recording:** A HIWWT coordinated GCN survey monitoring programme aimed to update information on the location, status and distribution of GCN populations in Hampshire. A desk study identified ponds for further survey.

HARG collates and validates county records which are sent to the Hampshire Biodiversity Information Centre, and a subcommittee continues to work towards producing a county atlas of herpetofauna.

**Research:** We are in our second year of collaboration with Southampton University on a reptile refugia research study. Previous year's results were presented by students at a Biodiversity Seminar attended by all sectors of the ecological community (including local authorities).

Chytrid swabbing. HARG continued to provide an active volunteer base for this initiative and undertook swabbing at two sites in Hampshire.

**Policy:** HARG continues to lead the Biodiversity Action Plans (BAPs) for GCN and smooth snake in Hampshire and consults closely with other organisations such as Amphibian & Reptile Conservation (ARC). We also prepared the annual report on BAPs for the Hampshire Biodiversity Information Centre. Despite increased survey effort, evidence suggests that great crested newts are still in decline and the actual status of smooth snakes is still unknown.

## Keep in Touch

### *Colin Williams*

It is always great to hear what is happening in the many Amphibian and Reptile Groups around the country. If you have any events to report, stories to tell or results to record, please let us know.

Copies of any newsletters that you prepare locally are also gratefully received. Other ARG members around the country will be interested to hear what you are up to, and we will be delighted to tell them!

Stories or newsletters should be e-mailed to the editor at [news@arguk.org](mailto:news@arguk.org).

What is happening with ARG UK can be followed on the website. The ARG UK Panel also has a Facebook page and a Twitter presence, if you want more immediate contact.

You can also sign up for our monthly e-bulletin which has the latest snippets of news and views on [www.arguk.org](http://www.arguk.org).

<http://www.arguk.org/news/>

If any ARGs have social media or web pages, please let us know and we will tell the world.

Any suggestions for future 'on the internet' features will also be gratefully received.

If there is anything you would like to see more, or less, of in this newsletter, please let the editor know at the e-mail address given above. This is your newsletter and we are keen that it reflects your wishes and interests as much as possible.

Above all, we really want to hear about all of your activities, triumphs, news and concerns. We can't publish everything, but we will certainly try to share your news with the wider community of Amphibian and Reptile Groups.

Keep in touch!

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**Amphibian and Reptile Groups of the UK**  
VOLUNTEERS WORKING FOR THE CONSERVATION OF AMPHIBIANS AND REPTILES

**amphibian and reptile**  
**conservation**

