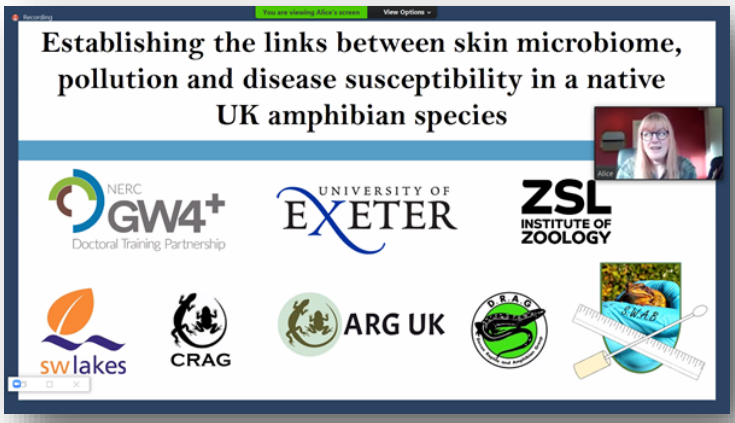
THE NATTERJACK

Newsletter of the British Herpetological Society Established 1947

# ARC/BHS Joint Scientific Meeting Where? Online of course.

In the current climate, the need to adapt and change has become really important for businesses, the education sector and actually all industries have had to make some adjustments. And we are no different. Online talks have become extremely popular and are so accessible. May people have commented that they have never done so much training! The fact that they are recorded and available to watch later just adds to the ease of access and availability. This has to be a benefit with regards to the education and information being shared. Although technology can be a constraint in the way it runs and works, we have started to become experts in this new form of learning. And soon we hope to be back to one that incorporates some face to face networking with drinks and chats. Surely the future is an amalgamation of the two.





The ARC/BHS scientific meeting went online this year with great success. There were several interesting speakers from varying institutions. The meeting was sectioned into sessions and chaired by trustees of ARC. John Wilkinson, ARC Science Programme Manager started the proceedings followed by Professor Richard Griffiths, ARC Trustee, who continued with a welcome message. Rhianna Goble was our first speaker, from University of Kent, speaking about the phenology of crest development in great crested newts. Her title leading with 'What makes newts sexy?...'. Sexual dimorphism is seen with this species and females recognising males due to the dorsal crest is assumed. Rhianna brings the point that there is little research on the relationship between seasonality and this morphological development at different levels. Rhianna used the software, ImageJ and photographs of newts to look at this topic further. She found that newts were seen in the research ponds all year round and that climatic changes may be influencing factors such as breeding during the winter time.


Our second speaker, Dr Ana Graham, from the BITES Project (University of Bangor) spoke on the use of training to tackle the issue of snake bites in India. This interesting talk looked at surveying knowledge of the topic before and after a training course. They worked with the State Forest

Departments of Himachal Pradesh and Sikkim providing workshops to Forest Department officers. This training included first aid, mitigation and awareness regarding snakebite. The work proved positive and these custodians reported to have found it helpful. The surveys showed that they wanted more hands on work following the training which had hands on practical elements integrated. The recommendation from this work was to implement thorough hands on training to officers in the future to minimise the chances of being bitten.

Nikki Glover (University of Salford) looked at the effectiveness of using a detection dog to find newts. These working dogs are used in various industries such as the police force searching for drugs and money. We see cadaver dogs, mountain rescue canines and they are also used to identify diseases as recently as this year with Covid-19. Nikki has been working for the last 3 years with her working canine under the supervision and guidance of Conservation K9 Consultancy. This showed to be extremely hard work and needed to be ongoing, every day training to ensure the best results and consistency. It is a clear commitment on Nikki's part to ensure that the training is effective and it was also clear that a 'bad day' can result in a 'bad day'. Use of a detection dog for this purpose showed to be effective in the field trials and assessments both controlled and uncontrolled. The end resulted in the detection dog being able to determine where great crested newts were up to 2m without interference from substrates. On one occasion, the dog walked over a tuft of grass where a newt was located and missed it every time it passed but otherwise detection had high rates of success. Nikki also commented that they could detect in water, which is extremely interesting for future use regarding conservation and detection of other species. Although factors such as wind, habitat type, handler behaviour and mood can affect performance outcomes so these need to be recognised in accordance.

Annie Gwilt (University of Wolverhampton) presented her work (collaboration with Simon Maddock) on caecilian mitogenomics. She explains that these fossorial creatures a largely understudied. There are eight species residing on the Seychelles Archipelago comprising of three genera, one being the *Hypogeophis* which has three 'miniaturised' species. The study was aimed at understanding the evolutionary relationships of these three genera using mitochondrial genomes. Through the phylogenetic analysis there was no clear relationship found except between *H. brevis* and *H. pti* where this type of dwarfism is seen. The conclusion here is that reassessment for these species needs to be carried out in the future.

Ben Owens (Bangor University) talked about the climatic changes and the impact that will have on Old World vipers, *Echis carinatus* and *Cerastes gasperettii*. There are two settings for this work and they vary. The Middle-Eastern vipers live in desert-like habitat, hot and dry, the other setting is at the Arabian Breeding Centre for Endangered Arabian Wildlife which is much greener landscape. He discussed the various elements to consider such as droughts, flooding, temperature increases, habitat suitability, distribution changes and alien species movement. He then discussed the effect this would have on reptiles. We could expect to see extirpation of species and the loss of smaller populations. More invasive species could establish affecting the environment and other species further. Changes in diet due to the availability and a lack of reproductive sites also pose issues. We could also see changes to morphology in species and adaptations to changing environments such as adult size. Predator-prey interactions are foreseen as another factor to consider. There is a lot of unknown here but as Ben explained, there are a lot of exciting opportunities for science and exploration which he is embarking on in his PhD.

Alice Pawlik (University of Exeter) discussed here research regarding the potential of microbial species found on the skin naturally protecting amphibian species. Investigations into the role of the microbiome on the skin showed that some individuals suffered from pathogens differently to others. Alice talked about the common frog in the UK showing more diverse microbiomes and this resulted in a higher resistance to the ranavirus. She also found that those that had suffered with the infection previously had a different microbiome on the skin than those who hadn't. Although, the protection provided by these communities are positive, they can be affected by stressors. Alice explains that pollutants can affect this makeup. There is further research to be carried out on this topic which Alice will be doing as part of her PhD so we await further results from this interesting research. The end purpose being a route for mitigation of potential disease in amphibians.


Finally, we heard from Rowland Griffin part of Indigo Expeditions and DICE (University of Kent). Rowland's talk was on the diversity and assemblage structure of amphibians and reptiles in Laguna del Tigre National Park in Northern Guatemala. Habitat fragmentation is the main culprit regarding many conservation issues around the world and this is no different here. Land use choices and loss of habitat can affect diversity and loss of species. The study focused on the responses of amphibians and reptiles to low-level subsistence agriculture carried out in the area mentioned above. Rowland carried out Visual Encounter Surveys (VES) at four different sites in forest habitats to assess agriculture and fragmentation impacts. He found that the diversity was higher in low forest habitats where amphibians were concerned and that the diversity of snake species was lower in agricultural edge habitats. Across the results, the modelling showed that agriculture impacts assemblages of lizards, snakes and amphibian populations but Rowland explained that habitat fragmentation had a greater impact.

Written by Suzie Simpson

# BHS donation helps to secure heathland in Hampshire

**Written by Jan Clemons (BHS Conservation Officer)**


BHS has generously donated funding towards the purchase of 20 hectares (50acres) of Hampshire heathland to Amphibian and Reptile Conservation (ARC) from the BHS Conservation/ Land Fund earlier this year. This site at Blackmoor is part of Woolmer Forest Site of Special Scientific Interest (SSSI) which is one of the most important areas of heathland in southern England.


I first visited Woolmer Forest over 30 years ago and was impressed by the fact that it supported and still does today, twelve of the UK's species of reptile and amphibian including the rare natterjack toad (*Epidalea calamita*), sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*). These UK native species have unfortunately suffered population declines over the past 30 years due to habitat loss and fragmentation, so it's vitally important to safeguard these key locations such as Blackmoor.

Blackmoor, although previously privately owned, has been managed for the past 10 years by ARC in addition to over 200 hectares of Woolmer Forest owned by the Ministry of Defence. Habitat management work on Blackmoor has restored the lowland heath by removing pine and birch scrubland and the restoration of three ponds more suited to natterjack toad breeding sites. It is hoped that the natterjack toads will return to the Blackmoor site from adjacent sites where they are still extant.

ARC have promised to give BHS members a guided tour of the reserve once we are free of Covid restrictions so please look out for this opportunity on the BHS website hopefully by Spring/Summer of 2021.

For a virtual tour take a look here: https://www.youtube.com/watch?v=tlWjNGWc_XE

# European wall lizards in my Canadian garden

## Written by Doug Pollard

By any definition Victoria should be lizard country. The city lies at the south end of Vancouver Island on Canada's west coast. Its latitude is about the same as the Channel Islands. The climate has been described as Mediterranean, with hot, dry summers and generally mild winters that support the endangered Garry oak ecosystem.

Despite its apparent suitability, Vancouver Island has but one native lizard, the northern alligator lizard. This and the western skink are the only native lizards within the entire province of British Columbia, whose area is four times that of the United Kingdom. (A third species, the pigmy short-horned lizard, was probably extirpated several decades ago.) The problem for lizards in Canada is the short warm season, not to mention bitterly cold winters.

Thirty years ago, my wife and I bought a new property in Victoria and were delighted to find alligator lizards in the back garden. I decided to make it lizard friendly. Our garden lies on a rocky, south-facing slope. We spent weeks sieving soil, creating mounds of rocks of all shapes and sizes, the largest weighing 50kg or more. These we arranged into terraces. We covered patches of soil with smaller rocks forming a lithic mulch, in the style of some wine-growers of southern France, and former Easter Islanders. I was careful to leave enclosed spaces behind the terraces in hopes of providing hibernacula for lizards and garter snakes that I had also seen around.

It worked! And it has done for thirty years. Both lizards and snakes appear every spring, and even show up on sunny days in winter. About ten years ago, I took my brother Martin, on a visit from Sussex, to a local winery. As we pulled up behind the tasting room we were astonished to see literally dozens of European wall lizards scampering around the rocky perimeter of the car park. The lizards are believed to have been released from a nearby private zoo, when it closed in the 1970s. The zoo had been hemmed in by forests which would have impeded their spread. But by around 2000, the lizards had cleared these obstacles, and were fanning out towards Victoria. They found our garden about five years ago, and took over. Now, there are probably over fifty at any one time. Two new generations appear each year, and are especially noticeable in late summer, when dozens of newly-hatched babies scurry off in all directions as I mow the lawn. The invaders seem to do no harm, and keep my vegetable plots free of caterpillars. I have seen them eat slugs. One evening as we sat with our neighbours on their patio enjoying a local wine, a lizard appeared close by on a large rock, and picked off ants as they carried cocoons rescued from a disturbed nest.

Normally, wall lizards are very quick off the mark, and are difficult to approach. And therein, I suspect, lies the one fault I have with them. There are so many wall lizards in my garden they attract cats and other predators, notably raccoons, the latter turning over rocks in their search for these presumably tasty morsels. Wall lizards are much quicker than alligator lizards, which may account for the disappearance of the native species. In other respects, I welcome them around me as I work. The garden is like a vivarium without walls. But it saddens me to lose the locals.

Where will this end? It will take many years for wall lizards to move far from Victoria, although there are suitable habitats across the Island. But beyond Victoria, the Garry oak ecosystem quickly disappears, and the climate is decidedly not Mediterranean. Still, with cacti native on some of the many smaller islands between Vancouver Island and the Mainland, there remain prospects for their further spread, especially with a little help from humans. Given the precarious state of the Garry oak ecosystem and many of its component species, this event is not to be applauded. Unfortunately, the comfortable habitat is attractive for Canadians, especially those seeking escape from harsh winters. Our expanding population does not bode well for native fauna and flora. But there will always be more resilient species ready to jump in. All they need is a ferry or an airplane, and we provide both. The European wall lizard is just one example.

(Dr. Pollard was born and raised in Surrey. In 1967 he immigrated to Canada to serve with the Canadian Forestry Service until his retirement in 1996.)

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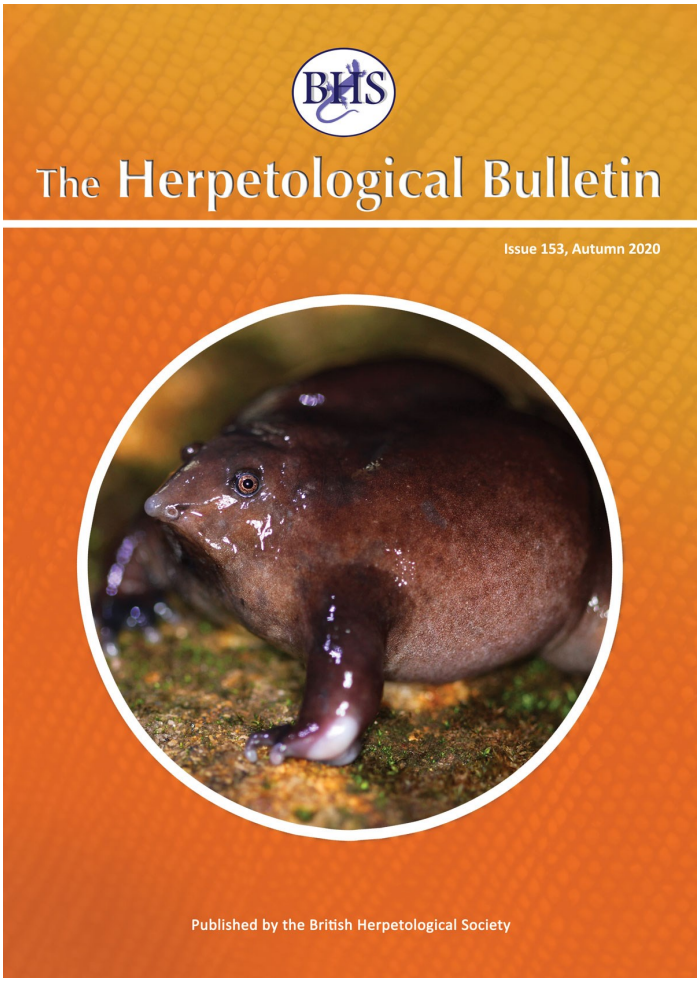


Membership with the British Herpetological Society gives access to all three publications for just **£25 a year** (student members, £18).

To our BHS members,

We are always interested in hearing from you. Please feel free to contact me if you would like to share anything regarding herps. We would love to hear about your animals, your experiences, their care and husbandry, ideas, training, research and more.

It is important to us that you have that opportunity to share with the wider community, as we all benefit from sharing knowledge and experience.

Kind regards,

*Suzie Simpson*

**Email:** natterjack@thebhs.org

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