

Autumn 2018 Dorset Bat Group Newsletter



Chatter from the Chair

Welcome to the Autumn edition of the Dorset Bat Group Newsletter 2018.

Cathy and I enjoyed the National Bat Conference at Nottingham in September. It was good to see Natalie and Pete there as well. Natalie was the recipient of our bursary ticket and she has written a piece for the Newsletter. Thank you Natalie!

The Bat Group is in the process of taking over responsibility for the VBRV Planning Visits, so if you are a VBRV and you would like to be involved contact me at: sheiladyason2007@yahoo.co.uk

Our new season of winter talks begin in November. Thank you to Nick Tomlinson for arranging these again this year.

Wednesday 7th November 19:30 at Brooklands. Jack Merrifield talking about his research into how light and sound affect bats.

Wednesday 5th December 19:30 at Brooklands. The Christmas Social, **raffle** and talk by Connie Tremlett on Mexican Bats

Wednesday 9th January 19:30 at Brooklands. Natalie Harvey will be telling us about her Masters research

Wednesday 6th February 19:30 at Brooklands. Colin Morris will be talking about something batty.

Wednesday 6th March 19:30 at Brooklands. Lisa Worledge (BCT) will be talking about Bat Evolution

Thank you for your continued support. Hope to see you again soon

Sheila

Current Bat Conservation Research

The National Bat Conference 2018 highlighted some of the current conservation research taking place in the UK, and how this is aided by several exciting new developments in bat monitoring technology.

One of these is the 'Putting UK Woodland Bats on the Map' project, which aims to gather detailed information regarding the population trends and habitat use of woodland bat species. Audiomoth acoustic sensors are being trialled across several study areas as part of this research, including Moreton and Rempstone in Dorset, and the data obtained from these activity surveys is being used to create habitat suitability maps. These maps will help predict the impact of changes in land use and climate upon different species, while feedback regarding Audiomoth success will additionally aid in developing the BCT's new British Bat Survey.



<https://www.openacousticdevices.info/news>

In another interesting talk, Dr Helen Hipperson described how metabarcoding techniques have been applied to determine the diet and foraging habitat of Bechstein's bat by identifying insect prey species from DNA fragments present in droppings. The results are intended to guide future habitat management and housing development plans, while an ongoing PhD study by Domnhall Finch investigating the impact of traffic noise on bat activity could help improve road scheme mitigation.

Thermal imaging is also becoming a more prevalent tool amongst bat ecologists as technology and availability improves. It has enabled bat presence and habitat use to be investigated in situations where site access is not possible, and is proving useful for studying particularly light adverse species.

Conservation research continues to be vital in furthering our understanding of the human and ecological factors driving species distribution, filling missing knowledge gaps, and aiding bat protection. It will be fascinating to learn of more new discoveries as available monitoring methods continue to develop.

Thank you to Dorset Bat Group for providing this fantastic opportunity to attend the National Bat Conference!

Natalie Harvey

National Bat Conference

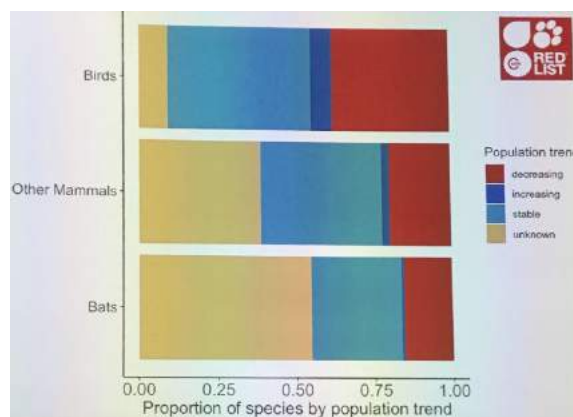
7-9th September 2018

It was good to be able to attend the National Bat Conference again after its year of hibernation in 2017. The talks and workshops were up to their usual high standards and we thoroughly enjoyed the weekend.

The keynote speaker was Dr Winifred Frick, Chief Scientist at Bat Conservation International (BCI) and she explored *Global bat conservation challenges and opportunities*. As we know the major threats to bats are habitat loss and degradation; roost loss and disturbance; persecution and lack of information. More recently, since white-nosed syndrome's arrival in North America, it has killed millions of bats.

The number of bat species identified worldwide has increased from about 940 in 1993 to nearly 1400 in 2018. Similarly, study effort into bats has increased with 20-25 papers per year from 1920-1950, 550 papers per year in the 1990s and more than 2000 papers per year since 2010.

The proportion of global bat species by Red List status shows that we are data deficient on 227 bat species and 180 species are classed as threatened. This makes 33% of bat species needing conservation attention. Population trends are unknown for more than 50% of the species and 10% of species are declining, 30% are stable and less than 0.5% are increasing. It is not just extinction that we need to be worried about but also population collapse.



The National Bat Monitoring Programme is a good system that she would like to see rolled out in other countries. In America, as a response to White-nose Syndrome, a Bat Monitoring Programme is just beginning.

40% of bats live in caves. This is both an obstacle and an opportunity for conservation. They are more vulnerable to catastrophic events such as disturbance, bush meat hunting or flooding. However, the fact that there is a focal habitat and a large aggregation of individuals gives an opportunity to focus on different conservation action. BCI have just purchased Nakanacagi Cave home to the only known maternity colony for the critically endangered Fijian free-tailed bat. In fact, this single roost is home to over 95% of the global population for this species. It is the first bat sanctuary in Fiji. Land around the cave was also purchased as a nature reserve.

Sheila and Cathy

Robert Riggs (9th June 1960 - 8th July 2018)

I first met Robert in 2016 when I joined the Brownsea Island Bird and Mammal Box Project. He was already undergoing treatment for terminal lung cancer but didn't let that dampen his enthusiasm for Brownsea Island and its wildlife, especially the bats. Robert knew the island so well that for any given box number, it seemed he could locate the tree, set up the ladder and start calling down results before I could even find the right recording sheet!

Robert was generous in sharing his knowledge and experience of Brownsea's wildlife. He started the project with fellow volunteer, Ray Meddick, in 1997 when they put up the first 27 hand-made boxes. Over the past 22 years the project has grown to become much more extensive and successful than they ever anticipated. Today there are nearly 400 bird and mammal boxes across the Island, along with two bat hibernacula converted from World War II brick shelters (one of which we have renamed as 'The Robert Riggs Hibernaculum'). The project team has also expanded over the years to help share the increasing workload.

The bat boxes on Brownsea include around 80 that have been built by hand from untreated timber. Robert experimented with many different bat box designs over the years, including a large compartment box with internal baffles that he designed with the needs of pipistrelle bats in mind. It performed well in tests carried out by Dr Sue Swift in 2004 as part of a project to evaluate thermal and humidity properties of different bat box designs. Robert was also pleased to discover that the bats agreed! Large numbers of Soprano Pipistrelle bats now use these compartment boxes on Brownsea for maternity roosts. The project has also recorded increasing numbers of Common Pipistrelle, Brown Long-Eared, Natterer's and Noctule bats using boxes around the island.

Robert was not only handy at designing and building boxes but also meticulous in his approach to analysing the results and preparing the project's annual report. He published the 21st Annual Report last October and was planning to speak about the project at the Dorset Bat Conference in April 2018. Sadly, Robert was unable to attend the conference and he passed away in July.

Robert's many years of passion and dedication to the project have left a lasting legacy on Brownsea. It was a privilege to get to know him, albeit far too briefly—he will be sorely missed.

Jackie Kelly



Robert Riggs (third from left) enjoying a tea break with fellow volunteers on Brownsea Island.



Delight on finding a pile of bat droppings!



Inspecting a bat box based on a design from Frank Greenaway.

Robert adapted the design to give bats a choice of being in the baffles or the upper chamber, and he found that they use both. Clearing a compartment bat box. Designed by Robert, this style of box is used as a maternity roost by Soprano Pipistrelles during the summer. The picture (taken in September after the bats had left) is of clearing out the excess of bat droppings to prevent the entry slot from being blocked. The box has a removable interior, which can be seen in Robert's right hand.



Inspecting a bat box based on a design from Frank Greenaway. Robert adapted the design to give bats a choice of being in the baffles or the upper chamber, and he found that they use both.




Bechstein's is a rare find in the bat boxes on Brownsea. This male Bechstein's Bat had a damaged right ear, which identified it as the same animal that was first found in 2005, and recorded again in 2010, 2011 and 2012.

Why it is important to wear gloves when handling bats (Public Health England)


18 strains of Lyssavirus have so far been identified worldwide. Daubentons we know about in the UK. Serotines on the Continent; a Brandt's in Norway; Natterer's, Greater Horseshoes, Whiskered, Alcahloe and Pipistrelles have been identified with Lyssavirus or its antibodies. More strains in more species are being identified all the time.

Another European lyssavirus- Kotolahti Bat Lyssavirus (KBLV)

- Discovered in a Brandt's bat in Finland
- Only nucleic acid available
 - **No live virus** isolate



Myotis brandtii



RAPID COMMUNICATION

Tentative novel lyssavirus in a bat in Finland

T. Nokireki | N. Tammiranta | U.-M. Kokkonen | T. Kantala | T. Gadd

(Synthesis of G underway to assess vaccine protection using reverse genetics- Colleagues at FLI)

Animal & Plant Health Agency

The advice given was to ignore whether there was a mark or not, **if you feel a pin prick**, then **seek medical advice**. If there is an open wound, make it bleed; wash with soap and water and **seek medical help**.

Another issue raised was who was entitled to free rabies vaccinations. One conference member asked whether she had to pay if she volunteered 100 hours of bat work and did 10 hours of paid bat work a year, as a self-employed consultant. The short answer was 'Yes'. If the rabies vaccination is going to protect you during paid work, if only a few hours a year, you have to pay.

Two confirmed cases of European Bat Lyssavirus 1 found in Serotine Bats in Dorset.

BCT Advice & Guidance

As a result of the latest cases we have updated our advice and guidance information and the relevant pages on the BCT website. The 'Good Practice Guidelines on Bats & Rabies', guidance on 'Wearing Gloves when Handling Bats', and a separate document aimed at bat rehabilitators caring for Daubenton's bats are available from the BCT website at :http://www.bats.org.uk/pages/resources_for_bat_groups.html along with a Frequently Asked

Questions document aimed at bat handlers. It is important this information is shared with bat group members. Additional information is available under the bats and diseases section of the BCT website at:http://www.bats.org.uk/pages/-bats_and_rabies-1099.html

Please note there will be a further comprehensive review of the Bats & Rabies Good Practice Guidelines over the winter to update some of the flow charts aimed at bat groups that run their own helplines, dealing directly with calls from members of the public.

Sheila and Cathy

European Bat Action Plan

The EU and Eurobats have just published the Action Plan for the Conservation of All Bat Species in the European Union 2019 – 2024. At 87 pages its not a light read, but there is some interesting stuff in there – something to sit back with a glass of something and browse over the holidays perhaps?

It can be downloaded from here

<https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp>

Nick T

Swarming in the Yeovil area

We have been checking these two sites for a number of years and below are the maximum counts, I have just started this seasons and already have had two good counts, the count usually take place on the second Sunday of the month, if anyone is interested please contact me on pete.banfield@btinternet.com

Season	Stoford		Sandford Orcas
	Lesser Horseshoe	Long-eared	Lesser Horseshoe
2013/2014	16		49
2014/2015	11	1	57
2015/2016	13		49
2016/2017	20		52
2017/2018	31	1	57
2018/2019	35	1	61

More on Swarming

This year marks the 8th year we have been undertaking swarming studies at Winspit and, in March 2019, a report will be available, looking back at the results from those 8 years, and what they have told us (and what questions remain), but, as we had our most successful 'mass swarming' survey this year, I thought a few highlights might be in order.

Last year we tried, for the first time, to trap at more than one location, so we could both compare results, but also see if any bats from one site then went on to visit another. The weather was not very kind and, although we caught a few bats, including a barbastelle that had been ringed at Winspit, but was caught at Tilly Whim, it was a little frustrating. This year could not have been more different!

Thanks to some great support, from both within and without the county, we were able to trap at five different sites, three inland quarries and two coastal sites, and the weather was kind to us. In total, on the first night, we caught 167 bats of 10 species, the second night's catch was 48 bats of 9 species. Our totals included some pretty rare species, such as grey long-eared (two at the inland sites, the first even caught there!), barbastelle and Bechstein's, and we put in getting on for 400 hours of volunteer time, so quite an event.

We have been ringing the bats at Winspit now for a few years, and re-catching one of them is always exciting, so when we found an 'old friend', a male Daubenton's, it was great! We first ringed him in August 2015, and we have caught him ever year since. Not only is this interesting, to see him back at the same site, but also, broadly speaking, at the same time of year!

We have also been ringing bats (mostly Natterer's) elsewhere in the county, in an effort to study both colony structure and interchange, but also to try and understand the catchment area for Winspit. This year not only did we catch one of ours that had been ringed in the boxes at RSPB Arne (the second one so far), but also one from Brownsea, yes, Brownsea!

Just think about that for a minute, and take a look at a map, how did it get there? If it island hopped, via Green and Furzey islands (perhaps the most direct route) then it crossed something like 600m of open water, in total, with the longest stretch being around 300m. If it went via Sandbanks, then it crossed two stretches of open water, each at least 300m wide. There is no way it could have 'seen' across those stretches of water, so how did it navigate? It is, perhaps, doubly touching because it the first bat we ringed on the island, a double first! I know bats such as Nathusius' Pipistrelle navigate much larger bodies of open water, but to find out, in our first year if ringing on Brownsea, that at least one of the bats we have ringed there made the trip to Winspit was stunning!

We also caught three bats that had been ringed by Mark Warne in the FC woodlands surrounding Poole Harbour. That brings our total of 'his' bats to 12, spread out across the woodland, with the bat that had travelled the furthest coming from 19 kilometres away, quite a distance for an animal that might not, normally, go more than 2 or 3 km from 'home' for the rest of the year!

Nick T

Tom McOwat's Workshop: Bats in art and culture

On a lighter note, we attended this fascinating workshop on the Sunday. This may become a theme for future editions of *Bat Droppings* as a lot of material was covered. In this article we will consider bats in the art and culture of Australia.

Australia has 81 bat species from nine families. They are the second largest group of mammals after marsupials. They range in size from the Northern Pipistrelle that weights 3 g to the Black Flying Fox that weighs more than 1 kg. The Eastern Tube-nosed Fruit Bat has long tubular nostrils that are thought to prevent fruit juices from running up its nose!

The Ta-ta-thi tribes of New South Wales had a bat totem for men and an owl totem for women. If a woman killed a bat or a man killed an owl, a fight would ensue. Some believed that if a bat died, a man would also die. Bats have featured in Aboriginal art and culture for thousands of years.



Modern Aboriginal Art



Roy Burnyila

Roy Burnyila

Lin Onis

In one *Dreaming*, each star in the sky is a Flying Fox, transformed after a great battle.

Sheila and Cathy

Blood meal on Upton Heath



Steatonyssus periblepharus © Malcolm Storey, www.bioimages.org.uk

Way back in March 2014 Jan Freeborn ringed a little group of Soprano pipistrelles found in a bat box recently put up on the site. Very excitingly 2 of these ringed bats turned up again, one male and one female, during a bat box check in October 2018. This is a scheme of 5 Schwegler 2F bat boxes so small is beautiful and can turn up interesting results.

This was an interesting discovery and demonstrates that at least 2 of these bats have remained faithful to the boxes on the site and are at least 5 years of age, having been ringed as adults in March 2014. Neither of the bats showed any evidence of wing damage from the rings. These bats were in the same box, together with 3 other bats (1 male and 4 females in total) so the assumption must be, given the time of year, that this was a mating roost!

Just as exciting, Malcolm Storey, a new member of the bat group and keen entomologist, who was helping with the bat box check also managed to retrieve, identify and photograph the bat mite pictured above.

Malc said that this mite is *Steatonyssus periblepharus* which had recently had a blood meal that it is just starting to digest (dark spots). It's in genus *Steatonyssus* because the plates on the dorsal surface are separate, and it's *periblepharus* because the two spines at the rear of the posterior dorsal plate are very short.

Thanks must go to Dorset County Council for originally supplying the bat boxes and for allowing access for box checking. The site is a small strip of plantation conifer near the bypass, owned and managed by Dorset County Council and not within the SSSI of Upton Heath.

Last but not least a big thank you to Malc for his search and recovery skills in finding this mite and for his awesome photographs.

Jan Freeborn

Serotine Research Project

The Dorset County Council Natural Environment Team are delighted to have had research assistance from Natalie Harvey a Biodiversity Conservation master's degree student from Bournemouth University. Natalie carried out her student placement with us over the summer, based at the Dorset Environmental Records Centre and did a wonderful job at analysing bat data collated from ecological reports and biodiversity mitigation plans. Natalie focused most of her research on serotine roosts, locations and sizes, which has helped highlight the need for further research to help answer long standing questions regarding the special characteristics in these roosts' - Natural Environment Team.

Survey reports and Biodiversity Mitigation and Enhancement plans for planning applications contain a valuable source of information about protected species such as bats and the features of buildings they are found in, which can be used to investigate roost preference. Serotine were the focus of this project as they have faced widespread population declines in recent decades, attributed in part to the loss and alteration of roost conditions within roof voids. Strict mitigation guidelines must now be met before buildings used by bats are approved for renovation, however, we are interested in examining whether the current recommendations provide enough protection for vulnerable serotine.

Information regarding population size, roost type and roof void dimensions was extracted from archived biodiversity mitigation plans in which serotine presence had been recorded. This process was repeated for roosts where they were absent to enable a comparison with other bat species, and provide an idea of which features may be avoided.

A total of 85 serotine roost records were identified across Dorset between 2014-2018. The roof dimension results were the most interesting as these suggest that serotine may require building structures with a large roof void space. The average length of voids containing serotine was 10.3m compared with 6.3m for pipistrelles and 7.9m for long-eared bats, and unlike other species, serotine were not found in spaces with a void length smaller than 4m.

Several roosts were identified that would be suitable for follow-up investigation to determine whether buildings have remained favourable after structural change. We are also developing plans to obtain video recordings within a known serotine roost to learn more about how individuals use a space, and whether preferences are associated with pre-emergence behaviour.

Developing a greater knowledge of roosting preferences and species ecology could help strengthen existing protection and aid the development of future evidence-based conservation plans. We are therefore really keen to gather feedback and observations from bat enthusiasts, VBRV's and consultants so we can continue to piece together information and learn more about this species'.

Natalie Harvey

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