



However, she has now said that all of the 30 official midge traps throughout Scotland were well down on last year.

Dr Blackwell warned a warm and dry end to the summer could reverse the trend. She said: "It is one of the quietest years for midges for a very long time. The last three or four weeks in particular have seen very low numbers. It is simply the weather. The heavy rain has had quite an effect on them. Midges need a blood meal within a week or they will not survive - and the weather has made it difficult for them to get that."

**BABY BATS UNDER THREAT FROM WET WEATHER**

Calls to the national Bat Helpline are poised to reach record numbers, as an increasing number of people are finding baby bats abandoned on the ground or in their homes.



The wet weather means there are fewer insects for bats to feed on, which means they may not be able to produce milk for their babies. This can result in a higher number of bats being forced to leave their babies behind, or risk starvation.

BCT's Bat Helpline worker, Helen Miller says: "The helpline is taking a lot of calls from worried people who've found a tiny baby bat on the ground and aren't sure what to do. In this type of weather, the risk of babies being abandoned increases. In other cases, the baby can simply crawl out of the roost and fall to the ground or its mum may accidentally drop it while flying between roosts."

**BAD WEATHER AFFECTS MIDGE NUMBERS**

A leading expert on midges has said their numbers have slumped this summer due to the heavy rain meaning they cannot get a frequent supply of blood.

Earlier this year, Dr Alison Blackwell, of Edinburgh University, said it could be a bumper year for the Highland Biting Midge - *Culicoides impunctatus*.

**BARBASTELLE PROJECT POSTPONED DUE TO WEATHER**

Due to the delay in acquiring equipment and the appalling weather this year the barbastelle radio-tracking project has been delayed until 2008. This will give us the winter to prepare and plan for this labour intensive project.



**MOTHS' MIMICRY KEEPS THEM ALIVE**

In a night sky filled with hungry bats, 'tasty' moths increase their chances of survival by mimicking the sounds of their bad-tasting cousins. In response to the sonar that bats use to locate prey, Tiger Moths make ultrasonic clicks of their own. They broadcast the clicks from a paired set of structures called "tymbals". Many species of Tiger Moth use the tymbals to make specific sounds that warn the bat of their bad taste and other species make sounds that closely mimic those high-frequency sounds.

In a recent study researchers trained free-flying bats to hunt moths in view of two high-speed infrared video cameras to record predator-prey interactions that occur in fractions of a second. They also recorded the sounds emitted from each moth, as well as the sounds made by the bats. All the bats quickly learned to avoid

the noxious moths first offered to them, associating the warning sounds with bad taste. They then avoided a second sound-producing species even though it was not chemically protected. This is similar to the way birds avoid butterflies that look like the bad-tasting Monarch.

The two species of bats used were the American species of Big Brown bats (*Eptesicus fuscus*) and Red bats (*Lasiurus borealis*). These bats were raised in captivity so that behaviour learned in the wild would not influence the results of the experiment. There is anecdotal evidence that animals such as snakes, owls and bees use acoustic mimicry.



(Wake Forest University study by Jesse Barber and Prof William E. Conner – published in May 29 2007 issue of the Proceedings of the National Academy of Sciences)

Julia Waller

**LESSER-HORSESHOE EMERGENCY PART 1**

Earlier this year I received a phone call from Rod informing me that vandals had broken into the lesser-horseshoe roost near Snitterfield. As I'm sure most of you know this roost is one of only a handful we know about for this species in Warwickshire and therefore disturbance to the colony would be of particular concern.

After a quick phone call to Andrew we hurried down to the site to assess the damage. One of the bricked-up doorways had been partially demolished near the top and a rope had been suspended to aid access. On entering the building we noticed that there wasn't any evidence of recent human activity but there were the remains of a fire that had been lit some time in the past. Hopefully the darkness put the perpetrators off from exploring too far. We saw many lesser-horseshoe bats dotted around the ceilings within a few of the rooms and a lot of droppings showing just how long they'd used the site for. In addition there was a wonderful cluster of brown long-eared bats, around 8 individuals, staring down at us from a light fitting in the largest room. After checking that the roost site had not been disturbed

we quickly left to avoid causing any disturbance ourselves.



We decided that despite having no experience whatsoever of bricklaying and wall building we'd have a go at filling in the hole. A trip to Jewsons, B&Q and Tesco's (for water) provided us with the necessary equipment and mortar mix. The mortar was mixed on a nearby path (disused) and carried to the entrance in buckets.

It didn't take long to fill in the hole despite our lack of expertise and as you can see we ended up with what looked like a reasonably solid wall. We soon managed to persuade ourselves that our work was comparable to the beauty and craftsmanship of the stonework at the ancient site of Machu Picchu ☺. And we convinced ourselves that it would last as long .....



Jon Russ

LESSER HORSESHOE EMERGENCY PART 2

It started with a message on the email group from Jon Russ, to say that the temporary block work that he and Andrew

Heath had put in at the back of the roost at Snitterfield had been knocked in and could anyone repair it? I replied to say that I'd be in Leamington in the morning and could pick up materials but my bricklaying skills were negligible - I got a rather harassed Jon on his mobile as he drove through the deluge to some unknown destination. He said Marion Cornforth had volunteered her son Alistair, who has building expertise (it obviously pays to bring them up right); Marion and I agreed that Alistair and she would go and look at the site before going to buy what materials they decided were needed.

Came the night and by 11.45 the continuous rain during the day had made the river at Marton burst its banks, flooding the main road and the pub some two feet deep. One of the last cars through before the road became impassable was a neighbour who had been out to buy the last Harry Potter book. We agreed on the ending - all the characters had drowned. By morning, water in the exchange had knocked out my telephone when Marion tried to ring, and communication was somewhat erratic between the mobiles as Marion was deep in the woods, first looking for the roost, and then for how to unlock the barrier to transport materials. With flooded roads, we both had to follow fairly circuitous routes to get through to the roost, and I had to go back to get and fill a water roller to bring in the water to mix the cement (whether this was strictly necessary I'm not sure as the wood round the roost was one continuous squodge, with a cheerful little stream flowing down the path to the roost and making a scenic pool at the front of it.

By the time I arrived with the roller, Marion and Alistair had unloaded quite a lot of the materials and Alistair had decided on a plan of construction; he would lay an extra layer of blocks on their sides behind the current wall of blocks on edge, increasing the thickness of the wall from four inches to about a foot. Initially he worked from the inside, to build up the inner layer with the other two of us feeding him blocks, sand, cement and water as required; just in time he realised the necessity to escape from inside the building before he either walled himself in or was forced to damage the still-soft wall in the process of escaping. Meanwhile it had become apparent that more mortar was going to be needed and Marion went to fetch some. She returned with mortar and some delicious fajitas from Boots - Boots' culinary standards have obviously improved recently, as when I last looked their highest achievement was codliver-oil pastilles. Alistair was so overcome he managed to drop the trowel inside the wall - we had

an anxious few minutes deciding how to recover it as he is now too big for Marion to hold upside down by his ankles. However Alistair managed to drop his step-ladder inside, slide through the gap and climb down it. We thought we would run out of blocks for the last course or two but Marion managed to find two or three blocks deposited in one of the outbuildings, apparently left over from the efforts of a previous set of repairers

Sean Neill

RUGBY IN BLOOM FESTIVAL

The Rugby in Bloom Festival was held on the 31st July 2007 with the judges being flown in from Ireland. The Warwickshire Bat Group had a promotional stall at the Swift Valley Park in Newbold.



The event was televised by Sky TV Productions.



Apart from the big rush to put the stall out, we had a really good day and I have been informed that the judges were very impressed with us.

Peter Maule

BAT DETECTING WITHOUT DETECTORS

You don't always need a bat detector to find bats. Sometimes you just need to keep your eyes open.

We went to this year's Godiva festival in Coventry's Memorial Park to see The Human League who were headlining on the Friday night. OK, it was free and I was 16 in 1981 when "Don't you want me" was number one! It was a good night and was rounded off with fireworks.



The Godiva is getting pretty popular now and the organisers had arranged the car parking over the southern end of the park, lit by portable generators and lights. As we walked back towards our car, we stopped to see the spooky effect of the lights shining through some smoke left over from the earlier fireworks.

Suddenly, Julia noticed a bat circling around the stump of an old oak tree. The stump was a couple of metres high with leaves on the few remaining branches, even although the trunk was hollow and badly burned. We stopped to it flying around the trunk and between two other larger trees on either side. The bat seemed to be larger than a pipistrelle and was flying fairly level in circles around the tree. We weren't able to see any of the bat's features, such as its ears but we wondered if it might be a long eared.

It was great to just watch this bat, only a couple of metres away, while other people walked passed us to their cars, completely unaware that there was anything there.

Then the rain started and the bat was gone. We were about to go ourselves, when the rain eased off again and a bat returned. This time, however, it seemed smaller, with a more pipistrelle like flight, so maybe this is a favourite spot for several bats. The tree itself had enough hollow space for bats to use, so could even be a roost, although it was very near a path and could easily be disturbed.

Of course, having been to a gig, we didn't have a bat detector with us to help identify the bats. But it was still great to see them and a good end to the evening.

John Waller

LIFE IN THE FAST LANE

Nectar-feeding bats burn sugar faster than any other mammal on Earth – and three times faster than even top-class athletes –

ecologists have discovered. The findings, published online in the British Ecological Society's journal Functional Ecology, illustrate that because they live life on an energetic knife edge, these bats are very vulnerable to any changes in their environment that interrupt their fuel supply for even a short period.

Working with a captive breeding colony in Germany, Dr Christian Voigt of the Leibniz Institute for Zoo and Wildlife Research in Berlin and Professor John Speakman of the University of Aberdeen fed long-tongued bats (*Glossophaga soricina*) sugar labelled with non-radioactive carbon-13 and then measured the amount of carbon-13 in the bats' exhaled breath.

"We found that nectar-feeding bats made use of the sugar they were drinking for their metabolism within minutes after drinking it, and after less than half an hour they were fuelling 100% their metabolism from this source. For comparison, the highest rates reported in humans are for athletes who can fuel up to 30% of their metabolism directly from power drinks," they say.

The reason these bats live on such an energetic knife edge is down to the food source they live on and the way they get around. They feed on floral nectars that contain simple sugars such as sucrose, glucose and fructose, but which are produced in only very small amounts by flowering plants. These sugars are rapidly absorbed and digested, and by metabolising them directly – rather than converting them to fat or glycogen and then using them up later – the bats get the maximum energy they can from the sugars. This is important because they hover like humming birds, and this kind of flight uses up a great deal of energy.

According to Voigt and Speakman: "All animals need energy to power their metabolism. Ultimately this energy comes from food, but usually only a small fraction of the energy being used comes directly from the food. Normally, most of the food is converted into storage and this is drawn



on later to fuel metabolism. Small nectar-feeding bats have among the highest metabolic costs among mammals, and mostly eat a diet low in fat and protein but rich in sugars. Metabolising these sugars immediately they are consumed saves the costs of converting them to and from storage."

In a second experiment, Voigt and Speakman measured how fast the bats used their meagre fat stores. "We found the bats depleted almost 60% of their fat stores each day, but even this phenomenal rate was still barely enough to sustain their metabolism when nectar was absent. This underlines how accurately these bats must balance their energy requirements every day and how vulnerable they are to ecological perturbations that might interrupt their fuel supply for even a short period," they say.

Nectar-feeding bats live in south and central America and are among the smallest of all living mammals, weighing less than 10g. They feed at night and can ingest up to 150% of their body weight as nectar.

(C C Voigt and J R Speakman (2007). Nectar-feeding bats fuel their high metabolism directly with exogenous carbohydrates. Functional Ecology, doi: 10.1111/j.1365-2435.2007.01321.x is published online on 6 August 2007).

Julia Waller

NEW EQUIPMENT PURCHASED

The group has recently purchased two Edirol R-09 wave recording devices for use in the car survey (and other surveys). In addition, we have a new Mini-3 bat detector for bat walks and surveys and a new Visual Optics VO36-10ww Endoscope.



If you would like to use any of the equipment please get in touch with Andrew or Jon.

BATTY VITAL STATISTICS!

Don't forget to pass on all your bat sightings to George Burton, Warks Bat Group's Records Officer. Included with this newsletter is a copy of a recording form. Send your records to:

Roost Records, Melrose, North Street, Marton, Rugby, Warks, CV23 9RJ records@warksbats.co.uk

If you have access to the internet then you can enter the information directly at the Warwickshire Batgroup's website

<http://www.warksbats.co.uk>

Click on the 'record entry form' link in the menu on the left hand side of the page.

**THE 'E'- CHO**

If you would like to receive an electronic copy of the newsletter via email then let me know.....

[newsletter@warksbats.co.uk](mailto:newsletter@warksbats.co.uk)

**THE BAT-'E'-GROUP**

As well as receiving newsletters electronically, you can also take part in an email discussion group. It's completely free and only open to bat group members so if you have access to email and aren't already on the "egroup", the why not drop an email to me at:

[web@warksbats.co.uk](mailto:web@warksbats.co.uk) and we'll sign you up!

**LEARN ABOUT BAT DETECTORS**

If you want to learn all about bat detectors have a look at this recently updated site on Wikipedia:

[http://en.wikipedia.org/wiki/Bat\\_detector](http://en.wikipedia.org/wiki/Bat_detector)

There's a wealth of information about detector types and how they work.

**DIARY**

If you know of any batty events then please send us the details and then we can include them in the next issue as well as on Warks Bat Group's website: [www.warksbats.co.uk](http://www.warksbats.co.uk)

**Let's Go Batty Again  
Ryton Pools Country Park  
Saturday, 18<sup>th</sup> August 2007, 19:00**

An evening slide show followed by a nighttime stroll with local bat experts to spot the bats of Ryton. The event will finish whenever we stop spotting but you can leave whenever you wish. Meet at the Visitors Centre. Organised by Warwickshire County Council. Booking essential on 024 7630 5592  
Adults £1.50 Concessions £1.00 Family £3.50

**Bat Night  
Kingsbury Water Park  
Wednesday, 22 August 2007, 20:00 - 22:00**

Find out about bats. A short talk followed by hot jacket spuds in The Old Barn

Coffee Shop, then a walk to detect some bats! Bring a torch. Meet at the Information Centre. Organised by Warwickshire Country Parks. Booking essential: 01827 872660. Cost: (includes food, drinks extra): Adults £5.00, Under 16s £4.50 (costs to be confirmed)

**Bat Walk  
Babbs Mill Local Nature Reserve  
Thursday, 23<sup>rd</sup> August 2007**

Find out how to track down this quiet nocturnal creature with the help of our experts. A great opportunity to see bats in their natural environment. Starting from the boat house car park. Organised by Solihull Council 0121 704 8000  
Free

**Lets go Batty!!!  
Bedworthy Sloughs  
Friday, 24 August 2007, 20:30**

Join enthusiasts from Warwickshire Bat Group, and first timers alike, on this dusk and evening meander in search of our little ultrasonic friends! Keep your eyes peeled! This is one of our most popular events so booking is essential. Please bring a torch if you have one. Meet at Bedworth Sloughs, entrance adjacent to 225 Newtown Road, Bedworth. Organised by Nuneaton and Bedworth Borough Council Natural Environment Team 024 7637 6053

**Bat Walk  
Ragley Hall  
Friday, 24<sup>th</sup> August 2007, 19:30**

A presentation on bats in the UK and Ragley, followed by a barbecue and a bat walk around the grounds. There will be an opportunity to see bats emerging from their roost at the start of the walk. Advanced booking essential, Tel: 0800 093 0290, <http://www.ragleyhall.com>. Cost to be confirmed.

**Bat Walk  
Elmdon Park  
Thursday, 30<sup>th</sup> August 2007, 20:00 – 22:00**

If you have never been on a bat walk before join us for a bird's eye view of this nocturnal creature right in your local park. Organised by Solihull Council 0121 704 8000  
Free

**National Bat Conference  
University of York  
31st August to 2nd September 2007**

Download a booking form from [http://www.bats.org.uk/news\\_events/documents/Finalconferenceprogramme.pdf](http://www.bats.org.uk/news_events/documents/Finalconferenceprogramme.pdf) or contact BCT (020 7627 2629)

**Bat Walk  
Charlecote Park (National Trust)  
Friday, 07 September 2007, 19:30 - 21:00**

Join us to find out more about these fantastic creatures. Led by John Waller of Warwickshire bat group. Organised by The National Trust, Charlecote Park. Advanced booking essential, contact 0778 865 8495. £3 per person (to be confirmed)



**Bat Walk  
Ragley Hall  
Friday, 28<sup>th</sup> September 2007, 19:30**

A presentation on bats in the UK and Ragley, followed by a barbecue and a bat walk around the grounds. There will be an opportunity to see bats emerging from their roost at the start of the walk. Advanced booking essential, Tel: 0800 093 0290, <http://www.ragleyhall.com>. Cost to be confirmed.

**Bat Group Meeting  
Tbc  
Monday, 29<sup>th</sup> October 2007**

The next issue of the Echo is out on 15<sup>th</sup> November 2007. The deadline for articles is 1<sup>st</sup> November 2007. If you have any batty stories, anecdotes, interesting articles or research news then please send us the details so we can include them in the next newsletter.