



A MESSAGE FROM YOUR EDITOR

Welcome to the next edition of the Echo and a new editor. I have taken over the reins from Rob Hunter and firstly must thank him for all the hard work he put into its publication. I am also grateful to all the people who have submitted articles for this issue. I would encourage all of you to share your batty experiences by writing as little or as much as you wish for the newsletter. You don't have to be a bat expert to chip in. Also, if you would like to receive an electronic copy in via email then let me know. The advantage of receiving it this way is that it will be in colour, it will contain clickable hyperlinks to websites and it will save the bat group some money on photocopying and postage. If you would like to receive it this way or you have any questions then email me at newsletter@warksbats.co.uk

You would be sent it as an email attachment in Acrobat Reader format, otherwise known as a pdf file. This is a well-known standard format for downloading a file over the internet and the software you need is free. You may already have it on your computer but if not then go to the Adobe webpages and download a copy:

<http://www.adobe.com/products/acrobat/readstep2.html>

Julia Waller

BAT BOXES AT BRANDON

As we were at Brandon Marsh for their "Animal Magic" day (25th. April) we took the chance to do an early check on the bat boxes there. They'd not been up very long and the weather up to then hadn't been promising, so it was no surprise to find no bats in residence & no trace of droppings. The interesting thing was, apart from one or two exotic looking spiders there was very little life of any kind yet moved in (none of the usual earwigs, slugs, woodlice, HORNETS). However, on the Brandon bat walk last Friday [14th May], there was in the end quite a bit of bat activity. All the bats were

comparatively late arriving, but 45 and 55 Pips were observed, an unspecified *Myotis* (probably Whiskered/Brandt's), a Brown Long-eared was definitely detected though hardly seen, and Noctules heard passing some way off. A Daubenton was heard over the opposite side of the Goose Pool to the path, but would not come within range of a torch.



A lot of this activity was around the New Hare Covert, so hopefully some of the bats might find the boxes in there and decide they're desirable residences. A fair few were following the path back up to the Goose Pool, so they might find the boxes there. When the next batch of boxes are ready, they will probably be going in the Old Hare Covert and over the back of the reserve near the River Avon.

Dot & Rob

www.warwickshire-wildlife-trust.org.uk
www.brandonbirding.co.uk

NEW BOOKS

Both these reviews were first published in "Conservation Biology".

Bat Ecology
Edited by T.H.Kunz and M.B.Fenton.
The University of Chicago Press 2003
ISBN 0 226 46206 4 (hbk) 779 pp \$55.00
£38.50 from www.amazon.co.uk
(with free postage)

This book provides a very useful overview of recent developments in the field of bat ecology. Research in bat ecology has progressed on so many fronts in recent years that this book is very timely. In it, leading authorities in their fields have the opportunity to update the reader and draw on the wealth of published findings.

The fifteen chapters have been placed under three main headings representing key themes. The first five chapters are on the theme of Life History and Social Biology and include chapters on roosting, the senses and communication, sexual selection and

migration. Each chapter contains details of the remarkable diversity of ecological strategies evolved by this, the second largest order of mammals. The first chapter, for instance, describes the wide range of roosting cavities exploited by bats, including tree holes, exfoliating bark and the remarkable ability of some species to construct tents from tropical foliage, as well as the morphological adaptations associated with different roosting strategies.

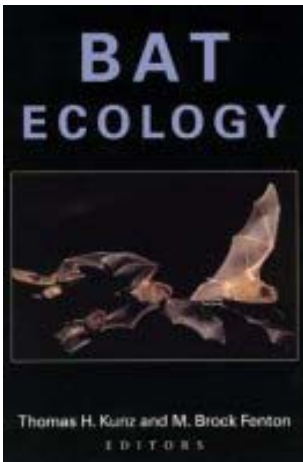
The second major theme for the chapters is Functional Ecology. These chapters cover subjects such as ecomorphology; the predator-prey interactions between echolocating bats and insects; the role of some New World bats in pollination; frugivory and physiological ecology and energetics. In chapter seven the remarkable arms race between echolocating bats and their insect prey is considered in detail while chapter eight considers the evolutionary relationship between bats and the flowers they pollinate.

The final five chapters are grouped under the theme of Macroecology. These chapters focus on topics such as the evolution of ecological diversity, niche partitioning, range size and body size, and viral infections. The final chapter is devoted to conservation ecology and considers the conservation status of bats, threats to populations, the ecological requirements of bats and the development of conservation approaches. Such are the threats to bat populations, that several of the earlier chapters also consider the implications of their topic for the conservation of bats.

The book is edited by two of the leading authorities from North America, but there are contributions from key researchers in Europe and Australia as well as the USA and Canada. In total, the

book lists thirty contributing authors. Each chapter is rich in detail and draws on a wealth of recent, often very innovative research. Many informative diagrams, tables and black and white photographs are used to illustrate the chapters. Literature citations are given at the end of each chapter and in themselves represent a valuable resource for anyone involved in or intending to embark on research in bat ecology.

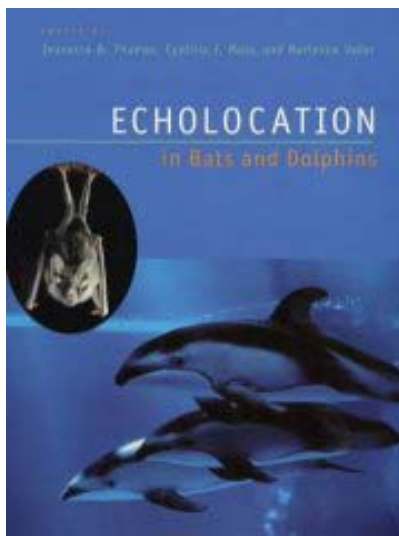
This is an academic book, but it is very well written and organised. It will be essential reading for anyone with a serious interest in bat ecology, but will also be a very useful book for readers with a wider interest in animal ecology and conservation.



Echolocation in Bats and Dolphins

Edited by J.A.Thomas, C.F.Moss & M.Vater.
University of Chicago Press 2004. ISBN 0-226-79599-3 (pbk). 604 pp. Price: \$45.00
£31.50 from www.amazon.co.uk
(with free postage)

Although they belong to very different mammalian orders, bats and dolphins have independently evolved the ability to navigate and hunt using echolocation. This remarkable ability has been the focus of much interest and research effort in recent decades, but by two separate camps, one interested in what bats can do with sound, the other concerned with the abilities of dolphins and porpoises. This book was born out of a Biosonar Conference held in 1998, and in it the editors have assembled an impressive cast of authors from both camps.



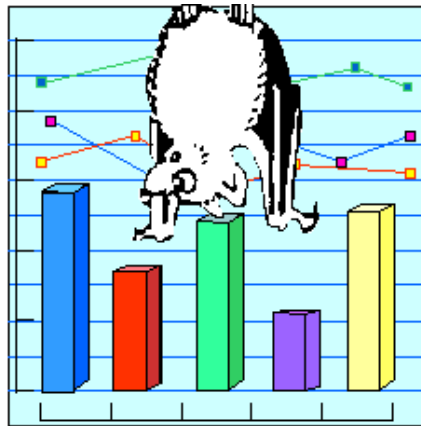
The book is divided into six parts and seventy-three chapters. The first part is concerned with how animals produce echolocation signals and the nature of the sounds. Eight of the eleven chapters in this section concern dolphins and porpoises. The next, much longer part looks at the auditory systems that enable the animals to make use of the echoes from their signals. The majority of chapters in this part concern bats, with a range of chapters on subject such as cochlear anatomy and neural processing. In the third part, authors consider the cognitive and perceptive abilities shown by echolocating mammals and part four puts echolocation in an ecological and evolutionary perspective. The science and technology involved in and emerging from echolocation research provides the theme for the fifth part. The final part contains five chapters that examine the evidence for echolocation abilities in other groups of mammals.

The book is well supplied with graphs, diagrams and black and white photographs. Extensive literature citations are given at the end of each of the six parts and will be an invaluable resource

for anyone involved in or intending to embark on research into echolocation. It will be a vital book for anyone studying echolocation, from any perspective, including engineers. Although it is an academic book, there is plenty here to fascinate more general readers with a serious interest in mammals, evolutionary ecology or biophysics.

Paul Elliott

WANTED - '45' RECORDS!



Well, in fact George Burton our Records Officer would love to have your 55's, 80's or even 108's. No, they're not black plastic things. I'm referring, of course, to bat records. (Soprano Pip, Greater and Lesser Horseshoe peak frequencies for the bat nerds among you).

You should have received a copy of the new recording form with the last newsletter. Now that George's computer is up and running again (thanks John ☺) he is poised ready for the flood of data to pour in. If you haven't got a copy of the new form then let him know and I'm sure he'll be eager to let you have one:

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 details of your records online at the Warwickshire Batgroup's website (www.warksbats.co.uk).

IGHTHAM MOTE HOUSE

Some bats in Kent must have expensive tastes, for they have taken up residence in "The £10 Million House". Actually, this was the title of a Time Team programme aired on 3 May 2004.

As many of you will already know, "Time Team" is the title of an archaeological series on Channel 4 television. In this programme they were following the very end of the restoration of Ightham Mote House near Sevenoaks in Kent. The ten million pound figure is the cost of restoring the house completely from top to bottom.

The house is owned by the National Trust and dates from 1330 but has been extended and altered down the centuries. It is Grade 1 listed building as well as being a Scheduled Ancient Monument and is "the most complete small medieval manor house in the country." The last part of the house to be renovated was the South West Quarter and work was delayed when they found a colony of bats roosting in the roof and behind some wooden panels.

www.nationaltrust.org.uk/places/ighthammote

www.adanor.co.uk/ighthammote.html



Interestingly, GE Geotechnics a company from Cambridge, used impulse radar equipment to determine the condition of external stonework and to plot the extent of voids or cavities before remedial work. The pulse radar equipment, works in a similar way to bat sonar, sending out pulses of high frequency radio energy that passes through the stone and bounces back from the far side. The time it takes for the signal to pass through each stone is measured and the information analysed from a paper printout. This shows the thickness of the stone, and, by interpretation, cracks, voids or moisture within the wall.



However, it seems that even the managers at such a prestigious site were unaware of their legal duties under the law: "The bats at Ightham Mote were well known and, as far as we at the property were concerned, well looked after. Our extensive repairs and restoration, involving re-roofing, were done with bats

in mind. However, we were unaware of the need for a Development Licence from DEFRA. As a result we incurred costs associated with mitigation for the bats (including the cost of delay and bat consultants' fees) of £50,000 on top of the £2 million project. Had we commissioned the licence application at the outset, mitigation for bats would have cost much less. We would encourage you to learn from this experience and check before beginning building work whether or not a DEFRA/NAW licence is needed.” (Bernadette Gillow, Property Manager)

BATS & WIND TURBINES

The [Bat Conservation Trust](#) has issued the following *Position Statement* about bats and wind turbines...



“The discovery of dead bats and birds underneath *wind* turbines in the US and mainland Europe has led to concerns that research into the siting of these structures is not sufficiently rigorous, and that some have been put up on migration routes of bats and birds.

A major problem seems to be locating wind farms in the middle of bat migration routes. This may not be as much of an issue in the UK as most native species do not migrate in the same way as species found in the US and mainland Europe (except for the Nathusius's pipistrelle), but turbine location is nonetheless a concern.

The Bat Conservation Trust (BCT) supports the development of sustainable energy but, in line with the recent Eurobats resolution, stresses that it is imperative that the possible harmful effects on bats and other wildlife (both direct and indirect) are taken into account before deciding on the place for siting wind turbines.

BCT would like to see monitoring carried out at existing wind turbine sites. We would also urge planning authorities to make full impact assessments of the potential effect

on bats, followed by post-installation monitoring. We would welcome government funding into a study similar to that carried out in the US to monitor the effect of wind turbines on bats.”

DUCK - IT'S A BAT!

To avoid attack by a bat, one of its main nocturnal predators, a praying mantis manoeuvres like a fighter pilot in aerial combat.

“Fighter pilots and mantises have evolved the same strategy—and that fact speaks to its strength,” says David Yager, a neuroscientist at the University of Maryland, in College Park, whose laboratory studies the interactions of predator and prey. Under attack by a bat, a praying mantis suddenly dives straight toward the ground. To illustrate the defensive manoeuvre for his students, Yager shows a clip from “Top Gun.”

Implanted electrodes allow researchers to hear what the praying mantis hears as the bat approaches the insect. Just before the bat is due to snatch the insect from the air, the mantis initiates a sudden dive toward the ground, similar to those of fighter jet pilots.

The airborne combat between bat and mantis is primal. The large slender carnivorous insect, with its two grasping legs, freely moving head and bulbous eyes, relies on its own ultrasound detector to warn of bat attacks.

The praying mantis' ultrasonic hearing picks up frequencies above 20,000 hertz

- just beyond the range of humans - through a single ear located in the centre of its chest. At the last instant before the bat snatches the insect out of the air, the mantis goes into what Yager calls a “power dive” - heading straight for the ground.

When they hear a bat they keep flying, but they fly in a sudden downward spiral that helps them avoid capture,” Yager says. The power dive results in a safe getaway about 80 percent of the time. Many

other insects - including grasshoppers, green lacewings and tiger beetles - have

evolved a bat countermeasure: “the bat sensitive ear,” as researchers say.

The attack sequence of ultrasonic cries that the bat emits is very complex, Yager says. He was intrigued by the mantis' ability to gauge the precise moment of attack—and then to dodge. Yager wanted to “get inside the animal's

head and hear what the mantis hears,” he says.

The team has also found that 300 milliseconds before the bat hits the mantis, the insect's auditory nerve goes completely dead. “This is the time you would expect the nerve to be going crazy,” says Yager. He suspects that the nerve shuts down immediately after triggering the dive response. As the mantis enters the dive, its visual system, or possibly its minuscule hairs that serve as wind detectors, may influence adjustments to the dive that the scientists call ‘last chance

manoeuvres’.

www.bsos.umd.edu/cebh/yagerlab/

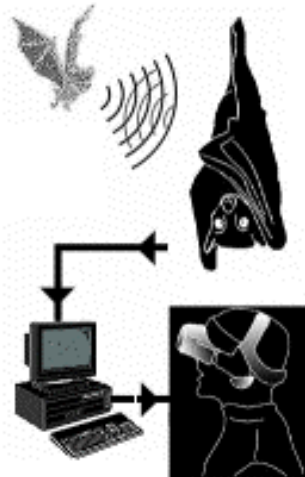


“DARKER THAN NIGHT”

This was the title of an artwork by Eduardo Kac which back in the summer of 1999. In this interactive piece, visitors to Blijdorp Zoo in Rotterdam donned a virtual reality headset to take the place of a robotic bat (batbot) that shares a cave of over 300 Egyptian Fruit bats. The cave was in darkness and measured 15 m in diameter by 20 metres high. To see the bats the public peered through a window.

Batbot continuously swept through the space with its ultrasonic emissions. It contained a small sonar unit inside it's head, a frequency converter to transform bat echolocation calls into audible sounds, and a motorized neck which enabled it's head to spin.

The sonar unit scanned the space at 45KHz and is wired to a computer taking in data and providing video. With the headset on, the viewer's sight was transformed into the point of view of the batbot's sonar. The viewer saw a series of real-time kinetic white dots against a black background. The white dots represented obstacles encountered by the batbot's sonar. As the bats flew through the space, the white dots changed constantly.



DIARY

Bat Walk @ Charlecote Park

Friday, 4 June 2004 21:30 - 23:00
Join us to find out more about these fantastic creatures. Led by John Waller of Warwickshire bat group. Organised by The National Trust, Advanced booking essential on 0778 865 8495. £3 per person (to be confirmed).

Bat Walk @ Draycote Water

Friday, 04 June 2004 20:00-23:00
Crazy about bats? Then join our local bat experts for the first in our season of fascinating walks and talks about our nocturnal friends. Bring a small torch and please wear sensible outdoor clothing. Suitable for children over 8 years of age. Meet in Rangers Office at 8pm. Finish approx. 11pm. Cost £2 per person. Booking essential on 01788 811107.

Wildlife Photo And Bird Fair, Brandon Marsh Nature Centre

Sat, 05 June - Sun, 06 June 2004
The Bat Group will have a stall at this event.

Bat Walk @ Charlecote Park

Saturday, 05 June 2004 21:30 - 23:00
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 @ Brandon Marsh Nature Centre

Friday, 11 June 2004 21:00

Bat Box Check Abbey Fields, Kenilworth

Saturday, 12 June 2004 10:00
Meet in the car park off Bridge Street.

“Summer Solstice Dawns” Stratford-upon-Avon Greenway

Sat, 12 June 23:59 - Sun, 13 June 05:00
An 8 mile overnight walk to experience wildlife at night and witness the dawn on nearly the longest day of the year. Meet at the Stratford end car park of The Greenway. Bring a torch. (This is not strictly a bat event, but you may well see bats!) Organised by Warwickshire County Council. Booking essential on 01827 872660. Adults £1.50, Concessions £1.00, Family £3.50

WBG Informal Bat Walk, Brueton Park, Solihull

Friday, 18 June 2004 21:30
A chance for members to get together and look for bats in Brueton Park.

“Bonkers about Bats!” Coombe Country Park

Saturday, 19 June 2004 21:00 - 22:30
Enjoy an evening walk trying to spot our nocturnal furry friends as they fly around the park. Organised by Coombe Country Park Rangers. Book in advance on 024 7645 3720. £1.50 adults, £1 children and PTLL.

Bat Walk @ Windmill Hill, Nuneaton

Saturday, 19 June 2004 21:15
John Waller of Warwickshire bat group is leading a bat walk. Organised by Nuneaton and Bedworth Borough Council. Places must be

booked in advance on 024 7637 6494 or 024 7637 6557

Warks Batgroup Informal Bat Walk, Kenilworth Common

Friday, 25 June 2004 21:30
A chance for members to get together and look for bats on Kenilworth Common. The walk will be led by Paul Elliott. We saw an interesting, unidentified Myotis last time we did a walk there and there is the added attraction of glowworms. Meet at the entrance near the top of Common Lane on the northern side of the common.

National Trust Wildlife Day Upton House

Sunday, 04 July 2004
The Bat Group will have a stall at this event.

“Moths and Glowworms”

Stratford-upon-Avon Greenway
Saturday, 10 July 2004 22:00 - 23:59
Meet a local expert and the amazingly colourful moths of Warwickshire and, if we are lucky, the unusual glowworm. Also, have a go at bat detecting. Meet at the Milcote Picnic Area car park (between Clifford Chambers and Welford). Bring a torch. (This is not exclusively a bat event!) Organised by Warwickshire County Council. Adults £1.50, Concessions £1.00, Family £3.50

Bat Walk @ Dorridge Park

Friday, 30 July 2004 20:00
Learn more about these nocturnal creatures living on your doorstep, with expert tuition thrown in. This is a free event and families are welcome. Organised by Solihull Metropolitan Council.

“Bangers and Bats”

National Herb Centre
Friday, 30 July 2004 19:30
Sausage and mash supper in the Bistro followed by ‘bat detecting’ in our woods. Book early - these are always a sell out. Booking essential on 01295 690999. £9.50 adult (£8.00 NHC member), £6.00 child.

The Whitacres & Shustoke Annual Show, Blythe Hall, Coleshill

Saturday, 31 July 2004 12:00 - 17:30
Features including the Famous Warwickshire Bat Group Travelling Bat Info Stall!

“Let’s Go Batty!”

Ryton Pools Country Park
Friday, 06 August 2004 20:30
A night time stroll around with bat experts to spot these night time creatures. We will finish when we stop spotting but you can leave whenever you wish. Why not have dinner in our new cafe before we set out? Meet at the Visitor Centre. Organised by Warwickshire County Council. Booking essential on 024 7630 5592. Adults £1.50, Concessions £1.00, Family £3.50 (Food not included).

“Bangers and Bats”

National Herb Centre
Friday, 13 August 2004 19:30
Sausage and mash supper in the Bistro followed by ‘bat detecting’ in our woods. Book early - these are always a sell out. Booking essential on 01295 690999. £9.50 adult (£8.00 NHC member), £6.00 child.

“Woodland Day”

Draycote Water Country Park
Sunday, 15 August 2004
The Bat Group will have a stall at this event.

“Go Batty!”

Kingsbury Water Park”
Wed, 18 August 2004 10:00 - 12:00
Come along and learn about bats, play batty games and create batty things to take home! An event especially for children. Meet at the Information Centre. Children must be accompanied by an adult. Organised by Warwickshire County Council. Booking essential on 01827 872660 £2.50 per child.

Bat Night @ Kingsbury Water Park

Wed, 18 August 2004 19:30 - 22:00
Come and find out about these fascinating creatures. A short talk followed by hot jacket spuds in The Old Barn Coffee Shop, then a walk to detect some bats. Meet at the Information Centre. Organised by Warwickshire Country Parks and Warwickshire Mammal Group. Booking essential: 01827 872660. Cost: (includes food): Adults £3.80, under 16s £3.30

Bat Walk @ Draycote Water Country Park

Friday, 20 August 2004 (Time tba)

Bat Walk @ Brandon Marsh Nature Centre

Saturday, 21 August 2004 19:45

“Batty Homes”

Ryton Pools Country Park
Sunday, 22 August 2004 14:00 - 16:00
Make a box for your local bats; they will welcome somewhere to roost. Information will also be available for you to take away. Meet at the Visitors Centre. Organised by Warwickshire County Council. Booking essential on 024 7630 5592 £2.50 per box.

Bat Walk @ Charlecote Park

Fri, 10 September 2004 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).

“Moths and Bats”

Pooley Country Park & Heritage Centre
Fri, 10 September 2004 19:30 - 21:30
Search the darkness for the beautiful moths that inhabit this site and use a bat detector to determine the hiding places for these nocturnal creatures. Please bring a torch. Meet at the Visitors Centre. Organised by Warks County Council. Booking essential on 01827 897438 or 07990 58506. £2.50 per person (includes tea and biscuits).

National Bat Conference 2004 University of Reading

Fri, 17 - Sun, 19 September 2004

The next issue of the Echo is out on 1st September. Deadline for entries is 25th August.