

# The Norfolk Natterer

Spring 1996

Newsletter of the Norfolk Bat Group

## Contents

- ≪ [Letter from the editors](#)
- ≪ [Co-ordinators chatter](#)
- ≪ [Common or rare?](#)
- ≪ [Energy efficiency](#)
- ≪ [Parti-Coloured Bat sighted](#)
- ≪ [X-Ray Echolocation](#)
- ≪ [Beating th "echo"](#)
- ≪ [The Late F. J. \(JIM\) Taylor Page 1909 - 1995](#)
- ≪ [English Nature Report - Peter Spencer](#)
- ≪ [Bat Detector](#)
- ≪ [Whitlingham Lane Lime Kiln](#)
- ≪ [Bats in Bat Boxes at Thetford Forest](#)
- ≪ [The Bats of Little England](#)
- ≪ [Bat Boxes at Bacton](#)
- ≪ [Eaton Lime Kiln](#)
- ≪ [Disclaimer](#)

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The Norfolk Natterer is the occasional newsletter of The Norfolk Bat Group. The Norfolk Bat Group is a specialist study group within the Norfolk and Norwich Naturalists Society.

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## Letter from the Editors

Anything Batty! Any contributions, gossip or articles would be greatly appreciated by the Editors, virtually any medium accepted.

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## Co-ordinators Chatter.

An unfortunately long period of time has again elapsed since the last newsletter - in fact some 15 months since the Autumn 1994 edition hit the streets. This is not an indication of inactivity, but more of a measure of how busy we all are, and there never seems to be enough time to write up all that is happening as well as doing it! I know the full distribution list did not get used last time, so if you did not receive the last edition, there are still copies left for anyone who cares to send in a large, stamped, self addressed envelope.

Projects tackled in 1995 have included renovations at a lime kiln bat hibernation site at Eaton, as well as repairs around the main chalk cave grille. Our thanks are extended to English Nature for providing grant money for most of that work. We must also extend our thanks to them for funding most of the work on the Bayfield Hall river tunnel hibernation site last summer. In fact, funds to carry out substantial bat-works on the scale we were able to in the early 1990s, with the generous help of the Vincent Wildlife Trust, are now very hard to come by. Even a very thorough and carefully worked submission to "Anglian Water" - entitled, appropriately enough, "The Anglian Water Bat Project", which was for funds to protect or enhance some of the best breeding and hibernating sites of Daubenton (or Water Bat), was completely rejected.

So what is planned for the future? Those with a current bat licence, and who keep in regular touch, will know that we produce a work-schedule for the coming year, with target times for completing various works and an assessment of what was (and was not) completed in the previous year. The current one is being put together, so if you have a bat project in mind that you would like to see tackled under the auspices of The Norfolk Bat Group, then do let us know. Apart from that we hope to continue with the usual fare of general bat recording; bat box checks; developing successful summer breeding boxes; assisting English Nature with their enquiries; winter hibernation site monitoring; further development work with Bat-zzz-Bricks and associated clay bat-niches, plus as much practical bat site conservation work as possible.

We are also repeating the questionnaire with this newsletter, to give us a more up-to-date indication of your views. Please spare a few minutes to fill one in and return it as soon as is convenient.

This cold winter has been an interesting one for recording hibernating bats, with record numbers at many sites. One lime kiln contained 27 bats of 3 species, an ice house with 38 bats of 2 species, while Tony Vine and Maurice Webber have recorded a new high of 75 bats in our best Norfolk site, in the Stanford Battle area chalk tunnels. It has certainly been "The Winter of the Barbastelle" for

those licensed bat-workers who have been lucky enough not to be tied to desks piled high with papers!! Two were found in the Thetford Forest tunnel, four in our Norfolk Wildlife Trust site, five in a Suffolk chalk tunnel and singles in several other localities. This is really splendid!

We hear that Tony Smith's attempts to form some kind of splinter-group in the King's Lynn area have not surprisingly, foundered. While we appreciate his considerable enthusiasm, why don't we now all try to work *together* better and harder, for the good of bat conservation in the county?

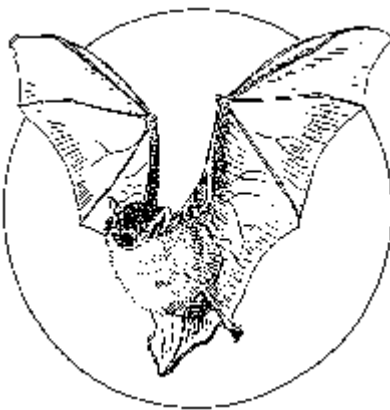
*John Goldsmith February 1996*

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## Common or Rare?

One of life's little anomalies is that we typically assess the rarity of a given plant or animal by how often we see it. This subjective assessment will not always give us the correct answer for relative frequency, simply because some animals hide away better than others!

This applies particularly to bats. Although the Pipistrelle is by far and away our most commonly seen bat during the summer months, with over 90% of all sightings attributable to this species (except perhaps in well-forested areas, such as Thetford, where Brown Long-eared may predominate) this is not the case during the winter. With almost every other parish in the county currently having a maternity colony averaging say 40 - 70 females, with many Broadland and river valley parishes having between 100 and 250 per parish, by the time we add the males and juveniles of the year we have a county population running into thousands.



How many do we see in the winter? Very few! I would be very hard pressed to name more than a handful of wintering locations for the species - or at least ones where they can be actually seen and counted. We have often guessed at where the majority hibernate in East Anglia - deep into the brickwork and flints of cold buildings such as barns and churches, but we don't know for certain. One of these known sites is a sheltered crack between the woodwork and the stone in Seething parish church porch. I counted the Pipistrelles visible here every other week during the 1994/5 winter, and the fluctuating numbers are shown in the histogram. Some kind of endoscope or fibre-optic instrument would probably enable more animals to be seen, but we do not at present have access to this kind of equipment. Does anyone reading this article have access to an

instrument that might be made available to the group?

*JGG*

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## Energy Efficiency

The echolocation pulse used by bats is apparently very demanding in terms of energy. The intense pulses used to locate prey are generated in time with the wing beats which allegedly makes an overall saving in energy. Once prey has been located a series of lower intensity pulses are generated to home in on it.

*Source: London Journal Dec '94.*

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## Parti-coloured Bat sighted

In October 1994, a healthy adult female Parti-coloured bat was found in a block of flats in Ilford, Essex. This is only the third recorded on the British mainland this century and it is believed that it arrived here due to "unusual weather conditions". The Parti-coloured bat, so called because of its frosted black fur and cream underbelly, is from north-eastern Europe and is known to migrate to Switzerland and eastern France for the winter. According to Colin Catto, scientific officer for the Bat Conservation Trust, bat migration is still unexplained. Species that can only see a few feet using echolocation somehow manage to travel hundreds of miles, returning to the same winter roost year after year.

*Source: BBC Wildlife Dec '94*

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## X-ray Echolocation

Did you know that toothed whales use a similar echolocation system to bats, but sound travelling in water is reflected only by bones or other hard tissues of animals. Echolocation therefore, gives whales an 'X-ray' image of their surroundings.

*Source: BBC Wildlife Dec '94*

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## Beating the 'Echo'

Some moths and lacewings have evolved hearing organs which are sensitive to the frequency range of bat echolocation, this is so that they can hear their predators coming.

Some members of the Tiger Moth family have taken bat defence a step further. Under attack from a bat they emit high frequency clicks which cause the bat to abandon its attack. Exactly how the Tiger Moth's clicking discourages bats has been a matter of discussion for many years. Two broad theories have been put forward.

1. The clicks warn that the moth is in some way noxious, just as a wasp's stripes warn predators of its sting.
2. The clicks in some way jam the bat's sonar.

Previous study has tended to favour the first theory, but a recent study by Dr. James Fullard and colleagues provides strong evidence for the jamming hypothesis.

As the big brown bat from America moves from searching for prey to homing in on a potential victim, its echolocation signals change. In search mode, the echolocation pulses are drawn out and relatively infrequent, but as the bat detects and pursues a potential target the pulses get shorter, and faster. Dr Fullard and his colleagues played recordings of the big brown bat's sequence of search and attack calls to Dogbane Tiger Moths. Their aim was to determine at what point the Tiger Moth emitted its clicks. If the moth responded as early as possible it clearly intended to be identified, if it merely intended to disrupt the bat's echolocation signal it would wait as long as possible to cause the maximum confusion.

In all cases the moths did not begin to click until the very last moments of the attack. Furthermore, Dr Fuller and colleagues point out that the moth's clicks would seem to mimic the echoes of the bats calls, not the calls themselves.

*Source: BBC Wildlife Dec '94*

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## The late F. J. Taylor Page 1909 - 1995

The news that Jim Taylor Page had passed away in his Cumbrian retirement town at the age of 86, on November 8th 1995 came as very sad news.

It was he who had breathed new life into the Norfolk and Norwich Naturalists' Society during the 1950s, started off the Norfolk Mammal Report, founded the British Deer Society and tried to teach me biology at the City of Norwich School in the 1960s, amongst a thousand other important tasks during his busy life.

It was he who introduced me to the world of British bats and the chalk tunnels they hibernate in, over thirty years ago. I had kept in touch with him when he left Norwich, through his period teaching at Brighton, then on to Hay Bridge Deer Museum and then his Field Study Centre at Askham in the Lake District. We last saw him on a bright and sunny June day in his Penrith retirement home last summer, on our way up to Scotland. The twinkle in his eye still burned brightly, though we knew he had been rather unwell for a while. His enthusiasm of the day after recounting some of his recent cruise adventures, was "A Book of Five Pages" - his family history and autobiography, which was well underway.

Who can remember the distribution of Dandelions on their school playing field from thirty years previously? He could; plus a million other facts! We really shall miss him deeply, but remember him fondly.

*John and Sue Goldsmith.*

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## English Nature Report - Peter Spencer

Peter reports that the 1995 "Pip" season was relatively quiet in comparison to previous seasons. It is currently difficult to tell whether this was due to the exceptional summer or not.

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## Bat Detector

This article shows you how to adapt a radio into a tuneable detector over the range 25Khz to 60Khz.

### Parts Required:

- ✂ Radio - realistic Model 12-9462 - Tandy
- ✂ Ultrasonic detector - available from Maplin or Tandy
- ✂ Fixed inductor - Toko part no. 181LY-123J available from Cirkit distribution, stock no 34-12302
- ✂ 220pF Capacitor

≈ 180pF capacitor

## Procedure

1. Remove the casing retaining screw - rear centre.
2. Prise case apart.
3. Remove the circuit board retaining screw and ease out the circuit board.
4. Remove aerial coil assembly completely, cutting off the three wires close to the coil. The wires coated red and green need to be retained, and the third uncoloured wire may be cut off at the tuning capacitor.
5. Remove C6 (see fig. 1) and fit the 220pF and 180pF capacitors as shown. It is necessary to remove the tuning wheel to gain access to the underside of the circuit board. [Fig. 1](#)
6. Stick the fixed inductor into the radio case using superglue, leaving its legs pointing upwards, and connect the ultrasonic detector as shown using two short pieces of thin insulated cable soldered to the terminals of the components.
7. Solder the two aerial wires (red and green stained) to the fixed inductor terminals. If the end result is very noisy, you might find that reversing the red and green wires improves the noise.
8. For the final tuning stage you will need to improvise the battery connections or drill a hole in the case to allow access to the red tuning coil.

## Tuning.

1. Set the tuning dial to 4.5 on the centre scale (0-10) to represent 45kHz.
2. Point the detector towards a TV (switched on) and tune the red coil until the detector is picking up the line frequency (3x15.6 is approx. 45kHz).
3. The centre scale will then very closely represent 0 to 100kHz and your detector should be quite sensitive in the range 25 to 60kHz.

*Reproduced by kind permission of Frank Jones, 39 Coppull Hall Lane. Coppull, Chorley, Lancashire, PR7 4PP.*

## Whitlingham Lane Lime Kiln.

The disused lime kiln at Whitlingham Lane was built in the last century, in a style unique to East Anglia. Lime had an important role in the local economy, as it was used in large quantities for improving farmland and for lime mortar. The kiln now has an important new role providing a safer home for hibernating and roosting bats. The most frequent inhabitants are Daubenton, Natterers and Brown Long-eared Bats. They are very vulnerable to disturbance, so the door has been designed to allow only bats in. This project is part of the Norwich Fringe Project.



### BAT-ZZZ-BRICK

*drawn by Sue White*

Peter Bush writes: -

"I became Countryside Warden for Whitlingham Country Park in August 1994 with a slight interest in bats which was soon to be boosted by a meeting with John Goldsmith at Whitlingham Wood"

"With the creation of Whitlingham Country Park came the formal protection of two bat roosts, both of which I now responsibility for. Unfortunately one of the Whitlingham Wood lime kilns had collapsed, but the second has been restored (almost too well from a bat's point of view) and had been fitted with a solid door complete with bat access grille."

"That first winter we visited the kiln three times and recorded the following:"

1994/95

9/11 - Daubenton 4 (3 in bat bricks, one in central shaft).

25/1 - Daubenton 5 (2 in bat bricks, 2 in roof cracks, 1 in central shaft).

21/2 - Daubenton 4, Natterers 2 (positions not recorded).

"During the autumn some modifications were carried out to improve the door locks, and several Ivy plants were planted to conceal an adjacent concrete block wall."

"This winter we have also visited three times recording the following:"

1995/96

12/10 - Daubenton 4 (all in bat bricks).

7/12 - Daubenton 8, Natterers 3 (9 in bat bricks).

2/2 - Brown Long-eared 1 (bat brick). Daubenton 6 (1 in brick work, 5 in bat bricks), Natterers 5 (3 in bat bricks, 1 in roof crevice, 1 under loose bricks), total 12.



"Although this winter has been colder, it seems as though the increased security of the kiln is having a positive result, and the success of the Norfolk Bat Brick speaks for itself! Thanks must go to John Goldsmith and Tony Tilford for their help in improving security."

"The second site that I am responsible for is a redundant railway tunnel (the only one in Norfolk) at Trowse Meadow. This site had held up to 9 bats of 3 species (Daubenton, Natterers and Brown Long-eared). Unfortunately in 1987 it became illegally blocked after work carried out by Anglian Water. It was dug out and grilled in May 1993 when the site was handed to the Whitlingham Trust. To improve conditions for bats I have erected a wooden baffle just inside the entrance but plan to carry out further works to lower the tunnel floor level and make improvements to the grill which is still subject to vandalism. On 2nd February 1996 we found a single Brown Long-eared in one of the tunnels bat bricks, we hope that this will be the first of many to re-colonise the tunnel."

*Pete Bush*  
*Countryside Warden*

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## Bat Boxes at Thetford Forest 1994 Report

Five visits were made to record the contents of boxes. These are now placed in groups of 18 in 24 locations throughout the main block of the forest with about 60 boxes remaining in the original project site, compartment 3079.

Visits were made on 8/9 April, 9/10 May, 11/12 June, 12/13 September and 17/18 October. A total of 205 new bats were ringed (nearly all juveniles born within the year), and 474 recaptures giving a

total of 679 bats handled in the year (tables 1 & 2).

The proportion found per species has remained similar since initiation of the project in 1975, with the exception, that noctules are now found in increasing numbers, especially early and late in the year.

The "Robert Stebbings Consultancy Ltd." has commissioned the writing of a software programme to undertake a full analysis of all the results spanning nearly 20 years and this is now up and running.

The programme allows, not only analysis of the changing population size and structure as forest cropping and management has proceeded, but will examine roost preferences for height, aspect and season. It will give results on breeding success and productivity.

We expect to be able to relate forest management practises with changes in bat populations so that optimum conditions for bats could be planned in the long term.

We should be in a position to prepare a paper soon, jointly authored with Arthur Rivett and John Goldsmith. We have sought funding for this project but none has been forthcoming to date.

### Acknowledgements.

Arthur Rivett (Suffolk Wildlife Trust & Suffolk Bat Group) and John Goldsmith (Norwich Castle Museum & Norfolk Bat Group) continue to provide the bulk of organisation for field survey and box replacement for this project, for which we are most grateful. Article reproduced by kind permission of "The Robert Stebbings Consultancy Ltd", species ecologists and habitat assessors.

**Table 1 - New ringed bats - 1994**

Species	April	May	June	Sept	October	Total per species
<b>Brown Long-eared Plecotus auritus</b>	5	21	4	74	6	110
<b>Pipistrelle Pipistrellus pipistrellus</b>	10	4	0	32	18	64
<b>Noctule Nyactus noctula</b>	12	1	1	3	10	27
<b>Leisler's Nyactus leisleri</b>	2	1	0	0	1	4
<b>Total per search</b>	29	27	5	109	35	205

**Table 2 - recaptures 1994**

Species	April	May	June	Sept	October	Total per species
<b>Brown Long-eared Plecotus auritus</b>	46	66	123	70	57	362

<b>Pipistrelle Pipistrellus pipistrellus</b>	11	4	7	20	12	54
<b>Noctule Nyactus noctula</b>	21	3	3	6	22	55
<b>Leisler's Nyactus leisleri</b>	2	0	0	1	0	3
<b>Total per search</b>	80	73	133	97	91	474

## The Bats of Little England

After spending several days trying to visit a friend on Skomer, thwarted by strong winds, I set off eagerly to join the Bat Course at Orielton. I was not too dismayed as I had seen my first Polecat, a distant Dolphin and the nightly arrival of thousands of Manx Shearwaters to Skomer (viewed from the mainland).

Arriving in Pembroke with hours to spare, I decided to visit the castle and within the hour had found a Daubenton roost in Wogan's Cavern, a good omen I thought! That evening I arrived at Orielton for dinner to find myself in the company of photographers, lichenologists, rambles and, of course, the "Batty People" (or whatever we are called). We were soon greeted by Bob and Sheila Stebbings who had apparently been forewarned of a keen participant from Norwich! Our group consisted of eight, with interests ranging from little experience of bats to many years. I was pleased to meet Norfolk Bat Group members Robin and Avril Monteith for the first time.

We were soon on our first field trip and from here onwards adopted a bat lifestyle for the next few days - out by evening and in the darkened safety of the classroom by day. We stepped outside to witness the departure of Lesser Horseshoes from an open door in the stable block. Whilst we had been getting to know each other, they had been snoozing above our heads! That evening we got to know the rest of the Stebbings family, some six species of bats which throughout the course enabled us to gain confidence in bat handling.

Thursday dawned with a foray in search of the Greater Horseshoe; Hoyles Mouth proved fruitless, however we did find one in a disused building at Carew airfield.

After a picnic lunch we returned to the dark, cool classroom for the Greater Horseshoe Story or rather "the airborne antics of young Bob" (stories of radio tracking Horseshoe bats from a light aircraft).

Evening entertainment was provided by Robin Crump (warden of Orielton), his home, although abandoned by his family due to disintegration of the foundations, was also home to the largest breeding roost of Pipistrelles in Wales. That summer it had held 1100, that evening we counted 11. We were not disappointed; a single Lesser Horseshoe had taken up residence in his porch and delighted us by flying back and forth over our heads.

An early start on Friday; Pembroke Castle before the crowds. Firstly we went to see the roost in Wogan's Cavern, then a search for droppings elsewhere. This was followed by Barnards Tower a Daubenton nursery roost, disappointingly it had not been used this year. On to Upton Castle, whilst we searched outbuildings finding Whiskered and Pipistrelle droppings, Bob chanced upon a crumbling tower, finding four Greater Horseshoes. He then led us to an empty (of people) estate cottage. This cottage, an SSSI, we found to contain 58 Lesser Horseshoes in the attic, two of which

Bob brought down to show us, along with a Brown Long-eared. Back in the classroom it was bat populations and evidence for their decline, highlighting general lack of understanding, particularly of roost site requirements.

The highlight of the course was to come that evening as we watched 148 Greater Horseshoes depart from the stables at Stackpole, viewed with the aid of Bob's night vision telescope. Next morning we visited an unoccupied section of roof space (except for a small cluster of Lesser Horseshoes) to see how the attic had been renovated to accommodate the bats without upsetting the tenants below.

Bats abroad was the subject for the afternoon, with an in depth look at fruit bat pollinators and our dependence on them. This was followed by an evening visit to Carew Castle to see how renovation could take place in harmony with bats. A hunting Barn Owl over the castle walls made this an evening to remember as well as my find of a single Serotine dropping, a total fluke I might add!

The final day had arrived quickly, starting with a brief look at bat boxes then the "Bats Need Friends" video. This was followed by bat conservation problems before the infamous bat identification quiz. I need not have worried too much, Bob gave us lots of clues relating to things he had said earlier in the course. A good memory meant that I was joint winner of the bat pollinated exotic fruit display!

Three and a half days of bat immersion had shot by; it had been a totally absorbing course that would fire up anyones slightest bat interest. I would certainly recommend it.

*Peter Bush*

*Norwich Fringe Project - Countryside Warden*

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## Eaton Lime Kiln

Our records show that Eaton Lime Kiln has been used as a bat hibernating site for many years and provides an alternative and useful adjunct for the well established winter roost site in the Eaton Chalk Caves. In recent years the ravages of winter gales and vandalism had badly damaged the entrance and the accumulation of rubbish and debris inside left little space for the bats use.

During last summer we were very fortunate in securing the funding to remove the fallen trees and debris to allow reconstruction of the entrance steps and erection of security fencing. Most of the rubbish has been cleared from inside the kiln but there remains further work to complete next spring.

Daubentons have been using the site since mid September so we are hopeful our work has been worthwhile.

Our grateful thanks must go to Mrs M. Pointer and the Pointer Trust and to English Nature for their invaluable help and support.

*Tony Tilford*

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## Disclaimer

The views and information given in this newsletter are not necessarily those of the group as a whole. No responsibility can finally be taken for absolute accuracy and content, though every care has been taken.



Site design by Mark Benfield