

**ANNUAL GENERAL MEETING**

The AGM will be held at 7.30pm on 27th January 2009 at The Barn, Brandon Marsh

As most of you are aware Andrew has decided to resign from the Chair. I'm sure you'll all join me in thanking him for the boost he has given the group since taking the Chair. He has changed the Group in every way, injected real life into it, and done it in such a manner as not to alienate long-established members, which can hopefully be maintained in the future. That is not in any way intended to reflect badly on the Group pre-Andrew, which was fine in its own different way, but it's now increasingly dynamic with huge enthusiasm from many quarters and really good evolving links with a number of bodies, not least the growing membership! I would personally like to thank Andrew for the changes he has brought to bear and I'm certain you will all agree with that and want to thank him in your own time too, as will the rest of the Group

Consequently, with the AGM looming, we are accepting nominees for the post of Chairperson. Responsibilities apart from the obvious chairing of meetings (which hopefully will be monthly and relatively brief) are to be BCT and N.E. contact as well as driving the Group with the support of the committee, as one would expect. Such nominations would need to be received by Friday 23rd January please. These can be sent to newsletter@warksbats.co.uk or posted to the address at the bottom of this newsletter.

In respect of nominees for other posts:

Caroline Bailey is nominated as WWT contact and committee member and Anna Swift as WCC contact, one of three rare bat record verifiers and committee member; these will be voted on at the

AGM. If no nominations are received for the post of Chair (heaven forbid) another two posts may potentially become available.

George Burton

**BARBASTELLE PROJECT 2009**

Following on from the successful radio-tracking study of barbastelles at Whichford Wood last year we have decided to continue the project in 2009. This year we're hoping to identify some more roosting sites of bats as well as determine foraging areas and commuting routes.

Ideally we would like someone with a bit of time to spare to manage part of the project. This would involve helping to catch and tag bats and coordinating the volunteer effort and possibly writing up the report. It would ideally suit someone looking for a BSc/MSc project. If you're interested, or know anyone who might be, please get in touch with Jon for more information ([newsletter@warksbats.co.uk](mailto:newsletter@warksbats.co.uk)).

**DOOMED TANZANIAN BAT MAKES DRAMATIC COME-BACK**

A once critically endangered bat species, the 'Pemba flying fox', has made a dramatic return from the brink of extinction. As recently as 1989, only a scant few individual fruit bats could be observed on the tropical island of Pemba, off Tanzania. Its numbers have since soared to an astounding 22,000 bats in less than 20 years – even possibly up to 35,600 individuals. In fact, several of the species' sleeping roosts are now home to over 1000 bats



This remarkable recovery is testament to the successful emergency intervention efforts of international conservation organisation Fauna & Flora International (FFI), working closely with their local partner, the Department of Commercial

Crops, Fruits and Forestry (DCCFF). The FFI-initiated survey demonstrates that the Pemba flying fox, a type of fruit bat that lives only on Pemba island in the Zanzibar archipelago off Tanzania, is a true conservation success story. The species (*Pteropus voeltzkowi*) was facing imminent extinction in the 1990's when FFI first took action to save it. Over the past 13 years, FFI has helped to reduce the threat from hunting, set up two new forest reserves to safeguard the bat's habitat and raised awareness of the need for conservation throughout Pemba's communities. The species has now been downgraded to 'Vulnerable' on the International Union for Conservation of Nature's Red List for threatened species. It is one of Africa's largest bat species, with a wingspan of 5½ feet. Once considered a delicacy, these charismatic bats were hunted and eaten widely throughout the island. By the 1990s the bats looked doomed, with 95% of its forest habitat destroyed and an extremely slow reproductive rate (just one young per adult female each year). Today Pemba flying foxes are much loved by islanders, with nearly 100% of local people expressing support for their conservation in a recent opinion poll. In fact, community-led "Pemba flying fox clubs", which help protect the bat through education and monitoring, have been popping up all over the island.

**BAT BOXES**

Working with my consultant's hat on I often have to recommend the type of bat boxes that need to be used on a new development. I always prefer integral bat roost units because they can't be taken down by the new occupants (or anyone else) once any monitoring has been completed.



I was recently introduced to the Istock roost unit. They are concrete units inserted into cavity walls which are then faced with brick. Alongside other measures, three of the units were installed, experimentally, on one of my

development sites. I went back a couple of weeks ago to check the success, or otherwise, of the mitigation measures we had installed.



It was pleasing to find that all three of the Ibstock units had a number of bat droppings at the base. They do not appear to have been used by a large numbers of bats but, as the units have been in place for less than 6 months the results bode well for the future.

In terms of costs the units compare favourably with Schwegler bat boxes.

Jackie Underhill

For more information: <http://www.ibstock.com>

**WHY FRUIT-EATING BATS EAT DIRT**

“Don’t eat the green parts of tomatoes, cut the green off the potatoes.” Any child would know that eating these parts of vegetables is a bad idea. The reason behind this is that they contain secondary plant compounds which may have detrimental effects on the consumer.

Each night, tropical fruit-eating bats ingest large amounts of secondary plant compounds with their food. This may become particularly problematic for pregnant or lactating bat mothers, since secondary plant compounds may damage the embryo or the juvenile. Now, a scientific study describes for the first time how female fruit-eating bats deal with this situation. In a study published in the online journal PLoS ONE, researchers from the Berlin Leibniz Institute for Zoo and Wildlife Research (IZW), Boston University and Cornell University, found evidence that fruit-eating bats take up large amounts of mineral rich water and clay from so-called mineral licks to detoxify the secondary plant compounds they ingest in fruits.



**Vampyriscus bidens, a frugivorous bat species that visits mineral licks.**

Bats include more than 1,200 species, represent the second most species-rich mammalian group and are important seed dispersers in tropical rain forests. Dr. Christian Voigt and his colleagues captured pregnant and lactating bats at mineral licks in the Amazonian rainforest of Ecuador.

“At first glance it seemed that bats visit these sites for the same purpose as other animals such as large tapirs or birds, i.e. to meet their daily mineral requirements,” Voigt describes their initial thoughts when they started the study. Bat mothers have particularly high mineral demands, because their juveniles cannot be weaned before they have reached almost adult size.

“To our amazement, we found fruits to be relatively rich in minerals compared to insects,” states Dr. Voigt. In the present study, the researchers focused on one bat species that feeds on both fruits and insects.

The study demonstrates that although insects and not fruits had a low mineral content insufficient for bat reproduction, only bats with a fruit-dominated diet visited mineral licks. The researchers assume that female bats ingest more fruits than usual during pregnancy and lactation. Therefore, they are directly exposed to the detrimental effects of secondary plant compounds. Female bats seem to be able to compensate the toxicity of secondary plant compounds by consuming mineral rich clay or water. Local people in Africa and South America or Africa are also familiar with the detoxifying qualities of mineral-rich clay and consume it during pregnancy and lactation. It seems as if humans and bats have found a similar solution for a shared problem.

Voigt CC, Capps KA, Dechmann DKN, Michener RH, Kunz TH (2008) Nutrition or

Detoxification: Why Bats Visit Mineral Licks of the Amazonian Rainforest. PLoS ONE 3(4): e2011. doi:10.1371/journal.pone.0002011

s.b. Julia Waller

**HAIR OF THE ‘BAT’?**

While some species may find the ingestion of alcohol relatively pleasant, ethanol is still a potent toxin. But for species that rely on fruit for sustenance, it is a necessary evil.

According to Francisco Sánchez and colleagues from Ben-Gurion University of the Negev, the toxic effects of alcohol can be minimised if consumed with food containing natural sugars such as fructose, sucrose and glucose. As these sugars occur naturally in fruits, Sánchez and his colleagues decided to test how they affected the rate of alcohol elimination in the bat’s breath. Giving Egyptian fruit bats food containing a shot of ethanol mixed with one of the three sugars, the team monitored the bat’s breath alcohol content and found that the ethanol levels dropped fastest when it was ingested with fructose; the bats removed alcohol from their systems fastest when mixed with fructose.



The team also decided to investigate how the bats’ perception of the foods’ value changed when alcohol was added by measuring the amount of food left after a night’s foraging. As the alcohol level was increased, the bats left less food containing sucrose than food containing the other two sugars; the value of sucrose consumed in the presence of alcohol increased more than the two other sugars’ values, and the value of fructose increased more than that of glucose. So both fructose and sucrose are ‘complementary’ to ethanol, contributing more to the bat’s fitness when consumed together than when consumed individually.

Sánchez, F., Kotler, B. P., Korine, C. and Pinshow, B. (2008). “Sugars are complementary resources to ethanol in

foods consumed by Egyptian fruit bats".  
J.Exp. Biol. 211, 1475-1481 costs.

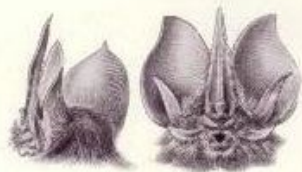
s.b. Julia Waller

## RECORD BAT DENSITY IN ECUADOR

Ten Researchers have discovered the place that harbours the highest number of bat species ever recorded. - more than 100 species of bats inhabit a few hectares of rainforest in the Amazon basin of eastern Ecuador.



Dr. Katja Rex and colleagues captured bats at several biodiversity hotspots in the New World tropics, in the lowland rainforest of Costa Rica, the slopes of the Andes and a site in the Amazon rainforest of Eastern Ecuador, at the Tiputini Biodiversity Station1 located adjacent to the Yasuni Biosphere Reserve. During many months of strenuous nightly field work, exposed to rain and mosquitoes, the researchers captured bats, identified species and recorded the total number of each species they captured. Based on these numbers, they calculated the species richness and diversity present in each of these forests.



**Tomes's Sword-nosed Bat**  
*(Lonchorhina aurita)*

"The forest at Tiputini Biodiversity Station is known as one of the global biodiversity hotspots with extremely high numbers of plant, insect and bird species" explains Dr. Christian Voigt (IZW, Berlin), "We expected a high number of bat species when we started our study, but we were amazed ourselves by our final estimates. This forest is just super diverse in life forms, including bats".

Forests of the temperate zone are regionally inhabited by only 3 to 10 bat species which all feed exclusively on insects. In contrast, tropical forests harbour more than 10 times as many

species as temperate forests. Now the researchers want to study how so many bat species manage to coexist together in such a small area.

"The forest is like a large city with people of various professions, some are specialised and some are generalists. The ecological role of bats in the forest is quite similar. Among bats we observed dietary specialists and generalists." states Voigt. How many generalist and specialist bats may inhabit a forest at the same time without coming into conflict?

The Yasuni Biosphere Reserve and adjacent Tiputini Biodiversity Station are theoretically protected against logging and poaching by Ecuadorian law. However, recently, oil exploitation is threatening the forest since new oil fields were discovered in this region. During the past several years new roads have been constructed to access the newly discovered oil fields. Conservationists fear that squatters will increasingly settle illegally in this pristine region as soon as the oil companies abandon these sites. This may turn out very badly for forest biodiversity.

Tiputini Biodiversity Station  
<http://www.usfq.edu.ec/tiputini/>

Yasuni Biosphere Reserve  
<http://www.sosyasuni.org/en/index.php>

Sign the petition to incorporate Bloc 31 in the proposal to keep oil underground!  
<http://tinyurl.com/57pgyv>

s.b. Julia Waller

## 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, The Old Dairy, 25 Brookside, Stretton-on-Dunsmore, Rugby, CV23 9NH

Email: [records@warksbats.co.uk](mailto: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!

## 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)

### JANUARY

**Bat Group AGM - Brandon Marsh Nature Centre**  
**Tuesday, 27 January 2009 19:45**

### FEBRUARY

**Bat Box Building at Kingsbury Water Park - Kingsbury Water Park Nature Centre**  
**Thursday, 19 February 2009 10:30 - 12:00**

During National Nest Box Week don't forget the other flying creatures we may get in our gardens - the bats! Make your own bat box to take home and put up in your garden. Please bring a small hammer if you have one. For children aged 5 to 12 years who must be accompanied by an adult (no younger siblings can attend). Meet at the Education Centre. Booking essential: 01827 872660.  
Cost: £2.50 per box

**DON'T FORGET TO CHECK THE WEBSITE FOR RECENTLY ADDED DATES!**

The next issue of the Echo is out on 15<sup>th</sup> May 2008. The deadline for articles is 1<sup>st</sup> May 2008. 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.

# RECORDS ENTRY FORM

**Note:** On English Nature visits it is not necessary to fill in the whole form, as it could be attached to the EN Visit Form with the last two sections only (signatures) completed. Minimum requirements for a useful record are shown in **BOLD CAPITALS**.

**DATE:**

**RECORDER:**

**Determinor:** (Expert confirming record if relevant)

**SITE ADDRESS:**

**Location within site:** (If large)

**GRID REF:** (e.g. SP443552)

\_\_\_ : \_\_\_\_\_

**HABITAT TYPE:** (e.g. Built-up area – residential)

**Roost Location:** (e.g. Behind roof tiles)

**SPECIES:** (if unknown – state 'indet bat')

**Roost Type** (e.g. Maternity)

**No of Individuals:**

**Notes of Interest:**

**Activity of Individuals:** (e.g. roosting)

By submitting this form the Recorder (author) accepts that this information will form part of County Ecology Unit records and may be disseminated to others for planning and/or conservation purposes.

**Signed:** ..... (Recorder)

(Contact details: ..... )

Where this record occurred on private property the owner should sign to confirm that the address may be used in the manner stated above.

**Signed:** ..... (Site Owner)