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Above: Subadult male Temminck's Mouse-eared Bat, *Myotis tricolor* (Temminck, 1832), caught at Mlawula Nature Reserve, Swaziland, 3 February 2006.

## Notes from the Editor:

The website [www.Africanbats.org](http://www.Africanbats.org) has been in operation since mid July 2006. It had some initial "teething" problems, and some very obvious mistakes in the introduction section. Although the higher taxonomy of Chiroptera (bats) has undergone recent changes at the subordinal level (there will be more on this in the "Debates and Updates" section in the next issue of this newsletter), fruit bats are not microchiropterans. Thanks to Hugh Spencer (Australia) for pointing out the error.

All PDF documents on the website have been zipped. Zipping has a two fold purpose; firstly to save space on the server, and secondly to allow for faster download times and in turn a reduced bandwidth usage. Both server space and bandwidth usage have cost implications that will need to be taken into consideration when planning the future of the site. But, if people prefer to download unzipped PDF files this can be arranged, just let me know (see email address below).

Up until 29 September 2006, 140 unique persons/computers had visited the website. Statistics of where visits to the website originated from in the world are made using the unique country IP address of a server. World use of the website is indicated in a map and a table on page 2. Unfortunately, access to the internet via a hotmail or some type of remote server does not track the country of origin via a unique country IP address, and the country is thus indicated as N/A in the table. Of the total visits to the website 29.9% were not traceable to a country of origin.

A concern I had indicated in Issue 9 about the possibly of this resource not reaching interested persons throughout Africa may be apparent from the list of countries of individuals accessing the website, as access to the website was only recorded from Namibia and South Africa. However, with the lack of trace on hotmail and remote servers it may be possible that individuals from other African countries are accessing the site. If you are accessing the website via a hotmail or remote servers, from an African country that is not listed in the table on page 2, please send me an email at [EditorABCN@Africanbats.org](mailto:EditorABCN@Africanbats.org) and let me know. I would like to keep rough calculations on the number of people in Africa using the site. One area of the website that is still not functional is being able to subscribe and unsubscribe to the newsletter. Work will continue to get this underway as it could give a clearer indication of who is interested in receiving newsletters, and will facilitate communication of new issues to those who are interested.

- Ernest C.J. Seamark

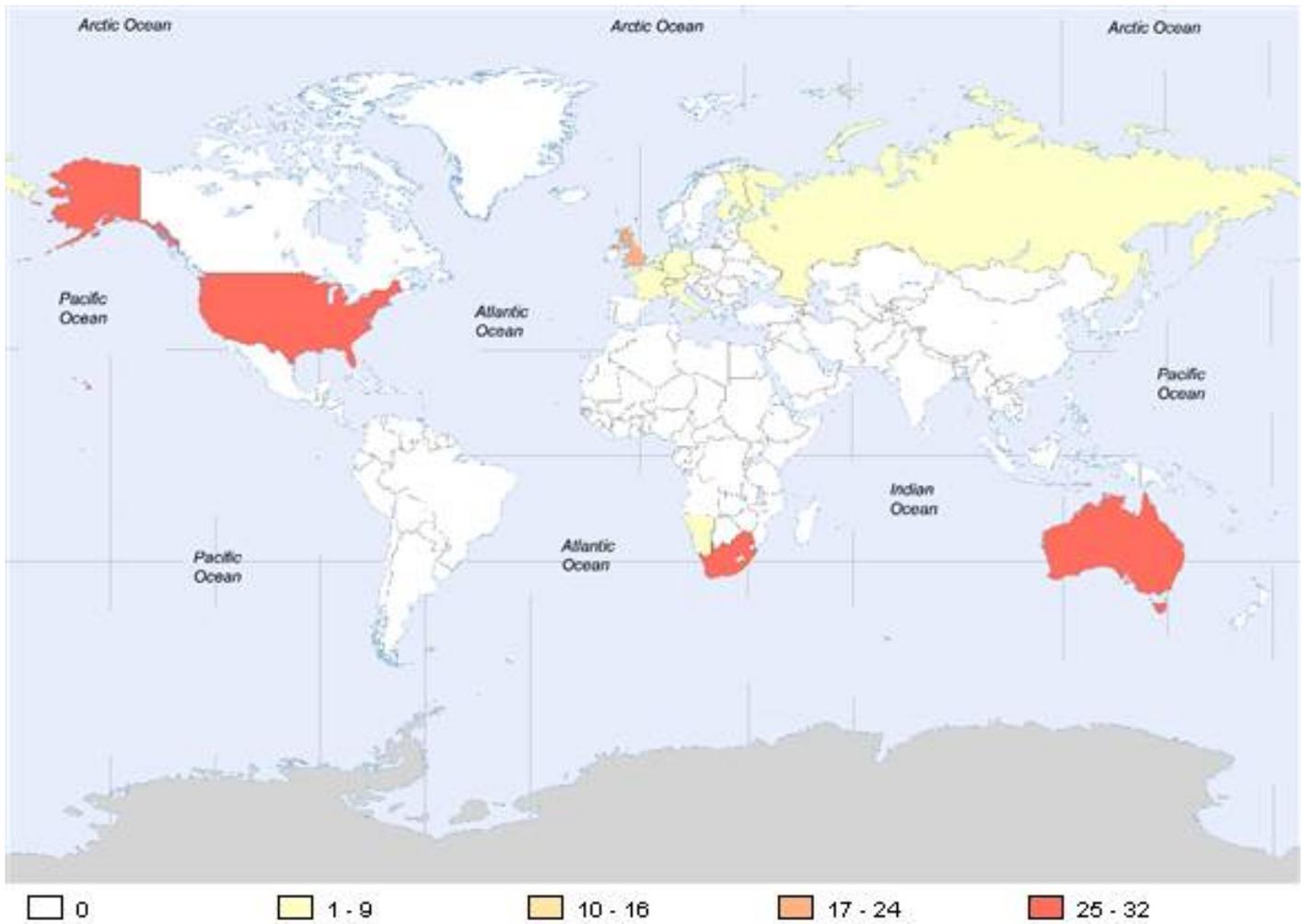
The views and opinions expressed in articles are not necessarily those of the editor or publisher. Articles and news items appearing in African Bat Conservation News may be reprinted, provided the author's and newsletter reference are given.

### Download sites for ABCN:

[www.Africanbats.org](http://www.Africanbats.org)

<http://flyingfur.typepad.com/abcn/abcn.html>

## Visits from around the world to the Africanbats.org website during the period 01 July 2006 to 29 September 2006



Rank	Country	Visits	% Visits
1.	N/A	60	29.9
2.	United States	32	15.9
3.	Australia	30	14.9
4.	South Africa	26	12.9
5.	United Kingdom	23	11.4
6.	Finland	7	3.5
7.	Namibia	6	3.0
8.	Germany	6	3.0
9.	France	2	1.0
10.	Switzerland	2	1.0
11.	Belgium	1	0.5
12.	Italy	1	0.5
13.	New Caledonia	1	0.5
14.	Netherlands	1	0.5
15.	Taiwan, Province of China	1	0.5
16.	Czech Republic	1	0.5
17.	Russian Federation	1	0.5
<b>Total(s):</b>		<b>201</b>	

# RESEARCH AND CONSERVATION

## INTRODUCING THE AFRICAN CHIROPTERA REPORT/DATABASE



By: **Victor Van Cakenberghe, Teresa C. Kearney and Ernest C.J. Seamark**

Managing editors of the African Chiroptera Report (2006), email: [AfricanChiropteraReport@Africanbats.org](mailto:AfricanChiropteraReport@Africanbats.org).

*African Chiroptera Report*. 2006. African Chiroptera Project, Pretoria. 1198 pp. available online at <http://www.Africanbats.org/ACR.htm>

The most important remark that can be made concerning a project of this nature is that it has no end, only a beginning. The African Chiroptera Report (ACR) is a serial publication (ISSN 1990-6471) and should be viewed as a 'living document' that will evolve and transform over time to the needs of present and future generations of users. The report is primarily generated from data collated in the African Chiroptera database (ACD), and will thus reflect over time changes to the database as new information is added and existing information is improved. Presently information on African bats is scattered among many different institutions and publications. Financial constraints of publication often restrict the regularity with which reference texts are updated and released, and often limit the size of publications allowing only key issues to be presented, with the exclusion of core, raw information. The advent of the internet provides an opportunity, which is particularly important for taxonomic information, for large amounts of information to be easily and economically updated and accessible in a number of different formats depending on the user's interest. The purpose of the African Chiroptera Report is to collate all past and recently published information on African bats, and to disseminate the information in a cost effective manner. It is hoped the use of an electronic format for the report and database will allow users access to a wide range of information and references to published works on African bats that will be corrected/updated more frequently than published formats, thereby facilitating research and conservation planning, and possibly stimulate interactions across different areas of research.

### Layout of the African Chiroptera Report (2006)

#### Taxonomy:

Provides a brief history of previous studies in systematics, giving a summary of different conclusions arising from different methodologies and the resulting taxonomic debates (including references to the original publications where these issues are covered in more detail).

#### Common names:

Common names used, in a variety of different languages.

#### Conservation status:

This section has been split into two categories: Global-providing information on past and present Red data assessments of the global populations of a species and; Regional- providing information on past and present Red data assessments of regional or country specific assessments of a species.

#### General distribution:

Distribution of the species, both in Africa and extra-limital beyond the boundaries of this continent, taken from published accounts.

#### Distribution maps:

The maps included are based on voucher specimens only, as currently included in the database.

#### Distribution based on vouchers:

List of countries for which voucher specimens are available. This is a calculated paragraph, where information is derived from the samples table in the African Chiroptera database. An additional, calculated query has been added to the country information where colours are used to indicate the period of time when voucher specimens were collected from a specific country. **Green** indicates that voucher specimens have been collected within the past 20 years, **blue** within the past 20 – 50 years, **orange** within the past 50-100 years, and **red** if the last voucher specimens were collected more than 100 years ago. Country names mentioned in black represent countries for which no collection date information is available. The purpose of this ranking is to assist researchers and conservation planners to focus attention on species that may have become regionally extinct, but can not be declared as such until exhaustive surveys have been undertaken to actively search for the species.

#### Glossary:

Explanation of abbreviations and various technical terms used in ARC.

#### References:

At present the "References" section of the ACR contains all publications (possibly) referring to African Chiroptera, without them being cross-checked with publications mentioned in the report. In future releases this check will be incorporated, but it is anticipated that all of the references will be mentioned in the report (or in its appendices).

### Current APPENDICES

#### Current Taxonomy

A taxonomic overview of the taxa covered in the report. The order in which the taxonomy is presented is alphabetical within each taxonomic level (order, infraorder, suborder, superfamily, family, subfamily, genus, subgenus, species, subspecies) and as such does not represent any (direct) phylogenetic relationship.

#### Voucher Specimens

##### *Museum acronyms and number of specimens*

This appendix contains acronyms and full names of the museums from which specimens were included in the "Voucher Specimens Details" appendix (Appendix 2b). It also gives the total number of specimens from the museum included in that appendix.

##### *Voucher Specimen details*

This list gives an overview of all voucher specimens included in the database, as examined by the various contributors or for which information was found in the literature. The taxa are presented in the same order as the main text and Appendix 1. In each taxon the specimens are alphabetically and numerically ordered according to their country of origin, locality, museum and museum number. To stand out, the type specimens are explicitly mentioned with the name they were assigned by their original descriptor, and a colour code has been used to indicate the category of type:

**RED:** Holotype, Lectotype, Neotype, Syntype, Type  
**BLUE:** Cotype, Paralectotype, Paratype  
**GREEN:** Allotype, Genotype, Topotype

### **Voucher specimens per Museum**

This appendix gives an overview of voucher specimens arranged per museum, taxon, and country of origin. The number of specimens per country, taxon, and museum are given, as well as a grand total.

### **Voucher specimens per Country**

This appendix gives an overview of voucher specimens arranged per country of origin, taxon, and museum of origin. The number of specimens per museum, taxon, and country are given, as well as a grand total.

### **Voucher specimens from Protected Areas**

This appendix gives an overview of African IUCN protected areas for which voucher specimens are available. The data are grouped per country and protected area, and for each of the taxa the museum acronym is given to indicate the collection where the voucher material is housed. The acronyms are colour coded to reflect the most recent collection date of the material in that museum:

**BLACK:** no information  
**GREEN:** less than 20 years  
**BLUE:** between 20 and 50 years  
**ORANGE:** between 50 and 100 years  
**RED:** more than 100 years ago.

### **Synonyms**

#### **Synonyms by Name**

This appendix contains all the synonyms found in the literature (excluding new name combinations and *lapsi calami*). For each of these synonyms the current name is included to be able to link the name to the information in the main text and the other appendices.

#### **Synonyms by Author**

This appendix contains all the synonyms covered in this report (excluding new name combinations and *lapsi calami*). The synonyms are sorted by author and year of description and are linked to the current name. Some of the synonyms might be linked to several current names, indicating that they can only be partly assigned to these current names, e.g. *Vesperugo* Keyserling and Blasius, 1839 in part covers *Eptesicus* Rafinisque, 1820, *Nyctalus* Bowdich, 1825, and *Pipistrellus* Kaup, 1829.

#### **Synonyms by Publication Date**

In this appendix synonyms are sorted according to the date they were published. If a complete date could be found, the full date is given. In most cases, however, only the year of publication is known, in which case (according to the International Code of Zoological Nomenclature) the last day of the year is considered to be the date of publication (i.e. 31 December). If a month, but not the date of publication, is known, the final date of the month is entered. In a large number of cases the publication date is taken from the (cover of the) publication, and as such the date might not be 100 % correct, since these dates tend to be earlier than the exact date the publication was published.

#### **Synonyms by Country of Type Specimen**

In this appendix synonyms are ordered by country from which they were described and by the year of publication. Synonyms for which "Null" is mentioned as author simply indicate incomplete entries, for which this information has not yet been found.

### **Collector Information**

This appendix brings together all information relating to the collectors. This information could be used to find discrepancies between the collector, collection date and

locality. All sub-tables contain the following data: collector, collection date, country and locality, museum code and accession number of specimens. Totals per category are also given.

### **Follow the Collector**

In this appendix the trail of the collector is followed, since it contains the records sorted by collector and date. Underlined numbers indicate the number of specimens for the locality present in one or more collections. Bold numbers represent the number of specimens for the country, and bold and underlined numbers represent totals for a specific date.

### **Chronological**

This appendix is sorted by collection date, country, locality and collector. Underlined numbers indicate the number of specimens for the collector. Bold numbers represent the number of specimens for the locality, and bold and underlined numbers represent totals for a specific country.

### **Per Country and Locality**

In this appendix the data are sorted by country, locality, date and collector. Underlined numbers indicate the number of specimens for a given date. Bold numbers represent the number of specimens for a collector, and bold and underlined numbers represent totals for a specific locality.

### **Keys from the literature**

This appendix contains an overview of the keys on African Chiroptera found in various publications. The keys are presented in chronological order, and within the same year alphabetical per author. This appendix does not include drawings or figures used in the original keys, for these we refer to the original publication. If names used in the keys are no longer in use, the current name used in the ACR is also mentioned in **BLUE**. Notes in **GREEN** refer to identifications found in error by other publications, and the most recently published name for the taxon is given in **ORANGE**. If the identification has been modified, the modified name is used to link it with the name used in the present publication. None of these keys were checked, as part of this report, on their ability to provide accurate identifications.

### **Where to from now?**

In August 2006 an African Chiroptera Taxonomic Advisory Committee (ACTAC) was established to form the foundation for review and debate on the taxonomic structure of the database and report for 2007.

A SQL version of TAXIS is currently under development and should be available at the end of February 2007. The 2006 version of the African Chiroptera Database will then be made available online for testing and use.

The next release of the report is expected to be published in early July 2007 (see project overview on page 5).

### **What will be new in the 2007 release of the African Chiroptera Report:**

The 2007 ACR will hopefully improve and expand the information currently included in the six fields of information for each taxa (Taxonomy, Common names, Conservation status, General Distribution and Distribution based on voucher specimens), in the ACR released in 2006. It is also hoped any existing information relating to an additional 39 fields of information (Etymology, Phonetics, Paleontology, General Characteristics, Genetics, Karyotypic, Geographic variation, Post-cranial, Skull, Teeth, Bacula, Hyoid, Wing shape and aspect ratio, Echolocation, Fur, Ears and tragus, Measurements, Sexual dimorphism, Habitat, Habits, Roost, Migration, Food/Diet, Predators, Population, Population structure, Population density, Activity and Behaviour, Reproduction and Ontogeny, Mating, Post-natal development, Parasites, Life-span, Viruses, Utilization, Anthropophilous and Protected areas), will begin to be included in the ACR from 2007.

**Project overview for the 2007 African Chiroptera Report/Database**

Activity	Deadline	
	Start	End
Establishment of the ACTAC	-	16/08/2006
Review the current higher taxonomy in the African Chiroptera Report (2006). Debate and resolve the foundation of the higher taxonomy to be used (Order to sub-family).	17/08/2006	13/10/2006
Managing Editors to update the database to include the suggested higher taxonomic changes suggested by the ACTAC. (draft report printed- pdf and word documents)	13/10/2006	23/10/2006
ACTAC to review the currently accepted genera and species (also include species omitted in the 2006 report, but recognized by the ACTAC), and the placement of these taxa into the above suggested families and sub-families. Parallel process to also nominate any changes to the taxa (taxa that should be synonyms or split or new taxa not captured in the African Chiroptera Report (2006).	23/10/2006	24/11/2006
Managing Editors to move/place presently accepted taxa into the correct higher taxonomic unit (agreed upon above). (new report printed- pdf and word documents)	24/11/2006	04/12/2006
The above report sent to all individuals or institutions, which are recognized as contributors to the report. If the contributors do not agree with the placement or recognition of the taxa by the ACTAC they can then put the case forward, and their counter argument will be reviewed and included in the next issue of the report, indicating differences in interpretation. In some cases if the contributor puts a case forward which is strong enough to change the ACTAC stand point, then this is where the change will take place. After this date, we should not attempt to change too much for the next issue (June/July 2007).	04/12/2006	01/02/2007
Managing editors to include above suggestions and additional data into the report. It is hoped that contributors do not give the data on the deadline but rather it comes in evenly distributed or at the beginning of the process.	01/02/2007	01/04/2007
A final complete draft of the report is produced and sent to ACTAC and all contributors, to check for any major mistakes (2 weeks review period)	01/04/2007	16/04/2007
Changes made in the database by Managing editors	16/04/2007	30/06/2007
African Chiroptera Report (2007) published and placed on website	<b>01/07/2007</b>	<b>01/07/2007</b>
Review and cycle to start again for the 2008 review.	?	?

**Appeal:**

The managing editors of the ACR are open for further suggestions on how to improve the report either in form or content. Perhaps you have an idea for an extra appendix or suggestion for additional colour coding?

Additionally, the editors are also interested in overlooked publications, especially those which have been published in "obscure" or "local" magazines and might have been overlooked.

**Further information can be located at [www.Africanbats.org](http://www.Africanbats.org) or if anyone has comments, suggestions or wishes to get involved in the project they can email the managing editors at [AfricanChiropteraReport@Africanbats.org](mailto:AfricanChiropteraReport@Africanbats.org).**

# DEBATES AND UPDATES

## DO BATS FLY WITH THEIR YOUNG?

- Female bats do not fly with young, or it is very rare, happens only by mistake, or only under special circumstances (for instance when bats shift roosts).



Above: Female Cape serotine bat, *Neoromicia capensis* (A. Smith, 1829), with pup, from a roost in a farm house attic, on farm Rietvalley 76, portion 26, Western Cape, South Africa (33.53368°S 22.54246°E), 29 November 2005.

The above image, featured in the January 2006 issue of *African Bat Conservation News* (7: 1), sparked an interesting email discussion that is outlined below. For clarity the above image is not of a free flying bat (*Neoromicia capensis*), but rather the individual was being held by the wings, when the photo was taken, thereafter it was release back in the roost. – **Ernest C.J. Seamark**

Bats most certainly fly with their young and some get into trouble doing so especially when the pup gets larger, just before a fuzz of hair starts to come through. Currently I have a banana bat (*Neoromicia nanus*) and a Dusky pipistrelle (*Pipistrellus hesperidus*) that were taken off of mums that were observed being caught and killed by cats. I have also at different times in the past had in similar circumstances two little free-tailed bats (*Chaerophon pumilus*) and a cape serotine bat (*Neoromicia capensis*) pups and an injured banana bat (*N. nanus*) that was carrying her twins.

It is very difficult to separate a hairless pup from the nipple of its mother, be she dead or alive, you basically have to put a finger over the pup's nostrils to make them open their mouths to breathe. The mums with pups that I have had in care carry on their lives totally ignoring their pups for most of the time and sometimes the pups get dragged behind as mum moves about but they rarely let go of that nipple!

From observing captive serotine, yellow house (*Scotophilus*) and little free-tailed bats (*C. pumilus*) mums and pups I have seen the pups only start to be left in the box while mum goes out for a flight once their eyes are open and they have fur coming through. This may be different in the wild though with a crèche system, mostly the bats I have watched have been alone with their pups. – **Wendy White (KZN BATS)**

I have mist netted a number of different species of female bats (*Lissonycteris angolensis* comes to mind right away) with babies attached. How else would the non-volant babies have got into the net (still attached to the mothers) if they were not carried by their mothers? – **Ara Monadjem (University of Swaziland)**

That's surprising since so much evidence shows that bats do carry their young. Certainly, I have observed *Nycteris* at Nagal Dam and elsewhere flying with young attached. I heard of someone who had photographed *Chearephon pumila* in flight with young attached (somewhere in Zululand).

*Neoromicia capensis* babies are sometimes picked off the

ground during the breeding season at a local school (Durban). When the mothers exit from the roof at dusk with young attached and the young sometimes get dislodged. This is a stable colony so it seems unlikely the bats are moving their young to a new roost - **Peter Taylor (Durban Natural Science Museum)**

I have never caught any foraging insectivorous bat with young attached. I know that *Miniopterus* bats sometimes give birth outside the breeding chambers and then fly with the juveniles to the breeding chambers where they are left. I have never seen any banana bats (*Neoromicia nanus*) foraging with their young. However, because the rolled-up banana leaves do not stay rolled-up for very long before unfolding, they have no option then to move their young to another suitable leaf. They have, however, no problem to fly with both juveniles attached. On occasion I have by accident damage a leaf or when putting the female with young attach to her back into the leaf, they just took off and flew away with the young tightly attached to the nipples. Nigel Fernsby caught, what he believes was a foraging banana bat in Zambia with a big young tightly attached to a nipple. He believed she was foraging because he caught about 13 - 15 of these bats just after dusk in a net. – **Mac van der Merwe (University of Pretoria)**

Interesting discussion and to a large extent I wonder whether your perception depends on where you are and what species you are looking at. Flying foxes tend to carry their young while foraging for at least several weeks. On the other hand aerial insectivorous bats, at least in my experience in North America, rarely carry their young and primarily to move roosts when disturbed or otherwise moving for whatever reason. Let us not forget that observing some females carrying their young does not mean that all carry it/them all the time. What proportion of the lactating females have we caught with a young attached. In my experience it would be way below 1%.

There are certainly lots of studies showing that females of many species move roosts on a regular basis, even when they are lactating. They obviously thus need to move their pups and therefore can and do fly with them, even when the pups are quite large. However, if the question is whether females forage while carrying their pup(s), then I would have to say the evidence, at least from temperate species of insectivorous bats, is no. The reduction in maneuverability would severely hamper foraging efforts, increase the costs of foraging, and potentially increase predation risk. I would guess that whether pups are taken along for the ride depends on the foraging style of the species (insectivorous or not), and the safety of the roost for the pup if it is left alone while the mother forages. Indeed, roost site selection by lactating females has to take into account whether the pup will be left behind or not. Individuals of species in which females can not afford to take the pup along, must select roosts that provide protection for the pup at night. - **Robert Barclay (University of Calgary)**

I completely agree with Robert: recently, we looked at our capture data and the frequency is generally extremely low. There seems to be some relationship with foraging mode (maybe in relation to maneuverability and drag?), i.e. the faster a species forages, the lower the frequency that young are carried in flight. In my experience, the highest frequency of mothers carrying young in flight is found in Pteropodidae,

## Rhinolophidae, Hipposideridae and Nycteridae.- Jakob Fahr (University of Ulm)

In my experience, only bats with wing morphology adapted for maneuverability and slow flight carry their young. I have observed *Nycteris thebaica* carrying twins, at Goodhouse, Northern Cape, and *Neoromicia capensis* picking-up a pup that fell to the ground from roof of house (Knysna). However, I have also observed *Miniopterus natalensis* pups falling to the ground from cave roof with no obvious response from adults (De Hoop) - usually resulting in death (i.e. eaten by carnivorous beetles and/or cockroaches).- **Corrie Schoeman (University of Cape Town)**

Molossid mums appear to leave their pups alone for long periods of time much sooner than do vesper bats and I guess this may well have something to do with wing loading and speed of flight. The high number of pipistrelle pups that we get into rehab may reflect their lower, slower flight so a mum flying low and heavily laden with a pup is less manoeuvrable and more easily caught by an urban predator like a cat. - **Wendy White (KZN Bats)**

As so often, there's not much new under the sun...ect. And too few people read the primary literature:-

ANSELL, W.H.F. 1986. Records of bats in Zambia carrying non-volant young in flight. *Arnoldia* 9(23): 315-318.

Many of these records are vouched for in Bulawayo collection and a few of Franks specimens went to the AMNH otherwise BM and HZM – **'Woody' Cotterill (University of Cape Town)**

"Fenton (1969) summarised records of carrying of non-volant young by females of certain American bat species.....It is concluded that females of several African bat species may carry their non-volant young on feeding flights as well as when moving them to another roost following disturbance.

*Epomophorus crypturus...Nycteris thebaica capensis...Nycteris hispida aurita...Hipposideros caffer caffer...Nycticeius schlieffeni australis...Eptesicus capensis subsp...*

It is well established that female bats may carry their non-volant young, but there has been divergence of view as to whether this occurs only when disturbed or when moving from one roost to another. ... In all these instances I believe that the females were carrying their young on normal feeding flights. Dr Rautenbach's records also support this idea and in respect of *Nycteris woodi* he added "I would argue that the females were not disturbed by our activities and were trapped during their normal nocturnal routines". Hutson (1985) also recorded this with *Eptesicus serotinus* Schreber in England and with *Eptesicus sp.* in Zimbabwe.

The situation is similar in the Australian Fruit Bat (*Pteropus poliocephalus* Temminck, with young being carried when about 57% of the mother's weight (Yaldan & Morris 1975, quoting Ratcliff 1932). Tuttle (1986: 551) has recorded that *Epomophorus* females may carry young on feeding flights even when the latter are two thirds of the mother's weight and able to fly on their own, which they may do at the feeding site before being carried back by the mother to the roost. In view of the several instances discussed above it is clear that with both Microchiroptera and Megachiroptera young may be carried by the mother on feeding flights as well as when disturbed at the roosting site. In the Megachiroptera Tuttle's observations show that this may continue for a time even when the young are capable of independent flight, but comparable data are not available in respect of the Microchiroptera." – **W.F.H. Ansell (1986) *Arnoldia Zimbabwe* 9(23): 315-318.**

## Natural Roost Disturbances



Above: Fruit bats photographed (by Margaret Richardson on the 29 July 2006) at their roost in a palm, in Pietermaritzburg, South Africa.

Email correspondence in relation to the above images:

The above images are either of Wahlberg's Epauletted Fruit bat (*Epomophorus wahlbergi*) or the Gambian Epauletted Fruit bat, also referred to in earlier texts as Peters's Epauletted Fruit bat (*Epomophorus gambianus*). The distinction between these two species, is unfortunately the number of palatal ridges behind the 3<sup>rd</sup> upper premolar. So to confirm the identification to species level we will need to have one in the hand. ... Would it be possible to count the number of fruit bats at this roost, ideally to keep a monthly record of this would be useful to understand population trends. - **Ernest C.J. Seamark**

Thanks for your interest, I am sad to say the monkeys have chased the bats away from the palm tree where they were hanging about, and we have not seen them again...- **Margaret Richardson (Pietermaritzburg)**

**"Obviously man is the biggest disturbance threat (especially if they are ignorant), but what is the potential impact of other species disturbing bat roost sites, and would this further impact species that are already threatened, or species with limited roost availability?"**

If anyone has further comments, observations or photographs relating to the topics above, or any other topics, please send them to the [EditorABCN@Africanbats.org](mailto:EditorABCN@Africanbats.org). Contributions that are useful and informative will be published in the "Debates and Updates" section of forthcoming issues.

# RECENT LITERATURE

## CONFERENCE PRESENTATIONS



### Presentations at the 6<sup>th</sup> Southern African Society for Systematic Biology Conference

Berg & Dal Rest Camp, Kruger National Park, South Africa,  
14—17 July 2006

#### Poster Presentations

##### Update on African Chiroptera Taxonomic Information System

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Victor Van Cakenberghe

A poster was presented at the SASSB V (February 2005, Goudini Spar, Western Cape) on TAXIS 3.5 (<http://www.biotoools.net>) and its use to collate taxonomic information, samples (museum vouchers), literature data, and geographic records for African bat species. At this conference we aim to continue promotion of the TAXIS program for the collation of systematic information by updating the progress made on the African Chiroptera database – version 2. With subsequent addition to the database of much taxonomic information, associated literature references, and some sample and geographic records for African bats, a first draft report “Systematic update on African Chiroptera” has been circulated (in PDF format) for comment as part of a review phase. Both the database and the report will be accessible via a website. A review group is being used to make final decisions on the classification presented, and provide comment in the report on areas of contentious or unresolved taxonomy. The reviewed version of the report will be released in May/June 2007. The report includes species distribution maps generated from the African Chiroptera database, and should it be required, accessing the database one can identify the samples indicating the distribution of a species in a particular area. The aim and objective of the database and report is to create a “living document” that is regularly updated and corrected by users with the addition of new/missing information, which provides useful information to a wide audience (researchers in other fields of biology i.e. ecologists, conservation planners and the general public), in an accessible and economically viable electronic format (PDF documents, internet sites, CD's). Future plans for the African Chiroptera Taxonomic Information System include the addition to the database of identification keys that will make use of images of descriptive characters and indicate where measurements used in identification are made.

#### Paper Presentations

##### Variation in cranial morphology of species of vesper bats in the genera *Eptesicus*, *Neoromicia*, *Hypsugo* and *Pipistrellus* (Microchiroptera; Vespertilionidae) occurring in southern Africa

Kearney TC<sup>1</sup>; and Taylor PJ<sup>2</sup>

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Teresa Kearney

Analysis of cranial variation in southern African species of vesper bats in the genera *Eptesicus*, *Neoromicia*, *Hypsugo* and *Pipistrellus* (Microchiroptera; Vespertilionidae) using geometric and traditional morphometric techniques did not provide support for phylogenetic relationships suggested by GTG-banded chromosomes. Instead, cranial shape and size of the southern African vesper bat species analysed showed considerable homoplasy that appeared to be constrained by allometric and possibly ecological effects. The geometric and traditional morphometric analysis of cranial variation did however reveal interesting, albeit slightly different patterns of shape and size variation within and between the species in relation to different tooth-wear classes, sexes, and geographic distributions. Geometric morphometric analyses did not reveal any significant tooth-wear class or sex differences, while traditional morphometric analysis found significant tooth-wear class differences in one of two populations of *E. hottentotus* tested and significant sexual dimorphism in one of six populations of *N. capensis* tested. Both techniques agreed in showing significant clinal variation in size of *N. capensis* negatively correlated with latitude and longitude and in *P. hesperidus* negatively correlated with latitude. Geometric morphometric analysis also showed significant clinal variation in size of *E. hottentotus* negatively correlated with latitude and longitude, and *P. hesperidus* negatively correlated with longitude. While traditional morphometric analysis also showed significant clinal variation in *N. zuluensis* positively correlated with longitude and negatively correlated with latitude, and significant clinal variation in *H. anchietae* and *P. rusticus* negatively correlated with latitude. Traditional morphometric measurements were better able to separate the species than the landmarks chosen for the geometric morphometric analysis.

## PUBLISHED PAPERS

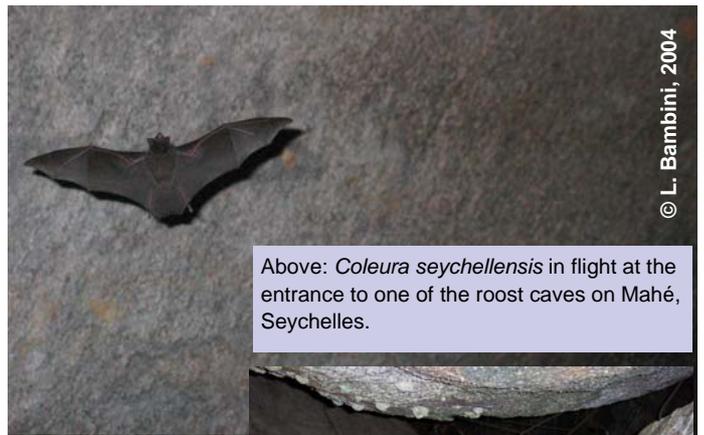
**BAMBINI, L., BLYTH, A., BRADFORD, T., BRISTOL, R., BURTHE, S., CRAIG, L., DOWNS, N., LAING, S., MARSHALL-BALL, L., MCGOWAN, D., VEL, T., and RACEY, P., 2006. Another Seychelles endemic close to extinction: The emballonurid bat *Coleura seychellensis*. *Oryx* 40(3): 310-318.**

Abstract: The only microchiropteran endemic to the granitic Seychelles, the sheath-tailed bat *Coleura seychellensis*, is categorized as Critically Endangered on the IUCN Red List. Using bat detectors, the islands of Mahé, Praslin and La Digue were surveyed to establish the current distribution of this species. Although two new roosts were discovered on Mahé, no bats were observed on Praslin and La Digue, and the range of *C. seychellensis* appears to have further contracted in the last 2 decades. A total of 19 *C. seychellensis* were counted emerging from or entering three roosts in boulder caves on Mahé during 18 evenings of observations. The bats foraged in open coastal habitat, some of it anthropogenic, and their echolocation calls were also characteristic of bats feeding in open habitat. This study provides no evidence that *C. seychellensis* is dependent on forest or wetland for foraging. Dietary analysis indicated that *C. seychellensis* feeds on Coleoptera, Lepidoptera and Diptera. A public education programme to highlight the conservation status of the bat and the consequences of roost disturbance is recommended, together with the urgent need for legal protection of the bats and their roosts.



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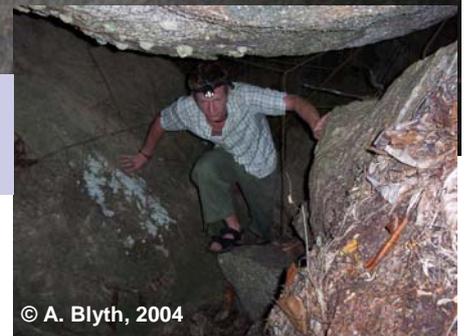
Above: Bats on The Brink Seychelles Expedition 2004; from left: Denise McGowan, Andrew Blyth, Sarah Burthe, Lorraine Marshall-Ball, Louise Craig, Sinclair Laing, Laura Bambini, Timothy Bradford, Rachel Bristol, Terence Vel.



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Above: *Coleura seychellensis* in flight at the entrance to one of the roost caves on Mahé, Seychelles.

Right: Sinclair Laing investigating a bat roost on Mahé.



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Above: Rachel Bristol getting ready for some bat surveying.



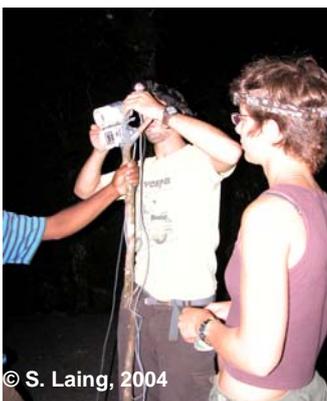
© S. Laing, 2004

Above: Terence Vel and two wildlife club leaders, getting to know about *C. seychellensis* at Bat Night.



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Above: Malaise trap was used to sample insect communities around the island of Mahé.



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Above: Setting up video equipment used to monitor the roost entrances.



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Above: Wildlife club leaders get excited when the bats turn up.



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Above: Louise Craig and Laura Bambini prepare 'sticky traps' for insect sampling.

**BOLLEN, A., and DONATI, G., 2006. Conservation status of the littoral forest of south-eastern Madagascar: A review. *Oryx* 40(1): 57-66.**

Abstract: The littoral forest of the Fort Dauphin region of south-east Madagascar is expected to lose numerous endemic plant and animal species in the near future as a result of deforestation and consequent habitat changes. The disruption of plant-animal interactions is of particular concern. This review describes the conservation status of the littoral forest of Sainte Luce, Fort Dauphin, and examines the role of animal-facilitated seed dispersal in regeneration. The main threats to this habitat are described and possible management implications are discussed in relation to existing initiatives. Protection of the largest remaining forest fragments has been agreed by local communities and a draft plan for forest management is currently under evaluation. Over the next few years plantations will be created to provide local people with wood for fuel and other purposes. An important flying fox *Pteropus rufus* roost site needs to be included in conservation plans because of its importance for long-distance seed dispersal. Despite the presence of natural barriers, the creation of forest corridors will be crucial for connecting isolated fragments and facilitating genetic exchange between subpopulations. Increased attention needs to be given to the need to promote conservation-related income activities.

**FAHR, J., DJOSSA, B. A., and VIERHAUS, H., 2006. Rapid assessment of bats (Chiroptera) in Déré, Diécké and Mt. Béro classified forests, southeastern Guinea; including a review of the distribution of bats in Guinée Forestière. In: Wright HE, McCullough J, Alonso LE, Diallo MS, editors. *A Rapid Biological Assessment of Three Classified Forests in Southeastern Guinea*. Washington, D.C.: Conservation International; p 168-180, 245-247.**

Abstract: We report on the results of a bat inventory of three classified forests in southeastern Guinea sampled during a RAP-survey. In total, we recorded 23 bat species (Déré: 3, Diécké: 8, Mt. Béro: 18), including three species that are globally ranked as "Vulnerable" by the Red List of threatened species (IUCN 2004): *Rhinolophus hillorum*, *R. guineensis*, and *Mops trevori*. Including unpublished results from previous surveys and museum data, 15 bat species are recorded for the first time for Guinea, raising the species total for that country from 50 to 65, a remarkable increase of 23 %. A total of 51 species is documented from Guinée Forestière, including species of global conservation concern that are threatened by imminent extinction (*Rhinolophus ziama*: Endangered, *Hipposideros marisae*: Endangered, *H. lamottei*: Critically Endangered). Out of a total of seven forest reserves, the majority of bat species (33 species or 65 %) has been recorded from only one or two reserves. This checkerboard pattern of bat occurrences, i.e. with a high species turn-over between the forest reserves, points to distinct bat assemblages in relation to differing habitat types covered by these reserves. It is concluded that the forest reserves are complementary to each other and none of them would compensate for the loss or degradation of another one. It is highly recommended that the protection status of all major Forêts Classées in Guinée Forestière should be upgraded and their effective protection enforced, ideally forming a network of national parks for this globally significant biodiversity hotspot.

**JENKINS, P. D., and CARLETON, M. D., 2005. Charles Immanuel Forsyth Major's expedition to Madagascar, 1894 to 1896: Beginnings of modern systematic study of the island's mammalian fauna. *Journal of Natural History* 39(20): 1779-1818.**

Abstract: Charles Immanuel Forsyth Major (1843-1923) made the first synoptic systematic collection of mammals from Madagascar in the last decade of the 19th century. To reconstruct Major's obscurely known itinerary, we located 994 specimens that originated from his 1894-1896 expedition and determined their identification, dates and locality of collection, and current institutional repository. Fifty species were recovered from 26 localities centered in the Central Highlands and Eastern Humid Forest of east-central Madagascar. The geographic position of several type localities is refined and their coordinates estimated, and the type locality of one taxon (*Microgale pusilla* Major, 1896) is accordingly amended. Biographical details of the man, the biodiversity significance of his collections and the historical context of his discoveries are discussed.

**JOHNSTON, D. S., 2006. *Nycticeinops schlieffeni*. *Mammalian Species* 798: 1-4.**



© ECU Seamark & TC Kearney 2006

Above: A female Schlieffen's bat, *Nycticeinops schlieffeni* (Peters, 1859) caught and released at Mlawula Nature Reserve, Swaziland (32.005790°S 26.185566°E) on 4 February 2006.

**MARTIN, C., BAIN, O., JOUVENET, N., RAHARIMANGA, V., ROBERT, V., and ROUSSET, D., 2006. First report of *Litmosa* spp. (Nematoda: Filarioidea) from Malagasy bats; review of the genus and relationships between species. *Parasite* 13(1): 3-10.**

Abstract: The presence of the filarial genus *Litmosa* in Malagasy bats is demonstrated by the finding of *L. goodmani* n. sp. from *Miniopterus gleni* and *Litmoso* sp. (male unknown) from *M. manavi*, both in the Special Reserve of Ankarona. These materials are compared to the 22 *Litmosa*; species, including two Indian species originally placed in the genus *Litmosoides*, *L. fotedari* (Gupta & Trivedi, 1989) n. comb. and *L. tewarii* (Gupta & Trivedi, 1989) n. comb., and the new taxon *L. seurati* n. sp. (= *L. beaucournui* Bain, 1966 pro parte), type-host *Rhinolophus ferrum-equinum*, Algeria, distinguished by the narrow area rugoso and the female caudal extremity with two conspicuous points, instead of several small ones. The Malagasy material belongs to a group of species close to the type, *L. filaria*, which have a male area rugoso composed of cuticular bosses and microfilariae folded within the sheath, and which are parasitic in Vespertilionidae, Hipposideridae and Rhinolophidae from Africa and Europe. The two Malagasy species resemble *L. seurati* n. sp., *L. beshkovi* Jancev, 1971, *L. chiropterum* Ortlepp, 1932, *L. adami* Petit, 1980 and *L. ottavianii* Lagrange et Bettini, 1948, with the enlarged third segment of the buccal capsule. *L. goodmani* n. sp. is distinct with its small size and female caudal extremity with a single point, which is suppressed in old mature worms; the females of *Litmosa*; sp. have two conical points. Relationships among *Litmoso* species appear to be dependent upon both the chiropteran host groups and the geographical region.

**OLSSON, A., EMMETT, D., HENSON, D., and FANNING, E., 2006. Activity patterns and abundance of microchiropteran bats at a cave roost in south-west Madagascar. *African Journal of Ecology* 44(3): 401-403.**

Keywords: (*Hipposideros commersoni*), *Triaenops rufus*, *T. furculus*.



Above: Frontier Research Assistants removing *Triaenops* bats from a mist net set next to the cave entrance

© Annette Olsson

**PRIMUS, A., HARVEY, J., GUIMONDOU, S., MBOUMBA, S., NGANGUI, R., HOFFMANN, F., BAKER, R., and PORTER, C. A., 2006. Karyology and chromosomal evolution of some small mammals inhabiting the rainforest of the Rabi Oil Field, Gabon. In: Alonso A, Lee ME, Campbell P, Pauwels OSG, Dallmeier F, editors. *Gamba, Gabon: Biodiversity of an Equatorial African Rainforest*. p 371-382.**

Keywords: Chiroptera; *Epomops*; *Hypsignathus*; *Megaloglossus*; *Myonycteris*; *Pteropodidae*; *Scotonycteris*

**RODRIGUEZ, R. M., HOFFMANN, F., PORTER, C. A., and BAKER, R., 2006. The bat community of the Rabi Oil Field in the Gamba Complex of protected areas, Gabon. In: Alonso A, Lee ME, Campbell P, Pauwels OSG, Dallmeier F, editors. *Gamba, Gabon: Biodiversity of an Equatorial African Rainforest*. p 365-370.**

Keywords: Pteropodidae; *Epomops franqueti*; *Hypsignathus monstrosus*; *Megaloglossus woermanni*; *Myonycteris torquata*; *Scotonycteris zenkeri*; Vespertilionidae; *Glauconycteris beatrix*; *G. poensis*; *Kerivoula phalaena*; *Neoromicia brunneus*; Hipposideridae; *Hipposideros caffer*, *H. gigas*; Nycteridae; *Nycteris grandis*; *N. arge*.

**SMITH, S. J., and LESLIE, JR. D. M., 2006. *Pteropus livingstonii*. *Mammalian Species* 792: 1-5, 3 figs.**

**WEBALA, P. W., MURIUKI, G., LALA, F., and BETT, A., 2006. The small mammal community of Mukogodo Forest, Kenya. *African Journal of Ecology* 44(3): 363-370.**

Abstract: Species richness and diversity of rodents and insectivores were investigated at relict forest patches of Mukogodo, Laikipia, Kenya using Sherman's live traps and pitfall traps. Two hundred and nineteen individuals were captured in 3021 trap-nights. There were eleven species in two taxonomic groups, Rodentia and Insectivora. Two other rodent species were sighted but not captured. Thirteen bats belonging to four species (*Epomophorus wahlbergi*, *Pipistrellus kuhlii*, *Scotophilus dingani* and *Nycteris thebaica*) were opportunistically trapped using mist nets. Two of the four species accumulation curves for forest patches did not reach an asymptote. Species richness and diversity were highest at Kurikuri compared with other patches because of habitat variability. The results support the prediction that forest disturbance and degradation lead to an increase in generalist species as compared with specialists and highlight the importance of relict afro-montane forests in the conservation of small mammals in Kenya.

# NOTICE BOARD

## Conferences

### 36<sup>th</sup> Annual North American Symposium on Bat Research

To be held at: Wrightsville Beach, NC, USA, 18-21 October 2006.

Further information: <http://www.nasbr.org>

## Future planning

- 1<sup>st</sup> International South-East Asian Bat Conference, Phuket, Thailand, 7 - 10 May 2007. [[www.sc.psu.ac.th/bats](http://www.sc.psu.ac.th/bats)]
- 21<sup>st</sup> Annual Conference of the Society for Conservation Biology, Port Elizabeth, South Africa, 1-5 July 2007.
- 33<sup>rd</sup> Meeting of the Zoological Society of Southern Africa, North-West University, Potchefstroom, South Africa, 8-11 July 2007. "The sixth extinction - conserving zoological biodiversity" [<http://www.natural-events.com/ZSSA>]
- 37<sup>th</sup> Annual North American Symposium on Bat Research, tentatively scheduled for Mexico in 2007. [<http://www.nasbr.org>]
- 14<sup>th</sup> International Bat Research Conference, Merida, Mexico, Late August 2007. [May coincide with the 37<sup>th</sup> Annual North American Symposium on Bat Research].
- 11<sup>th</sup> European Bat Research Symposium, Cluj-Napoca, Romania, August 2008.
- 12<sup>th</sup> European Bat Research Symposium, Lithuania, August 2011.

## Call for contributions

African Bat Conservation News publishes short communications, life history notes, geographical distributions, bat surveys, echolocation & sonograms, recent and past literature, short book reviews, announcement of workshops and news items.

### African Bat Conservation News Project Cycle

Issues will be published Quarterly (January, April, July, October).

Deadlines for scientific contributions (1 November, 1 February, 1 May, 1 August).

Deadlines for non-scientific contributions (1 December, 1 March, 1 June, 1 September).

General contributions should be sent to the editor: [EditorABCN@Africanbats.org](mailto:EditorABCN@Africanbats.org)

Scientific Contributions should be sent to: [ScientificEditorABCN@Africanbats.org](mailto:ScientificEditorABCN@Africanbats.org)

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