the BG news

Editor: Trevor Morgan
Issue #66 - May 2016

Newsletter of the Gauteng and Northern Regions Bat Interest Group

Mpumalanga, (Feb 2016)

Wathaba is situated outside Machadodorp in the region where higher altitude grasslands start to give way to lower lying savannah and there are pockets of forest along the rivers.
In such transitional areas, one is never quite sure what mix of animals you will encounter, since there may be representatives of both habitats as well as a few generalists.
Wathaba is a good example, with a pair of Secretary birds near the entrance, Knysna turacos and Mountain wagtails around our cabin down below, and Hadedas in between.
Bats are less easily slotted into fine biome classifications, and broadly speaking, the species we found at Wathaba were those that favour open temperate regions and those that prefer warmer areas with woodlands.
. . . . and then one that does not seem to be that fussy either way.

In the temperate denizen category you could place the tough Cape serotine (*Neoromicia capensis*) of which we caught only two, and the Geoffroy's horseshoe bat (*Rhinolophus clivosus*) of which we caught none but saw one. An interesting thing about the horseshoe bat is that it had a night roost at the entrance to one of the ablution blocks and another in the open air Chapel located near a river. It seemed to use one or the other on a particular night, but apparently not both. I managed to get a photo of it and a call recording with a constant frequency around 92 kHz, which helped me identify the beast.
Amongst bats more often found in lower altitude woodland and forested areas, we caught a few juvenile Wahlberg's epauletted fruit bats (*Epomophorus wahlbergi*) and many Dusky pipistrelles (*Pipistrellus hesperidus*), which seem to be the most common species at Wathaba.


Geoffroy's horseshoe bat (*Rhinolophus clivosus*)

Wahlberg's epauletted fruit bat
(*Epomophorus wahlbergi*)

Lastly, we caught a species which is found pretty much wherever there are caves or abandoned mine tunnels, but probably not in pure forest; the Natal-long fingered bat (*Miniopterus natalensis*).

Dusky pipistrelle
(*Pipistrellus hesperidus*)

Natal-long fingered bat
(*Miniopterus natalensis*)

As the loyal reader will know, GNoR BIG outings are seldom only about bats for which we have an obvious and intense bias, but basically any other organism which the site has to offer.
Wathaba was particularly fruitful in this regard. This prompted Leon to compile a short review of some of those non-chiropteran creatures, the *other stuff* he calls it.

Julio Balona

The dining facilities at the Bottlebrush Cabin

Although the main focus of bat outings is to study bats, it is hardly possible to be in nature for a weekend without seeing some seriously interesting things. For the keen birder there is usually a new bird species to add to the birding list, while all sorts of other creatures abound.
The weekend spent at Wathaba hiking trails was no exception.

Erna had barely woken up on Saturday morning and was still enjoying her morning coffee when she was visited by a Green water snake (*Philothamnus natalensis*). This little guy is non venomous, and he was very good natured, allowing us to take many photographs without once looking threatening. A definitive feature of this snake is the skin that can be seen between its scales.

Green water snake (*Philothamnus natalensis*).

www.batsgauteng.org.za

There was also this colourful moth sitting on a rock in the middle of the river, which we all photographed for its beautiful shades. Checking out my photographs I was surprised to find I had photographed more than just a moth. See if you can spot the surprise.

[One of the diurnal and presumably toxic moths from the genus Amata, known as Maidens - Julio]

For those who have an interest in trees, it's nice to get out of the Botanical Gardens for a change. Which tree is this?

Next was a scorpion. Although only about 2 centimeters long, this little guy packs a punch, note the small claws. I didn't find him using the blue light, but here he is under the blue light to enhance him a bit.

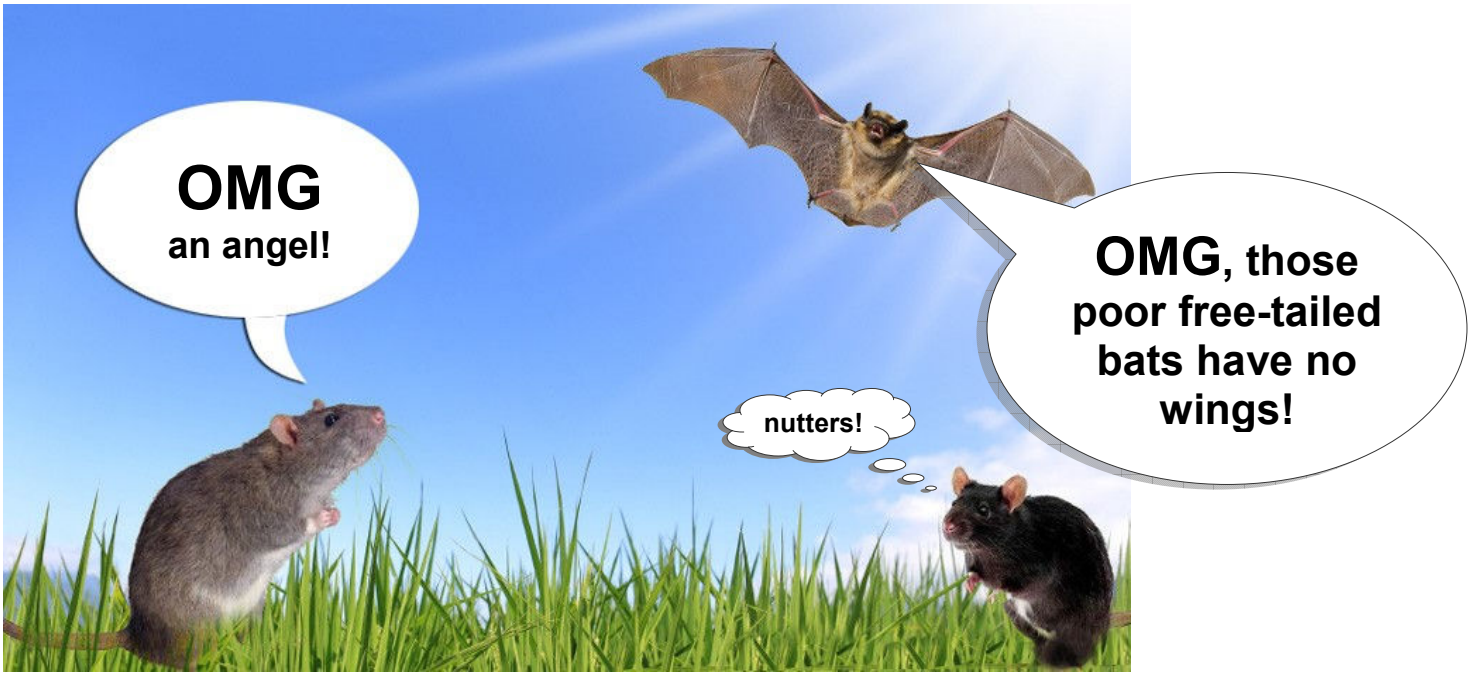
Erna then called us over to have a look at this fascinating spider, which is a web-casting spider. This spider creates a little net that it holds in its front legs, ready to ensnare any incautious insect that might come wandering by.

This millipede was only centimeters away from the web-casting spider. We did not hang around long enough to find out if a fight broke out between the two as there were bats to be caught!

[A cute fellow and basically harmless, but unfortunately it is the House centipede, an alien from southern Europe – Julio]

These pictures serve to illustrate just how interesting a bat outing can be, and usually are. For those with an interest in nature, whether passing or professional, these weekends are always great fun.

Leon de Kock



The **Tolga Bat Hospital, Australia** works for the conservation of bats and their habitat through partnerships in education, research, advocacy, and rescue work.

The bat pups are brought in when they are afflicted by tick paralysis or when their mothers have died or become too ill to feed them. They are wrapped up and given teats as comforters, much like human babies. Nothing could be further from the image of vicious blood-sucking monsters that so many think of when bats are mentioned.

http://www.suggestedpost.eu/bat-hospital/

A very unusual bat roost…

The picture below posted on the Flickr website, was sent to me a few years ago, from where or whom, I cannot recall. It just looked so unfeasible…I thought it might be a hoax…so I just saved it somewhere and forgot about it. But I recently stumbled across it again and I must say, it appears to have been genuine. And now I note that the writing at the bottom suggests that it came from some sort of publication titled Nyctalus (a European bat genus), but have been unable to find anything like it by Google. Since it appears to be written in German, I'm not entirely sure what it says, but it seems like someone actually found a colony of bats (*Nyctalus noctula*, incidentally), hibernating in their home trainer, of all places. Quite remarkable.

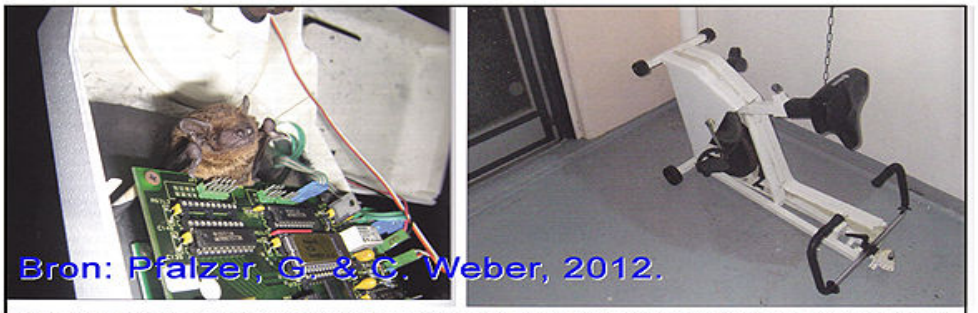


Abb. 3. Abendsegler (*N. noctula*) in der Steuerungseinheit eines Hometrainers in der Loggia eines Hochhauses in Kaiserslautern (08.12.2009). Das Gerät (rechte Seite) wurde mit Erlaubnis des Eigentümers vollständig demontiert.

Abb. 4. Insgesamt 155 Abendsegler (*N. noctula*) wurden am 08.12.2009 aus dem Kunststoffgehäuse eines Hometrainers im 14. OG befreit.

Pfalzer G. & C. Weber. 2012. Winterfunde des Abendseglers (Nyctalus noctula) in der Pfalz (Bundesland Rheinland Pfalz) im Zeitraum. Winter 2006/2007 bis 2011.2012. In: Nyctalus. Vol. 17. Band 1-2, p. 177-183

Source: https://www.flickr.com/photos/26362372@N02/8347351542/in/photostream/

Julio Balona

#10

The quiz to test your skills on the identification of southern African bats.
The rules are:

- The mystery bat will be from the southern African region as defined by the countries South Africa, Swaziland, Lesotho, Mozambique, Zimbabwe and Namibia.
- It will not be a species that is a rare vagrant to the region (e.g. Bergman's collared fruit bat, *Myonycteris relicta*), although it could be one that is relatively scarce (e.g. Rüeppell's pipistrelle, *Pipistrellus rueppellii*).
- There may or may not be supplemental information provided (e.g. frequency of bat call, geographical location, forearm size, etc.)

Identification of Mystery bat No. 9

Forearm length = 68mm
The recording of the call of this bat had a peak frequency of 48 kHz.

It should be obvious that our beast is a horseshoe bat. And with such a large forearm it must be one of what used to be referred to as the Rhinolophus hildebrandtii complex. Apart from size, the broad saddle-like shape of the connecting process of the noseleaf is present only in this group, apart from the significantly smaller R. fumigatus.

This cryptic cluster was reclassified in a paper published in 2012, recognizing that it consisted of three species in southern Africa, R. cohenae, R. smithersi and R. mabuensis. Of these, only R. smithersi has a call frequency around 48 kHz.
Our beast is therefore, **Smithers's horseshoe bat** *(Rhinolophus smithersi)*.

Mystery bat No. 10

Can you deduce the name of the beast below?

Bat News Update

by Julio Balona

Interesting new research

White Nose Syndrome in China

It was discovered a few years ago that the fungus responsible for WNS, *Pseudogymnoascus destructans*, is present in caves in Europe and on some of their cave bats. Since these bats appear to be unaffected significantly by the fungus, it is believed that they have developed resistance to *P. destructans* and that it must therefore have been present there for a long time. It is then natural to conclude that the fungus was imported into North America by humans, where it is devastating colonies of certain bats which have no immunity to this new affliction.

Now the fungus has been found on several species of cave bats in China as well. These animals were also not nearly as severely affected as their North American counterparts, suggesting that the fungus has been present here for a long time as well.

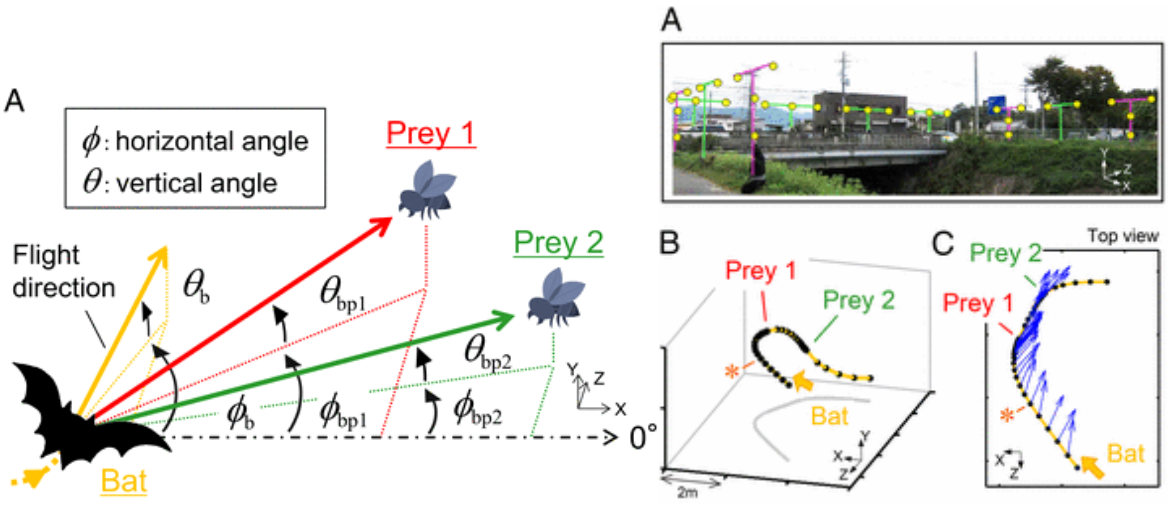
http://wildlife.org/white-nose-syndrome-discovered-in-china/

http://www.bbc.com/news/science-environment-35758422

Keeping your eye on the ball. And the next ball.

As flying predators that navigate using sonar, insectivorous bats are already quite impressively sophisticated animals. Now another aspect has been revealed regarding their hunting strategy that demands additional respect. It appears that bats do not just focus on the nearest prey and then search for the next one, but instead track it in such a way that the next nearest prey item continuously remains within their acoustic vision, and can be captured in succession. That is, they adjust their flight path continually while homing in on Prey 1, so that they do not lose acoustic sight of Prey 2 nearby, which can be captured next.

This finding is based on work using a 3D array of 32 microphones monitoring foraging Japanese house bats (*Pipistrellus abramus*), together with mathematical modelling of their trajectories.

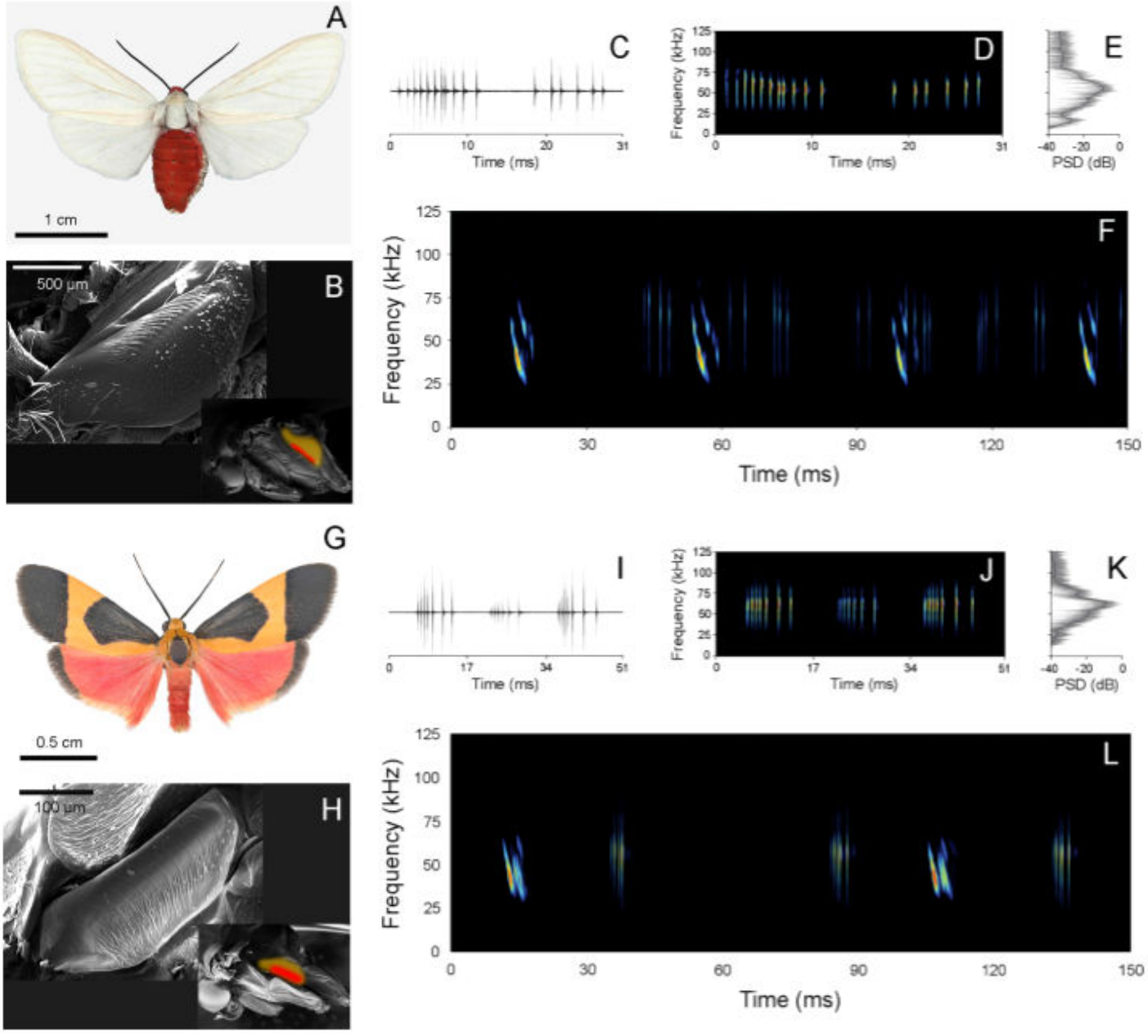


http://www.pnas.org/content/113/17/4848.full#sec-3

Acoustic aposematism

It has been known for some time that many moths and other insects are able to hear the ultrasonic calls of hunting bats and respond in some way to evade them. One approach is to drop suddenly, while another is to fly erratically. A third option is to emit clicks that jam the sonar of the bat, and has been shown to occur in at least one species of moth.

In a similar vein is acoustic aposematism. In this case, rather than evasion, a toxic moth advertises its unpalatability by emitting clicks when it detects bat sonar. The bat is then informed that the moth will taste rather bad and is best left alone. This is acoustic equivalent of the well-known phenomena of aposematism where an organism warns of its toxicity by using bright or highly contrasting colouring. A recently published paper has shown that two species of North American tiger moths utilize acoustic aposematism



Jamming
http://www.npr.org/templates/story/story.php?storyId=106693909&ft=1&f=1001
Acoustic aposematism
http://www.natureworldnews.com/articles/21938/20160511/acoustic-aposematism-tiger-moths-produce-warning-signals-deter-bats.htm

Other stuff (not Leon's other stuff!)

Bats in Japan

Scientists in Japan have for a long time wondered where all the Eastern bent-winged bats go in winter. They have now discovered a colony of thousands roosting in some sort of man-made tunnel in a mountain, together with Japanese horseshoe bats.

Although a very important find for local bat conservation, it is not really a particularly notable story from our point of view. What did strike me though, were some of the photos of the bat masses which would work rather well as a wallpaper.

http://www.dailymail.co.uk/sciencetech/article-3419338/Mystery-disappearing-bats-solved-Pictures-reveal-thousands-elusive-mammals-huddling-Japanese-cave.html

GNoR BIG would like to welcome the following new members:

Dr Leigh Richards, the curator of mammals at the Durban Natural Science Museum joined GNoR BIG after she gave a talk at the 2015 AGM. Welcome to GNoR BIG! Great to have you as part of the team!

Adri van Nieuwkerk, a recent honours graduate from The University of the Witwatersrand where she studied Ecology and Conservation, has many interests, e.g. Green Urban Spaces and the relationship humans have with their environment. GNoR BIG is a great way for her to get stuck into understanding those things. Welcome, hope you will enjoy it here with us!

Yolande CarlseHeunis recently joined GNoR BIG and we hope that you will find bats as fascinating as we see them. See you in the field soon!

Keep the date for GNoR BIG's 22nd AGM:

Sat 30th July

We will be privileged to have as our speaker:

Dr. Tigga Kingston

Dr. Tigga Kingston is an Associate Professor in the Department of Biological Sciences Texas Tech University (www.kingstonlab.org) and a central figure for the conservation of bats in Southeast Asia; she is the founder and director of the Southeast Asian Bat Conservation Research Unit (www.seabcru.org), and is the Old World Co-Chair for Bat Specialist Group of the IUCN's Species Survival Commission. She earned a PhD degree at Boston University, USA where she studied the community ecology of bat assemblages in Peninsular Malaysia. Tigga and her lab focus on factors shaping bat diversity in unmodified habitats, and the response of assemblages to land-use change and human disturbance in the Old World tropics.

Research areas: Conservation Ecology of Palaeotropical Bats

GNORBIG Committee

Julio Balona Chairman Cell: 082 359 1295 africanbat@gmail.com	**Erna Balona** Membership Secretary and Merchandise Cell: 082 927 9532 erna.balona@gmail.com
Sharron Reynolds Treasurer Tel: 011 447 7740 (w) 011 974 0798 (H) Cell: 082 821 6588 accounts@themedia.co.za	**Trevor Morgan** Newsletter Editor trevorem@mweb.co.za
Kate MacEwan School bat box coordinator kate@nss-sa.co.za	**Wanda Markotter** Tel: 012 420 4602 Cell: 082 824 6356 wanda.markotter@up.ac.za
Terence Scott: Sponsorship TPScott1987@yahoo.co.uk	**Stewart McCulloch:** Sponsorship Stewart.McCulloch@fabi.up.ac.za