



Bats descend on Windhoek CBD

by Julio Balona

The other day (Wed, 4 June to be exact), I received a puzzling phone call from a guy by the name of Ryno. He was calling from the CBD of Windhoek, Namibia, to ask for my assistance with a strange phenomena: there were literally hundreds of bats in the street. They appeared unharmed, and were spread all over sidewalk, just sitting, while others were climbing the walls.

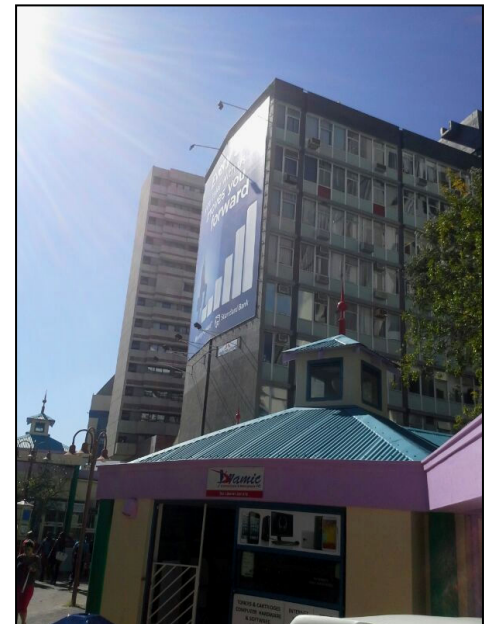
Ryno said that he had seen them flying around the previous day and was wondering if I knew of anyone in Windhoek who could help with the situation. His concern was the locals were bat ignorant, were freaking out and some were already exterminating some of the animals.

I replied that 1) I'd never heard of such a thing, 2) his locals were not unique, ours are also bat ignorant [hopefully slightly less, thanks to GNoR BIG] and 3) I unfortunately did not know anyone who could assist.

Thinking that perhaps a colony of bats had been migrating or moving through overnight and were caught in chilly weather, I asked him if there had been a cold front passing through. He confirmed that as a matter of fact it had been rather cold lately. I then asked if he could send me photos of the bats and he said he would as soon as he got a chance.

I wanted to determine if the bats were a cave species or roof dwellers since it would help me figure out their origin. One of the thoughts I had is that perhaps a cave had been smoked out in the surrounding area, flushing out the bats, although this seemed unlikely.

About an hour later Ryno sent these photos of the bats and the location:



And then it made more sense. They were Egyptian free-tailed bats. And what had probably happened is that there was a large colony roosting in a building (it is not unusual to find this species in buildings in a CBD) which had then been fumigated. Or some construction work had taken place in which the roof was removed, or something to that effect. Either way, those that survived the upheaval had to escape, unable to return. And after a cold night, which really does not suit a free-tail, they were stranded in the streets, de-energized.

Although I had known that there were Egyptian free-tails in Windhoek I didn't initially consider them since I'm not used to them roosting in such large colonies - I am more accustomed to seeing groups of less than a dozen, or perhaps a few dozen.

Anyhow, the bad news is that a number of the bats did not live through the experience, either due to direct violence by ignoramuses on the street, or perhaps by poisoning via other fumigative ignoramuses.

The good news is that Ryno later let me know that most of the bats had flown away. I presume that after the day had warmed they finally had enough energy to take off and find alternative lodging.

Bat News updates

by Julio Balona

Bats & Disease

WNS can survive without bats

Bad news: The fungus that causes White Nose Syndrome in bats, *Pseudogymnoascus destructans*, can survive in cave soil alone. This means that the fungus will not simply die off with their bat hosts, and infected caves will remain so.

http://www.sciencecodex.com/ua_researchers_trace_bat_killers_path-126988

Using bacteria to fight WNS

An interesting idea is being investigated in the search for ways to combat WNS, that of setting one microbe against another. It came about from the discovery that the chytrid fungus which has devastated frog populations throughout the world, was ineffective against amphibians that had a certain anti-fungal bacterium on their skin. A scientist from the University of California-Santa Cruz then wondered if the same possibility existed for fighting WNS. Researching different bacteria, at least two have been identified that can control or kill WNS. Tests are now being conducted to determine their efficacy.

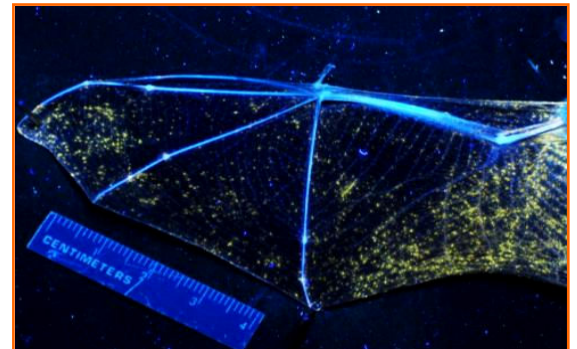
<http://www.summitdaily.com/news/10581819-113/chytrid-frogs-bacteria-bats>

UV light as non-lethal way to detect WNS in bats

One of the problems of WNS is that it is not always obvious if a bat has been infected. Previously, it was sometimes necessary to euthanize a bat and send it in for testing – obviously not a heart warming idea when so many bats are already dying from the disease.

Fortunately it has now been discovered that WNS infection can be detected under UV light due to the glow of the resultant lesions which are not always clear in visible light.

<http://phys.org/news/2014-05-glow-in-the-dark-tool-scientists-diseased.html>



UV illumination of lesions associated with white-nose syndrome. Photo: Nathan Ramsay, USGS

Interesting new research



Fringe-lipped bat eating frog
Photo: Christian Ziegler

Frog-eating bat uses ripples to locate prey

It has been known for some time that not only do Fringe-lipped bats (*Trachops cirrhosus*) prey largely on frogs, but that they are able to avoid poisonous species by recognizing their calls.

(See <http://smithsonianscience.org/2012/06/with-picky-eating-bats-avoid-poison-prey/> which describes this behaviour and includes nice laboratory footage thereof).

New research has now shown that the bats may use not only the calls of the frogs to home in on them, but also the pattern of ripples that result from its vibrating vocal sac. And that a successful capture was more likely if the ripples were present:

<http://www.utexas.edu/news/2014/01/23/tungara-frog-research/>

In the broader view, this work suggests to me that when trying to understand how bats forage, we should not only focus simply on how the food is located spatially but also other environmental cues (e.g. perhaps certain moths also have a particular smell).



www.batsgauteng.org.za

Big browns that do not care to share

Non-navigation calls by bats is an area still not well known, particularly with African species.

In a study in Maryland, USA, it was found that when more than one male Big-brown bat (*Eptesicus fuscus*) closed in on a prey item (tethered meal worms in this case), they would emit calls different to their normal navigational sweeps. These other calls, referred to as Frequency Modulated Bouts, appear to be a way of saying "This one's mine, leave it alone" since once it was emitted all but one bat abandoned the pursuit. Also, these calls have only been found to be used by male bats.

<http://www.isciencetimes.com/articles/7018/20140331/call-male-bats-warn-snagging-dinner-identified.htm>



The delightful New Guinea big-eared bat (*Pharotis imogene*).
Photo: Julie Broken-Brow

Bat species thought extinct rediscovered after 122 years

In Papua New Guinea a single and attractive female New Guinea big-eared bat (*Pharotis imogene*) was captured in a harp trap during a survey in a relatively remote part of the country. This is the first record since the species was described from the only known specimens in 1890.

<http://theconversation.com/lost-bat-species-rediscovered-after-120-years-in-the-wilderness-26062>

Fishing bats in Spain

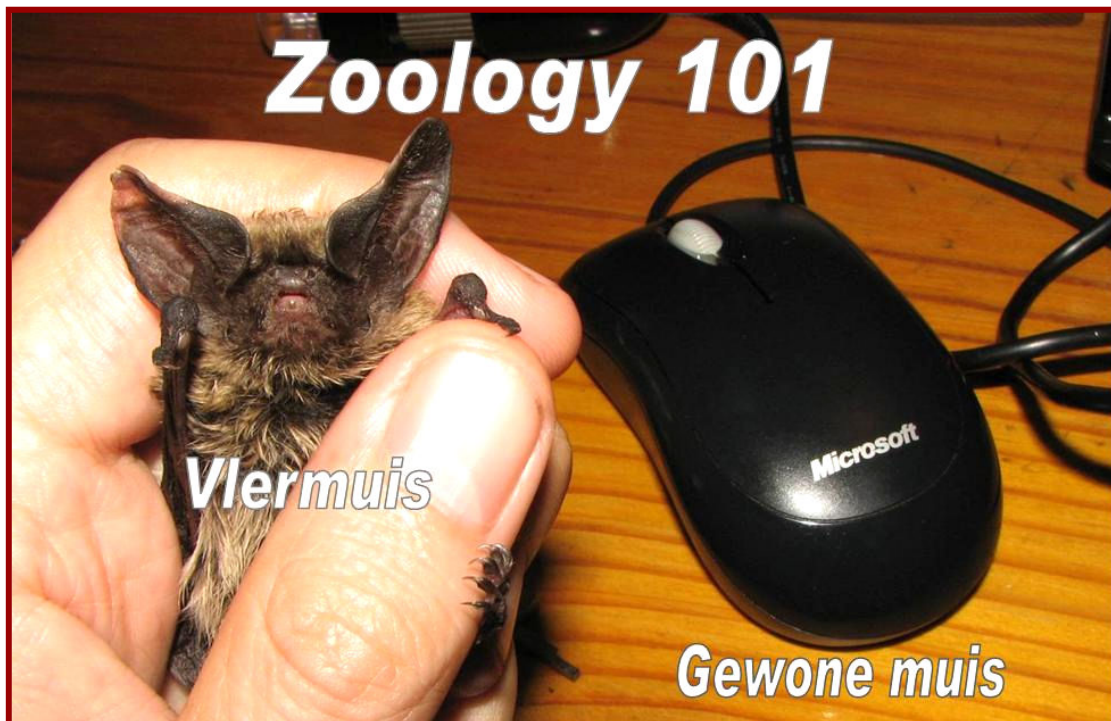
Valencia, Spain, may be most widely known for its premier football club. For me, they have always been elevated above other teams because, well, they have a bat in their logo ☺ Now, coincidentally, some rather interesting research has come out of the region. It has been confirmed that in certain locations the so called Long-fingered bat (*Myotis capaccinii*) which was previously considered only insectivorous, hunts fish. Since its prey is the Eastern mosquitofish (*Gambusia holbrooki*) which is not indigenous, this raises interesting questions. For example, is this learned behaviour or did they used to hunt some other now absent indigenous species?

My guess is that since this bat is one of the trawling species, i.e. it drags its large feet ("long-fingers") through the water surface to capture insects, this new habit of fishing may simply be the result of a small surface feeding exotic fish being treated the same way any other insect would be.

http://www.basqueresearch.com/berria_irakurri.asp?Berri_Kod=5004&hizk=l



Proposed new logo for Valencia F.C.





by Julio Balona

A bit on those fabulous trapping machines!

As all bat fiends would know, the two standard pieces of equipment for capturing bats are mistnets and harp traps. Both have their pros and cons and usually one is more suited to a particular circumstance. However, for me harp traps have certain critical benefits such as being less harmful to bats and the option to leave them unattended for reasonable periods. In addition, there is an element of DIY associated with these devices that appeals to my and other batter's technical leanings.

I've yet to consider knitting my own mistnets, but have already built my own harp trap (it worked but was very rickety), and one of those regularly used by GNoR BIG was built by our gifted but grumpy Newsletter Editor Trevor Morgan.

The DIY lure has been pursued by others in the industry as well. On David's Bat Blog

(<http://davidsbatblog.blogspot.com/search?updated-min=2014-01-01T00:00:00Z&updated-max=2015-01-01T00:00:00Z&max-results=4>), a site I've enthused about before, he discusses homemade construction of a Goliath Harp Trap.

The idea here is something I've toyed with as well: to try to rectify to some extent the trap's main drawback which is its relatively small capture area. It is interesting that he considers mistnets to have a better catching rate. My opinion is a little different: I believe that *per square meter* of area, the harp is more effective than a mistnet.

Furthermore, there are certain bats, for example *Clootis percivali*, *Hipposideros caffer*, and most of our Rhinolophids, that appear to be seldom fooled by mistnets during foraging, but easily captured in a harp.

An appreciated embellishment of David's discourse on Goliath, is a photo of the original Tuttle trap which was huge. This was adapted from the original invention by Constantine who first described it in 1958. It had a single bank of wires and he referred to it as an 'automatic bat collecting device'.

If you are interested in the finer points of harp trap construction, another good site is that of the impressive Australian Bat Society (<http://ausbats.org.au>). In the Resources, Newsletter Archive, check ABSN#10, 19 and 21.

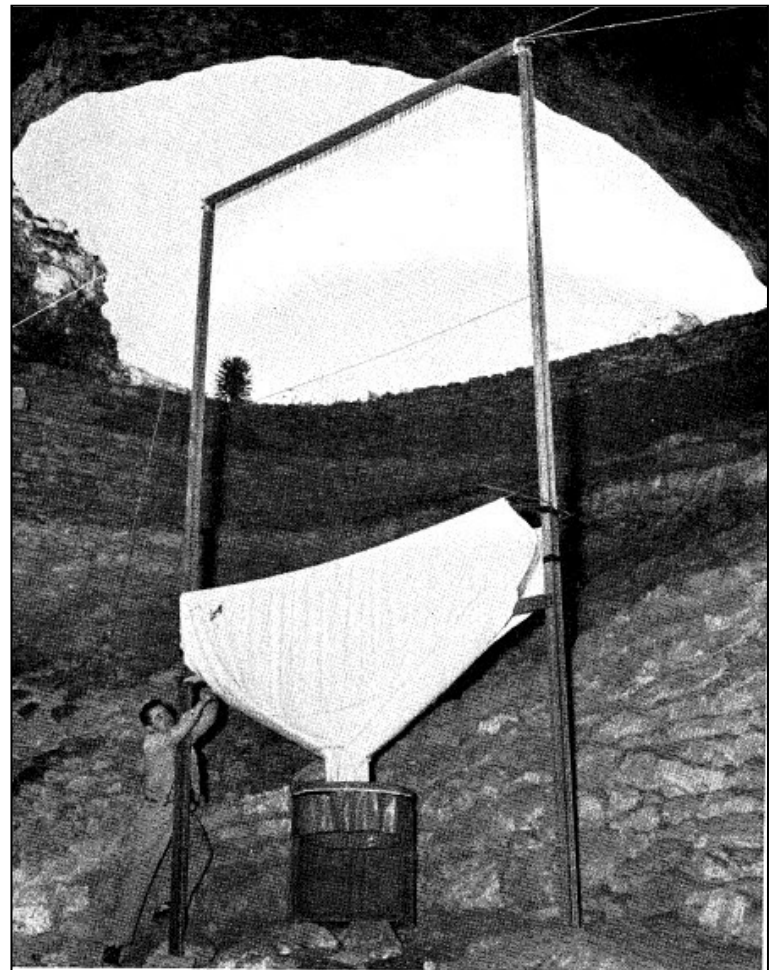


FIG. 1. Bat trap at Carlsbad Cavern. Photo by Tex Helm.

Southern Yellow-billed Hornbill and Bat

by Robin Hoskyns

<https://kalahariblog.wordpress.com/tag/yellow-hornbill/>

There is quite a high diversity of birds around the Kalahari and this post is from a collection of photos showing just some of the birds I see on a daily basis. It is by no means an exhaustive list as there are many more birds I see daily that I have not managed to get a good image of.

Southern Yellow-billed Hornbills tend to hang around in pairs or small family groups, there is a family of them that hangs around the farmhouse and they tap on the kitchen window demanding bits of bread that people sometimes feed them. I have seen them use their large beaks to dig in the sand for insects and this one somehow managed to catch a bat in the tree next to the farmhouse! It was trying to kill the bat before swallowing it by bashing it against the tree but was having difficulties due to a lack of hands with opposable thumbs!



A Southern Yellow-billed Hornbill eating a bat (photos: Robin Hoskyns)

Robin Hoskyns is a field biologist and wildlife photographer from the UK who recently returned from working on the Kalahari Meerkat Project in South Africa. <http://www.robinhoskyns.co.uk/#!/index>

More bat news

New species of Miniopterid in Southern Africa

Prof. Ara Mondajem, Steven Goodman of the Chicago Field Museum, *et. al.*, have recently described a new species of *Miniopterus* from survey work in Mozambique. The beast shall be known, not surprisingly, as the Mozambique long-fingered bat (*Miniopterus mossambicus*). This is a family that is very difficult to identify to species level and although there are some subtle morphological differences, *M. mossambicus* has been primarily isolated on a genetic analysis basis.

<http://biotaxa.org/Zootaxa/article/view/zootaxa.3746.1.5>

Bats and agricultural pests: Wrinkle-lipped bats help control rice pest in Thailand

A survey in Thailand in 2005 revealed that as much as 30% of the Asian wrinkle-lipped bat's (*Tadarida plicata*) diet can consist of the White-backed plant hopper, a major rice pest. Since some colonies can number in the millions, surely this bat must be having a significant positive impact on agriculture in the country.

<http://www.asianscientist.com/in-the-lab/bats-protect-rice-pests-2014/>

First record of bat crossing the North Sea

A ringed Nathusius' pipistrelle (*Pipistrellus nathusii*), a species very similar to the Cape serotine, was found dead in the Netherlands at its roost in a busy farm building. When the ring was traced, it was found to originate from England, about 600km away. Although long range movements of these small bats are known, this is the first record where both locations are pinpointed across the Northern Sea.

<http://www.bbc.co.uk/nature/25759149>



Egyptian slit-faced bat with captured green stink bug.
Photo taken by Merlin Tuttle on a recent visit to South Africa (see <http://www.merlintuttle.com/>).

Bats and agricultural pests:

Bat predation on stink bug pest of Macadamia trees

Peter Taylor *et. al.* have recently published the results of a study of the predation of various bat species on the Green Vegetable Stink Bug, a major pest of Macadamia trees. The work took place in the Soutpansberg area and analyses of faecal pellets from the bats showed that around a third of all the pellets contained DNA from the Green Vegetable Stink Bug. Therefore the bats in the area are certainly assisting the farmers in pest control although the extent of this is still not known.

The article was published in the Southern African Macadamia Growers' Association Yearbook 21 of 2013.

The two studies above, together with work on the Brazilian free-tail in the USA and on the Angolan and Little free-tail bats in Swaziland, emphasizes how valuable bats are for pest control.



www.batsgauteng.org

Bats & Wind Turbines

8 ways the wind turbine industry is trying to reduce the bird & bat death toll

An update on some of the ways the industry is investigating to try to kill less bats & birds.

I'll list them here:

- | | |
|---|---------------------------------------|
| 1 Smarter siting | 5 Radar |
| 2 GPS tracking | 6 Ultrasonic acoustics |
| 3 Turning off turbines at low wind speeds | 7 Painting turbines different colours |
| 4 Designing new turbine shapes | 8 Strike detection |

You can read the interesting details of each method here:

<http://grist.org/climate-energy/for-the-birds-and-the-bats-8-ways-wind-power-companies-are-trying-to-prevent-deadly-collisions/>

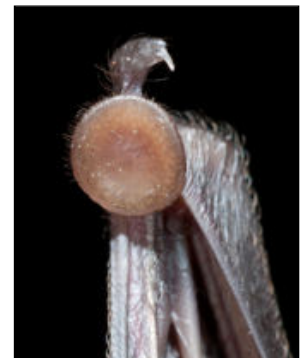
Other stuff

New species of disk-winged bat

South American disk-winged or sucker-footed bats have the same roosting habits as our Banana bats, namely the use of the tubes formed by unfurled new banana leaves and similar plant species. However the New World bats are more obviously adapted to this habit due to the presence of distinct 'suction cups' at the base of their thumb, hence their name.

Apart from tubular leaf fronds, bats from both groups also sometimes roost within dead leaves and it is here that a new species of disk-winged bat (*Thyroptera wynneae*) was found in a Peruvian forest. An interesting point about the find was that it was as a result of the inefficient needle-in-the-haystack approach of simply searching all sorts of possible bat roosts in the forest.

<http://news.nationalpost.com/2014/01/27/how-biologys-indiana-jones-discovered-a-tiny-bizarre-suction-cup-bat-in-the-western-amazon/>



Suction cup of disk-winged bat.
Photo: Burton Lim



THE NAME OF THE BEAST

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. Rüppell's pipistrelle, *Pipistrellus rueppellii*).
- There may or may not be supplemental information provided (e.g. frequency of bat call, geographical location, forearm size, etc.)



Mystery bat no.5

Two features are distinct in this photo: the sickle shaped tragus and the yellowish fur. The first is very much a characteristic of the *Scotophilus* genus, commonly known as House Bats.

Four species are currently recognized in Southern Africa, the Yellow-bellied house bat (*S. dinganii*), the White-bellied house bat (*S. leucogaster*), the Giant yellow house bat (*S. nigrita*) and the Green house bat (*S. viridis*).

Of these, *S. leucogaster* is not known for yellowish fur. And of the remaining species we use the other information given, forearm = 55mm, to determine that our bat is too small to be a *S. nigrita*, and too large to be a *S. viridis*, leaving the Yellow-bellied house bat (*Scotophilus dinganii*).



Mystery bat No. 6

Can you deduce the name of the beast to the left?

Don't forget the GNORBIG AGM

GNOR BIG AGM

The 4 C's of echolocation variation or lack thereof:
Convergence, Cryptic species, Clutter and Communication

Speaker: Dr Prof David

Jacobs

University of Cape Town

Saturday 26 July 2014 16:30 for 17:00

Venue: Winchester Marketing

Booking essential RSVP 18 July 2014

gautengbats@gmail.com

Legendary Soup and Bread
will be served












Please bring own drinks
R20 members,
R50 non-members.



GNORBIG Committee

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<p>Stewart McCulloch: Sponsorship Stewart.McCulloch@fabi.up.ac.za</p>	

Merchandise

 <p>Baseball caps R60 each</p>	 <p>'Bats' T-shirt with 'Bat Food' on back Black or Navy Blue R90</p>	
		
<p>Various 'Bat' T-shirts R80</p>		
 <p>Sticker R8</p>	 <p>Bat jewelry R20</p>	 <p>Echoes of the night CD R50</p>
 <p>'Be kind to bats', Kids T-shirt Black or Navy R55</p>	 <p>'Fruit Bat' T-shirt R75</p>	
	 <p>'Gentle Friends' T-shirt Blue or Green R65</p>	

A **BIG** welcome to the following new members:

Jane Lewis is a fan of nocturnal creatures, especially bats and would like to help conserve them. Welcome Jane!

Johan Pretorius loves pets, snakes and birds, etc. He is also interested in bat research. He had just put up a bat hotel and can't wait for the bats to move in. He says that bats are very interesting little creatures and that he loves them. We love them too Johan and hope they move in soon into your bat hotel!

Pamela Joy van Wyk is interested in every aspect of Nature. Hope you enjoy it with GNoR BIG! We see lots of interesting things on our outings, not just bats.

Kate Biernacki used to be a member and her love for bats had brought her back to GNoR BIG. Welcome back Kate!

Louis van Zyl is our newest member. He heard about GNoR BIG activities at a bat walk and would like to aid in the protection of bats. Hope that you will find yourself in good company with us.