

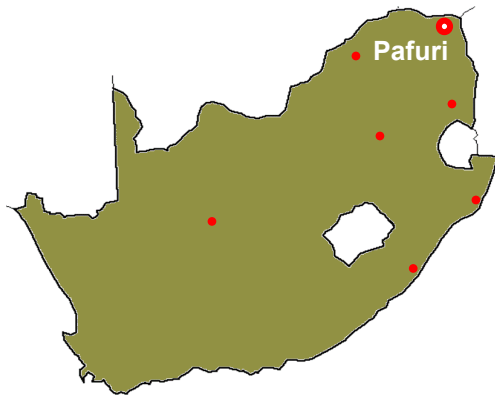


Bat Country

Pafuri River Camp, North-east Limpopo November 2009

By Julio Balona

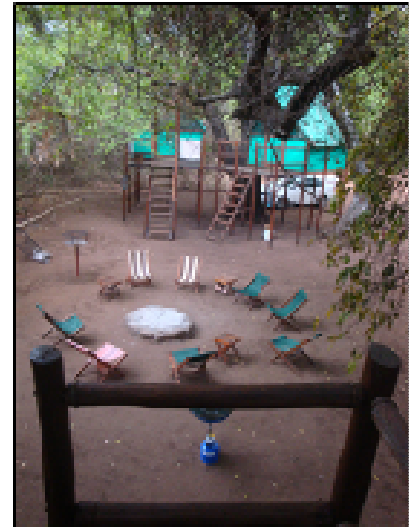
If South Africa had a Bat Distribution Map, it would look something like this:



Although the centres of Komatipoort and St. Lucia would be bustling, the Bat Capital would be firmly located at Pafuri.

Of the country's approximately fifty five known species of bats, close to forty have been recorded here. It is the only place in South Africa where Commerson's roundleaf bat has been found, and for many rare or localised species there always seems to be a record of their occurrence at Pafuri.

Admittedly on this outing we were not located at the Capital proper which is the Pafuri district in the Kruger National Park. Instead we were roughly forty kilometres away, just outside Makuya Nature Reserve that adjoins the national park, at the rustic Pafuri River Camp.



Room with a view Photo: Julio Balona

Cleverly constructed out of wood and complimentary green canvass-like plastic, the 'tree houses' and ablutions are set in small clusters at various sites along the Mutale River, amidst dry mopane veld dotted with baobabs and verdant riverine woodland. Unfortunately, the river had been mostly dry for some time while Limpopo Province waited anxiously for the rains that were now long overdue. This meant no tiger fishing or rafting and perhaps less bat life as some species possibly move around looking for superior conditions in better watered habitats.

However, the lack of water in the river could actually work in the favour of bat capture since those species in the area are forced to concentrate at a few shrinking remaining ponds. The obvious thing to do was to set up our nets and traps at these spots.

First though we decided to spend at least a night staked out at a group of flowering baobabs, trying to catch fruit bats in the act of feeding at the flowers.

Well it seems the fruit bats never received the memo because we didn't even see a single one and not many other bats either. When we returned to camp we saw that there was considerably more bat activity here in the riverine woodland (including fruit bats) compared to the dry mopane veld where the baobabs were, as one would expect.

So on our introductory night at South Africa's bat capital we had caught absolutely nothing.....



Some of the group were probably disheartened by this but I was not concerned. I knew this was bat paradise and the reason we had seen little was because our first site was not optimum and constrained by our specific goal of trying to see bats at baobab flowers.

During the next day I wandered around a rocky hill on the opposite side of the river bed looking for bat roosts and anything else of interest. After about an hour and a half of clambering and walking about in the glaring sun, I realised I was unwise to continue since I had no water with me. Fearing heat stroke, I started back but then couldn't resist one last look at an outcrop that caught my eye. It was a good decision. Hidden from distant view was a low rocky overhang where I found a single horseshoe bat clinging to a vertical wall. It was hard to get an idea of which species it was, so I planned to return another day with the others to try to catch it.

That night we decided to forgo the bats and baobabs quest, setting up in the woodland surrounding the camp and at a nearby pond in the river bed.

Pafuri decided to reveal itself:

First up, an animal that is supposedly not uncommon in the bushveld but that has somehow eluded me for my roughly four years spent in the bat world; the Greenish yellow bat (*Scotophilus viridis*).

Caught in a mistnet at the pond, I recognized immediately that this was not the more common African yellow bat (*Scotophilus dinganii*) by its lack of yellow colouration and it's smaller size (hence the alternative moniker of Lesser yellow bat).

Not long afterwards we also caught an African yellow so we could look at them in comparison.

The Lesser appears to have smaller eyes and proportionally larger dentition, making it look almost malicious next to its cousin. Despite this and the usual baring of teeth it was placid and easy to handle.



Greenish yellow bat
Photo: Sharron Reynolds



Schlieffen's bat Photo: Trevor Morgan

Next in the same net, two diminutive Schlieffen's bats (*Nycticienops schlieffenii*), another species restricted to the Lowveld but quite common there. Superficially resembling serotines these dainty creatures are probably beneficial feeders on mosquitoes in this malaria infested region.

Speaking of serotines, a harder to identify little brown job found its way into our harp trap in the woodland.



Aloe serotine?
Photo: Sharron Reynolds

I would guess that it was an Aloe serotine (*Neoromicia zuluensis*) which, although very similar to the Cape serotine (*Neoromicia capensis*), is smaller and far less widespread.



Epauletted fruit bat
Photo: Trevor Morgan

Finally an epauletted fruit bat got snagged in our mistnet near the tree houses. It was not clear which species she was, a Wahlberg's (*Epomophorus wahlbergi*) or Gambian (*Epomophorus gambianus*), since her low weight indicated that she was a juvenile which renders unreliable the method of differentiating by counting ridges in the roof of the mouth. Although quite unhappy about being captured, when we later released her she promptly flew into the branches just above us and 'hung around' for some time before eventually flying off. It became apparent that there were quite a number of epauletted fruit bats flying about and later we could hear the characteristic bicycle pump mating call of males.

I was more than satisfied with the variety of bats we had found in one night, and particularly pleased about the Greenish yellow bat.

But Pafuri was being a gracious host and provided a surprise dessert.

Becky handed me a bat bag saying that it was from the harp trap set under a large tree and that she thought it was another little brown job but couldn't really see what it was

When I removed the bat from the bag I saw what looked like a Sundevall's roundleaf bat but did a double take when I realised it was a beautiful little Short-eared trident bat (*Cloeotis percivali*). These bats are considered critically endangered in South Africa and although it was not surprising that they occur in this area, as far as I know this is yet another record for Pafuri of an important species.

Having never seen one before, I was unaware how pretty the bat is. Its silky fur appears almost golden and contrasts the dark frame of hair around the eyes, topped with quaint ears.



Short-eared trident bat
Photo: Sharron Reynolds

It is easy to see where it gets its name and the three pronged noseleaf is used to produce higher frequencies of sound than most other bats.

The species used to be more widespread and it is well known that it occurred in good numbers at Wonderboom Cave outside Pretoria. But that was decades ago and now there are only two or three known roosts in the country. Exactly why it has become so scarce is not clear to me. Apart from the usual causes of habitat destruction and the vulnerability that all cave dwelling bats have, another reason may be the bat's sensitivity. Reports by bat workers suggest that this species, like Sundevall's roundleaf bat, is delicate and dies easily from excessive stress. We therefore took our measurements and photographs quickly and released it immediately thereafter.



Short-eared trident bat
Photo: Dawn Cory Toussaint

For the next night we erected mistnets at another larger pond that we had found. Quite quickly about eight or nine Schlieffen's bats were caught, mostly pregnant females. There was a brief lull in activity and then we added a new bat to the list, provisionally identified as an Egyptian free-tail (*Tadarida aegyptiaca*).

It was probably coming down to drink and this is presumably the only time when these high flyers can be netted apart from at their roost.

It was quiet and calm while handled, hoping to intimidate us by baring its long canines which are used for their diet of mostly beetles and moths.



Egyptian free-tailed bat
Photo: Trevor Morgan



Rüppell's horseshoe bat
Photo: Sharron Reynolds

On the fourth day we returned to the outcrop where I had found a horseshoe bat. It was still there and we didn't take long to catch it by chasing it into a mistnet.

From a call recorded on our bat detector and body measurements we quickly established that it was a Rüppell's horseshoe bat (*Rhinolophus fumigatus*).

A localised species in South Africa, it appears to be limited to the extreme north west of the Northern Cape and the Pafuri area. We were therefore quite happy to find this attractive animal with its shaggy grey hair, and it was a first for all of us.

Due to the heat of the day we didn't examine it for too long before we let it fly back into its rocky cavity. In our haste and delight we forgot to check what sex it was.

Our next session of batting was to be at the local shop in the village about two kilometres from Pafuri River Camp. We had been told that the roof of the shop was full of bats and that they were seen emerging every evening by the dozen. I was reasonably certain they would turn out to be free-tailed bats but exactly which species was a question that excited me. The most likely would be a common one such as the Little free-tail (*Chaerephon pumilus*) or Egyptian free-tail, but some interesting alternatives were possible. For instance the uncommon Midas free-tail (*Mops midas*) or perhaps the even less common Ansorge's free-tail (*Chaerephon ansorgei*),

both of which are on Pafuri's long list of achievements. Most notably though, was the unlikely chance of the Madagascan large free-tailed bat (*Tadarida fulminans*) which is quite rare throughout Africa and has only ever been recorded in South Africa at, you guessed it: Pafuri.

That evening just before sunset, we had the back of the village shop surrounded by mistnets. We waited and chatted to the group of curious locals that had assembled to see this strange spectacle.

After a while we could hear squeaking and chattering coming from the roof and it seemed as if the bats knew that there was something suspicious happening outside. About fifteen minutes after their usual emergence time suddenly a group of them flew out and were entangled in our nets.

We had captured seven Little free-tails but were not disappointed because even though they are not uncommon, they are amongst my favourite bats. Their wrinkled lips, stout teeth, hairy Hobbit feet and willingness to make high pitched squeaks, combine to give the impression of lovable but mischievous rogues. They are quite inquisitive and I remember once sticking my head through the ceiling door of a roost; initially there no bats to be seen but then slowly wrinkled faces emerged from various crevices as the residents wondered who the intruder was.



The incredible hairy Hobbit feet of the Little free-tail bat
Photo: Dawn Cory Toussaint



Male Little free-tail showing 'mowhawk' courtship crest
Photo: Trevor Morgan

Looking at each individual we could see that there was a surprising amount of dissimilarity in appearance between all of them. Some had a uniformly grey belly while others had a broad white ventral stripe. Some had light coloured wings, others dark coloured. This variation in the species has been noticed before and has prompted a genetic study by Peter Taylor. Interestingly, the latest work is suggesting that this is actually a complex of very similar species that started diverging relatively recently, perhaps due to climatic changes about twenty thousand years ago.



Permanently bemused Bushveld horseshoe bat
Photo: Dawn Cory Toussaint

When we returned to our camp that night we set up two harp traps in the surrounding woodlands once again, but in new positions.

Another Schlieffen's bat was caught and then a Rüppell's horseshoe which we made sure to sex this time (male) before releasing it.

After this a new species was captured, the Bushveld horseshoe bat (*Rhinolophus simulator*). As its name suggests it is usually found in the bushveld habitat and this individual was foraging in the cluttered environment along the well wooded paths, typical behaviour for a horseshoe bat.

There were no more bats caught that night and we left the traps out.

The following morning two Sundevall's roundleaf bats (*Hipposideros caffer*) were found. This was not surprising because I had picked up their calls on our detector a few days ago.

If one looks at a roundleaf bat's face their relation to horseshoe bats becomes apparent.



Sundevall's roundleaf bat
Photo: Sharron Reynolds

The noseleaf structure is roughly similar in both families, with the major difference being that the projected piece present on a horseshoe's face (known as the connecting process) has been lost on the roundleaf, or has evolved in the horseshoe, depending on which came first in history.

The two are also alike in habits, generally preferring wooded environments and roosting in cavities such as baobab hollows.

The previous evening while we waited for the free-tails to emerge from the shop we had gathered some useful intelligence from the locals. One claimed that he could take us to some culverts along the road in which bats were living and so we arranged to meet up the next day. My guess was that they would probably turn out to be slit-faced bats which are known to roost in culverts, but other types were also possible.

The following day (our last), we showed up at the village ready to go looking for our favourite mammals. However there were some unexpected formalities to be sorted out first. Somehow I found myself seated in front of a sangoma while she threw her divine diagnostic tools of amongst others, domino tiles and cards. Amazingly she was going to tell me if we would find bats in the culverts!

Her result: we would find nothing today but the bats would be there that night.

This was an intriguing prediction because it is basically the definition of a night roost.

Interesting...

After this there were more personal divinations such as the promising one that my friends will give me lots of money. Wow, go for it friends, don't be shy, I'd love to have another sponsored trip to Pafuri. Or even Columbia, who in addition to being the cocaine headquarters, is perhaps the bat capital of the world at around one hundred and seventy five species.

Anyhow, the sangoma was wrong on pretty much everything. But that's okay because it meant we found bats. In the first culvert we checked, which was more of a bridge, a Schlieffen's bat was roosting in the gap between concrete supports in

the roof. Although we had by now caught many of these bats while foraging, none of us had ever found a roost which was another less well known aspect of this creature's life.



Swinny's or Dent's horseshoe bat?
Photo: Trevor Morgan

Not far from the Schlieffen's, in a cylindrical hole in the roof, a small horseshoe bat gazed at us. After extricating it we saw that it was another species to add to our list. From measurements and a call recording, it was either a Swinny's (*Rhinolophus swinnyi*) or Dent's (*Rhinolophus denti*) horseshoe bat. If I was cornered I would have to say it was a Swinny's since this scarce bat is known to be another Pafuri special while the Dent's has not been recorded here. Their distributions are also apparently mutually exclusive in that Dent's prefers a semi-arid habitat (the northern, Northern Cape for example) and Swinny's is found in savannah woodland or even forest.

However, I just have to wonder about this because these two species look identical and have been suspected of being one and the same. Not only are they both the same size and colouration but the calls have the same shape as well as peak frequency of 110 kHz. There are supposedly subtle differences in noseleaf shape but I struggle to see them. In addition the habitat where the culvert was may be mopane woodland, but it was so hot and dry that few trees had leaves despite it being the middle of November.

And the nearest water was about two and a half kilometers away, all of which paint a picture of aridity. But maybe that's from the perspective of a thirsty bat worker crashing through thorn trees to climb down to culverts in a vicious noon day sun.

We found one other Swinny's/Dent's in the same culvert but no bats in the approximately seven or eight others we examined. What was clear from many piles of guano was that the culverts were definitely being used by bats, probably as night roosts.



So on our final night we returned to the culverts.

In the first one, where the Swinny's/Dent's and Schlieffen's lived during the day but not a night, we found five or six slit-faced bats in one of the passages. We sealed off each end of the passage with a mistnet, with me in between to chase the bats into them. This worked well and we caught two quickly. We were about to remove our nets when a bizarre situation suddenly arose:

Simultaneously I noticed a large red roman spider (solifuge) on the ground tugging frantically at our mistnet, and blue light flashing in the darkness above

us on the road. I realised that somehow the police had showed up, no doubt curious why a car has stopped in the middle of nowhere, with torchlight coming from the culvert below. Obviously someone had to do some explaining before there were charges of bat theft or something. The problem was that I was not about to leave our expensive and indispensable mistnets in the powerful jaws of a creature known to collect hair for whatever nefarious solifugid purposes. But it wouldn't let go in spite of my vigorous poking (with a gloved hand of course). Fortunately Dawn simply climbed up to the road, found three police vans and several puzzled policemen, then politely explained we were just catching bats, naturally. I don't know if Dawn turned on some super charm or if the local police were, for a change, only there to serve the community because they simply said it was fine as long as she wasn't alone out here and left!

When she climbed back down she found me still in a tug of war with the solifuge. She calmly took over and picked up the creature (with a gloved hand of course) and saw that the poor thing was entangled. Patiently she untangled it with the other ungloved hand, stopping for moment to point out the solifuge's strange racquet sense organs that are not normally visible. Eventually, the solifuge was released and mistnets packed up.

Back at the camp we had a good look at our bats. From measurements and using our newly acquired digital camera microscope which allowed us to check their teeth closely, we could confirm that they were Egyptian slit-faced bats (*Nycteris thebaica*). A common and widespread species they are nevertheless always nice to find.



Egyptian slit-faced bat
Photo: Trevor Morgan

So after five days we had found at least **thirteen** species of bats. On a typical weekend outing we would be happy to encounter five or six species. Pafuri had certainly lived up to its name and we were not used to such an embarrassment of bat riches.



Bat News

The Bat that came out of the dark

By Matt Walker – Earth News



A tiny bat living in central Italy has emerged from the dark and started hunting by day.

This switch in hunting strategy is highly unusual among insectivorous bats, which routinely hunt at twilight or by night to avoid predators.

Yet a small group of soprano pipistrelles has been spotted brazenly flying by day in a mountain canyon within an Italian beech forest.

A research team led by Dr Danilo Russo, a bat expert from the University of Bristol, UK and the University of Naples Federico II in Italy report the discovery in the journal *Mammalian Biology*.

Dr Russo initially set out to find the roosts of another species, the barbastelle bat (*Barbastella barbastellus*), in the beech forests within a mountain canyon near the village of Villavallelonga in the Abruzzo, Lazio and Molise National Park in central Italy.

"One late afternoon, walking in the woodland, we spotted some bats flying unusually early," Dr Russo explains. "We thought the phenomenon might be occasional, as sometimes happens, so we came back at the same time on the following days and the bats were there."

The scientists established that the bats are soprano pipistrelles (*Pipistrellus pygmaeus*), a species with a high-pitched call that is closely related to the common pipistrelle (*Pipistrellus pipistrellus*).

The bats routinely come out to forage well before sunset, commonly feeding on gnats, wasps and bugs.

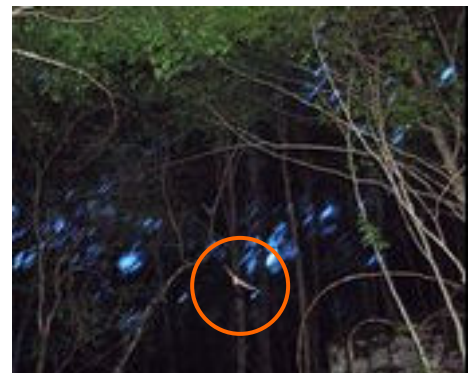
Such behaviour is extremely rare for insectivorous bats.

These bats face a trade-off. During the day there are more insects around to feed on. But the bats themselves are very vulnerable to being caught and eaten by predatory birds, which fly by sight.

So instead, the bats have evolved to fly in the dark, only emerging during the hours of twilight or darkness. That keeps the bats safe, and their echolocating ability allows them to navigate and hunt those insects that are still about.

The bats only hunt at the bottom of the canyon, where local conditions seem to provide a safe haven for day flying.

This species hunts insects in the dry forests of the Azores, where there are no predatory birds that fly by day.



Bizarre-looking bat's strong bite

By Victoria Gill
Science reporter, BBC News

The wrinkle-faced bat's strangely shaped skull gives it a remarkably strong bite force, say scientists.

Researchers report in the *Journal of Zoology* that this bizarre-looking bat has evolved a powerful bite that may give it an advantage over other bats.

It allows it to eat a broader range of foods than other small fruit-eaters with weaker bites.



The wrinkle-faced bat looks ferocious, but is a "gentle" fruit-eating bat



Lady Luck

By Erna Balona

A woman walks into the bar and asks for a glass of water, three beers and three packets of chips. Who's the water for, the barman wants to know? It is for a bat, she says, and disappears into the night, before any more questions can be asked. Not sure if he heard right, the barman pretends that nothing happened. After all, stranger things have happened at this Lady-Luck pub, situated on a dark and lonely road outside of Springs.

With the music of Goldfish pumping in the background, a flight-tunnel is being erected by three weirdoes with headlamps. Some drunken pub-regulars try to get a good look, while whispering amongst themselves: is it a tent? But they soon lose interest as their beers dry up. The three musketeers pause for a while to watch a pub-regular stumble all over the place, before the bar man helps him to his car and carefully directs him out of the parking area, they shrug their shoulders and continue working.

Then, as soon as this elongated-see-through-tent is erected, the most amazing thing happens: one of South-Africa's rarest bats, spreads her wings inside the flight tunnel whilst her call is recorded, and only the three weirdoes are there to see it.

Welwitsch's hairy bat (*Myotis welwitschii*) - we dubbed her Lady Luck for we feel lucky to have met her. With only a few recorded sightings, this is one of South-Africa's rarest bats. Also the largest of the Hairy bats and to quote Peter Taylor from his book *Bats of Southern Africa*: "...contrasting black spots on orange tail membrane and contrasting pale orange markings over the bones of the fingers on dark wing membrane, make these rare, solitary bats impossible to confuse with any other bat."

But why Springs? I guess it is the same reason why Aliens always make their rare appearance in Roswell, New Mexico? An alien landing in hillbilly country is a safe place to be as who would believe such a report from there anyway? We did.....

On a dark and stormy night she tries to hide amongst the dry leaves, but the rain keeps on coming from all sides. The wind rocks the branches back and forth and forces her to look for shelter elsewhere. But the rain is strong and the wind stronger as she flies, before the heavy rain strikes her down in a puddle. She fears the worst and doesn't know how long it was, before two school kids picked her up. Then she saw the face of an angel: Judy from Wildlife-in-Crises rehab centre outside of Springs. It could only have been an angel that warmed her, and fed her mealworms. The BIG Easy; who would want to leave? The Angel knew this bat was special as she had not seen one like this before, but she never expected this news: she sent some photos to the Gauteng and Northern Regions Bat Interest Group who quickly responded with a name of Welwitsch's hairy bat. And then the thought on how rare this bat is, made the Angel tread extra careful as the stakes were suddenly raised.



'Lady Luck' – Welwitsch's hairy bat
Photo: Erna Balona



Beautiful wing markings of the Welwitsch's hairy bat.
Photo: Erna Balona

Seven days had passed and to Judy's relief, the Welwitsch's hairy bat seemed strong again. Since the Angel lived by the words: "If you love something, set it free", she phoned up the Bat Interest Group and asked if they'd be interested in releasing the bat. Within a few days, Lady Luck was surprised to see the Angel giving her away to three strange people. These three seemed to be in awe of



Photo: Erna Balona

her looks, but Lady Luck was only interested in food, which they gave her, and water out of a glass. They made her fly in some strange tunnel, and she thought: "Really, this is all too much effort. What is the point of flying in a cage when the food is for free?" But they insisted and so she co-operated under the neon-light of the Lady-Luck bar road sign.

Afterwards the three took her to the side of a lake, she was happy to stay with them and did not move from the woman's hand. But suddenly a small insect flew by and she remembered what freedom felt like! Too quick for the camera, she disappeared into the night.

On behalf of GNoR BIG, Erna, Julio and Trevor would like to thank the Wildlife in Crises rehab centre for the opportunity to release such a beautiful rare bat.

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Letters to GNoR BIG

DEAR SHARRON,

WE HAD A VERY NICE EVENING ON SATURDAY....MY KIDS TOUCHED THE BAT FOR FIRST TIME AND THEY ARE VERY HAPPY ABOUT IT... :))

UNTIL NEXT TIME

BEST REGARDS AND HAVE A NICE DAY FROM

VESNA, STEFAN AND OLIVIA :)))

Dear All

Thanks for a great evening on Saturday - we really enjoyed it. I'm also glad we finally made the decision to join and hope we can contribute more in the future.

Keep up the good work and have a great week.

Kind regards Vanja and Dave (Ingold)



trevorem@mweb.co.za

Letters to GNoR BIG

New Members

Wendy White, the treasurer from Bats KZN is joining us. She has been involved with rehab of bats, and has extensive Knowledge on bats.

Dave and Vanja Ingold were introduced to GNoRBIG by Sharron and decided to join the group at the last bat walk. Being members of the exploration society of South Africa, they also attended the talk on Batting in Thailand. Dave is also a keen bat-house constructor!

Amanda Mileson got to hear about GNoRBIG through FreeMe where she has raised bat pups. She is totally fascinated and intrigued by bats.

Anne Marie Tovey found bats living in he roof and wants to know more about them.

Tess Coetzee has cared for young / injured birds, and has found bats roosting in her thatch roof. Even though many people suggested poisoning them, she knew better and decided to join GNoRBIG to learn more about bats.

Pieter Venter got to hear about GNoRBIG through the website: www.batsgauteng.org.za (thank-you Google and thank-you Mimi!) He runs a pest control business and is concerned about bats.

Derryn McLaren is a nature and animal lover and would like to learn more about this new interest with the aim of promoting awareness on bats.

Michael Somers is a wildlife biologist and found out about GNoRBIG on the internet. He enjoys bats and wants to get involved with them more!