



BAT 1K NEWSLETTER

In this issue:

1. Bat1K *Nature* paper
2. Sequencing update
3. Research profile & Bat World Cup Winner Hammerheaded bat

Photo: Brock & Sherri Fenton

Dear Bat1K members,
We are pleased to say that our 7th Newsletter is a very special edition: we talk about our latest publication that was featured on the cover of *Nature*, we update you on the sequencing progress, and we continue with our new research profiles column - featuring Iroro Tanshi and the Bat World Cup.

Keep on reading, this is all very exciting for Bat1K and our batty friends!

1. Bat1K *Nature* paper, 22nd of July

Article

Six reference-quality genomes reveal evolution of bat adaptations

<https://doi.org/10.1038/s41586-020-2486-3>

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Open access

Check for updates

David Jebb^{1,2,3,25}, Zixia Huang^{4,25}, Martin Pippel^{1,2,25}, Graham M. Hughes⁴, Ksenia Lavrichenko⁵, Paolo Devanna⁶, Sylke Winkler⁷, Lars S. Jermin^{1,6,7}, Emilia C. Skirmunt⁸, Aris Katzourakis⁴, Lucy Burkitt-Gray⁹, David A. Ray¹⁰, Kevin A. M. Sullivan¹⁰, Juliana G. Roscito^{11,12}, Bogdan M. Kirilenko^{13,14}, Liliana M. Dávalos^{15,16}, Angélique P. Corthals¹⁷, Megan L. Power⁴, Gareth Jones¹⁴, Roger D. Ransome¹⁴, Dina K. N. Dechmann^{10,16,17}, Andrea G. Locatelli¹⁸, Sébastien J. Puechmaillat^{19,20}, Olivier Fedrigo²⁰, Erich D. Jarvis^{20,21,22}, Michael Hiller^{12,18,23}, Sonja C. Vernes^{2,24,26}, Eugene W. Myers^{1,2,24,26} & Emma C. Teeling^{1,25}

The genetic basis of bats' superpowers revealed:

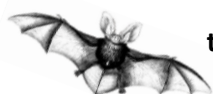
Bat1K published the first six reference-quality bat genomes and we are happy to say that it brought bats onto the cover of *Nature*!

Have you ever wondered how bats manage to do what they do? Extraordinary bat adaptations include powered flight, laryngeal echolocation, vocal learning, incredible longevity, unique immunity, and resistance to cancer and viruses.

Our Bat1K team which included the cooperation of 20 different institutes across the globe just published the raw genetic material that codes for these unique superpowers.

And this is just the start! We envision many more projects and papers as we work together as a consortium to understand the secrets of bat genomes.

You can access the paper [here](#).

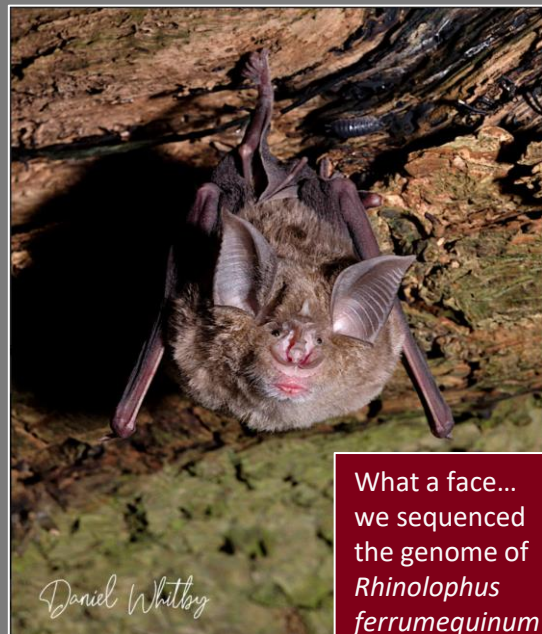


Gareth Jones @JonesNonwork · Jul 22

It's 20 yr since the first human genome was sequenced, and now we can obtain almost complete gene annotations for wild mammals to understand their adaptations and evolution, including greater horseshoe bats. Proud to play a small role in this paper- first *Nature* cover for 34 yr!



Bat1K brought bats onto the cover of *Nature*!
Cover photo (left): Olivier Farcy



What a face... we sequenced the genome of *Rhinolophus ferrumequinum*

Click [here](#) to view our Twitter thread detailing the findings of the paper. Photo: Daniel Whitby

EXTRA EXTRA LATEST HEADLINE
READ ALL ABOUT IT



BAT 1K

Science



BBC NEWS

How bats have outsmarted viruses —including coronaviruses—for 65 million years

By [Elizabeth Pennisi](#) | Jul. 22, 2020, 11:00 AM

Coronavirus: Cracking the secrets of how bats survive viruses

By [Helen Briggs](#)
BBC Environment correspondent

🕒 22 July 2020 | [Science & Environment](#)

2. Sequencing status

We are currently in phase 1 of our Bat1K project, meaning that we are underway sequencing representatives from of each of the 21 bat families.

✅ The families Molossidae, Phyllostomidae, Pteropodidae, Rhinolophidae and Vespertilionidae are completed in terms of sequencing, assembly, alignment and annotation.

⚠ Sequencing is in progress for Emballonuridae, Natalidae, Noctilionidae and Thyropteridae.

⚠ We still need tissue contributions for Megadermatidae and Nycteridae. This means that we are urgently looking for sources of tissue samples from these bats.

📢 If you have access to, or could collect a relevant bat sample, please get in touch with our Bat1K communications officer Meike at:
bat1kconsortium@gmail.com

Collecting Tissue for Bat1K

Are you wondering how to **collect tissue** and preserve and ship it to Bat1K?

Please find our **Tissue Collection protocol** with all relevant guidelines and details [here](#).

In our [members area](#) you can also view our JoVE video in which Bat1K members explain the optimal tissue preparation for genomic, transcriptomic, and proteomic analyses of bats caught in the wild. It includes protocols for bat capture and dissection, tissue preservation, and creating cell cultures from bat tissue.

Click for the [Science](#) and [BBC](#) articles, or click [here](#) for a full list of press articles we collected from around the web!

For our Nature paper we sequenced:

1. the greater horseshoe bat (*Rhinolophus ferrumequinum*),
2. the Egyptian fruit bat (*Rousettus aegyptiacus*),
3. the pale spear-nosed bat (*Phyllostomus discolor*),
4. the greater mouse-eared bat (*Myotis myotis*),
5. the Kuhl's pipistrelle (*Pipistrellus kuhlii*)
6. the velvety free-tailed bat (*Molossus molossus*)



To access these genomes click [here!](#)



Click [here](#) to view our Tissue Collection Protocol in action in our JoVE video (open access)

3. Bat1K research profile: IRORO TANSHI

Iroro Tanshi is a Bat1K member and PhD student at Texas Tech University, USA.

Bat1K member Iroro Tanshi studies bats in southeastern Nigeria, on the border with Cameroon, in a mountain range area which also known as Africa's largest bat diversity hotspot. These mountains form part of the Cameroon Volcanic Line and hold Nigeria's last primary forest. It was [this](#) high-resolution model of bat diversity and endemism for continental Africa that inspired her to go into the field and explore the area's bat richness.

Iroro is working at the intersection of ecology and evolution. In her PhD she is looking at how bat diversity changes as you go along the elevation gradients of these mountains – how many species do you have at the bottom of the mountain and how many at the top? Which environmental factors are driving these processes? Iroro recorded several new bat species and discovered a rare species that was never before seen in Nigeria – the Short-tailed roundleaf bat (*Hipposideros curtus*).

She also plays an important role in bat conservation and helped to set up Bat Conservation Africa. Moreover, Iroro even co-founded her own [NGO SMACON](#) to protect bats in the area by engaging with the government and local people.

Iroro on Bat1K genomes and the Twitter Bat World Cup

Iroro plans to use Bat1K quality genomes in her work. She thinks high quality bat genomes will revolutionize understanding of ecology-evolutionary patterns and processes, particularly across the hyper-diverse tropics.

Concerning the topic of conservation, Iroro said that genomes generate attention and publicity that's important for effective conservation strategies. An example is the Bat World Cup 2020. Iroro really helped pushing the World Cup and got thousands of Nigerians voting for the winner - the hammer-headed bat. This is especially astonishing because much of the population in the south have a rather negative attitude towards bats, with a prevailing belief that bats are witches that must be killed. **Bat1K pledged to sequence the Bat World Cup Winner, and we are happy to report that the Hammer-headed bat genome is now underway!**

Iroro first came in contact with this amazing species when she was still studying at University of Benin, Nigeria. Here she found and monitored a strict maternity colony which naturally roosted in a roof on campus. To read more about Iroro click [here](#).



Iroro working at the bench. Photo: Iroro Tanshi



Give Bats A Break @GiveBatsABreak · May 29

****BAT WORLD CUP FINAL RESULTS****

This. Has. Been. Astonishing.

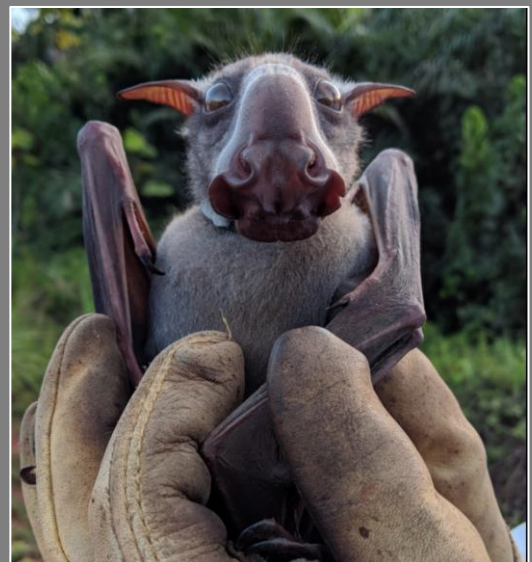
A HUGE VICTORY FOR THE HAMMER-HEADED BAT

Congratulations to its many supporters, fans, friends, and champions on this well-deserved, hard-earned title of:

BAT WORLD CUP CHAMPION

[#BatWC2020](#) [#WBTC1](#)

[Click to view the World Cup twitter thread](#)



*The hammer-headed bat (*Hypsignathus monstrosus*) who won the Bat World Cup 2020.*

Photo source: [here](#)