

# Ifa lemvelo



The Newsletter of the Natural History Museum Of Zimbabwe  
Volume 2, Issue 3, March 2020



## In this Issue

*Marvellous microbes part 3*

*Kite spiders*

*Meet the staff*

Cover pictures courtesy of Charming Imagez  
[https://instagram.com/charming\\_images\\_wildlife](https://instagram.com/charming_images_wildlife)



Natural History Museum of Zimbabwe is home to valuable research collections and is the best museum in Southern Africa, ranked fourth in size among the museums in Africa.

**Ifa Lemvelo** is published by the Natural History

Museum of Zimbabwe

Box 240 Bulawayo

Corner Park Road & Leopold Takawira Avenue

Tel: 263 29 2250045

Web: [www.naturalhistorymuseumzimbabwe.com](http://www.naturalhistorymuseumzimbabwe.com)

Email: [natmuse@netconnect.co.zw](mailto:natmuse@netconnect.co.zw)

Facebook: Natural History Museum of Zimbabwe

Edited by Dr M. J Fitzpatrick & P. N Tshabangu

Design & layout by P. N Tshabangu



### Entrance fees

#### Locals

Adults RTGS\$20

Children (5-14years) RTGS\$ 7

#### SADC Countries

Adults USD\$7

Children USD\$5

#### International

Adults USD\$10

Children USD\$5

OPEN

EVERYDAY

9am-5pm

Events!!!!

💧 Look out for the second call for papers

💧 The mushroom art competition is back. See poster for more details

### From the Regional Director

We are certainly living in challenging times as the world comes to terms with the Corona pandemic. This has seen a remarkable drop in the number of visitors to the museum and sites as travel restrictions are placed on so many nations. All events are cancelled at the museum as the museum and sites are closed until 19th of April at the earliest. All staff are at home completing their research publications that have been pending and for all those budding artists to do some creative fungi artwork for our up and coming competition. Keep safe and be sensible in the coming weeks.

**MUSHROOM ART COMPETITION**  
2020

Visit the MUSEUM FUNGI DISPLAY for inspiration

**AGE GROUPS**  
9 & 10 | 11 & 12  
13 - 15 | 16 - 18  
Adult

Any Fungus or Mushroom  
**Fantasy or Real**  
Original work in any Medium  
ONLY on A3 or A4 Paper

Contact: Ms C Sharp  
+263 772 347 135

All entries submitted by the end of June 2020 to:  
The Secretary, Natural History Museum, L. Takawira & Park Road Bulawayo

© 2020 Natural History Museum Zimbabwe  
www.naturalhistorymuseumzimbabwe.com

Alliance for Fungi Conservation Zimbabwe



Sign up your 7-14 year olds so they can come play while they learn every Saturday .(Museum club to resume at the end of April)



Silver Queen stamps finally out. Few postcards with the Silver Queen stamp still available for sale in the office of the Regional Director.

Resuming This February at the Natural History Museum

**Sign Up!!**

LET'S PLAY WHILE WE LEARN ABOUT THE ENVIRONMENT AND OUR NATURAL AND CULTURAL HERITAGE

**CHILDREN'S NATURE, HERITAGE AND OUTDOORS CLUB**

FROM FEBRUARY 1: EVERY SATURDAY THEREAFTER 9 TO 1030AM AT THE NATURAL HISTORY MUSEUM, SIGN UP FOR 7 TO 14 YEAR OLDS AND GET MORE DETAILS

**With a STEM Career Guidance Component**

Are you interested in sparking an interest in science and the outdoors in your child? Sign up for this club!!

Rays Trust +263772933071  
natmuse@netconnect.co.zw  
rays.trustizingane@gmail.com

**RAYS**  
Trust

National Museums and Monuments of Zimbabwe

## DID YOU KNOW?

....world sparrow day was on 20 March and the day is designated to raise awareness of the House Sparrow and other common birds to urban environment, and of threats to their populations. Don't forget to go to the upstairs bird display at the museum to see these birds and visit our ornithology department if you have any bird queries.



## Marvellous Microbes Part 3

By John Minshull

Dr Lovey's amazing research made me venture into lightning studies [fulminology] to see what I could find and I struck it rich! Lightning is the loud flash-bang! -- Of an electron swarm leaping through billowing water filled clouds, millions of times per day, all around Earth, preceding rainfall. This, especially in the Tropics, accounts for 70% of strikes. The bolt can be  $\pm 9000^{\circ}\text{C}$  and strikes at  $\pm 44/\text{second}$  all around Earth! Surface strikes propagate downwards through soil in a radial manner and dissipate rapidly through the ground in an inverted cone. The electron current density decreases with distance away from impact centre, [a few sq cms]. The strike will kill a few billion microbes in  $\pm 9 \text{ m}^3$  of soil, however flow of current through soil creates an electric field that is applied to living material [a few kilovolts/cm<sup>3</sup>] that "jazzes up" the microbes so as to exchange genes with their neighbours. This we call horizontal gene transfer [HGT]. As these microbes spread their exponential way back through the kill zone, so they absorb nutrients and more DNA from the dead. This furthers their growing genomes [in each species' DNA] that boost variability within microbe survival under dangerous conditions. Thus lightning, surprisingly, is incredibly important to microbes the world over, thanks to their "fast way" of life and voracious appetites towards fragmented DNA.



While we are up in the sky let us realise that HGT occurs in clouds as well, when archaea and bacteria are agitated by nearby lightning bolts. It also occurs in microbiological laboratories too, when scientists want to place beneficial DNA [genes] from cell to cell by innervating them with a small jolt of electrons! These experiments have shown the connection

between all Earthly life with ubiquitous DNA found in all organisms within this wonderful world of ours. DNA from a yeast cell, a particular gene, can replace a damaged one from a mouse with no ill effect! It is known from genetic studies years ago that genes that produce eyes in embryos are the same genes found in all eyed organisms from ants to elephants! This data that microbes are revealing to us help us understand Life in this 3D world of ours.

What is an electron actually? Dr Christof Galfard has this to say "the outer layers of all atoms in the Universe are smeared out, wavy, massive electric charges. These fuzzy, charged, wiggling waves are called electrons. The electromagnetic field is everywhere and every single electron that exists in the Universe not only belongs to it but also is exactly identical to any other electron anywhere! They belong to the field! They are part of it; like a drop of water in the ocean! They are just made out of the electromagnetic field, an expression of it. Now the important thing about these energy particles is that they cannot share their territory at all with each other. Ever! Nature forbids them from doing so! Thus when they surround an atom they arrange themselves in layers, like in an onion: innermost layer only 2, next 8, next 18, next 32 and so on. An atom is different to another only in number of electrons it holds, not in the nature of electrons themselves. Electronic waves don't overlap. Ever"! Thus you cannot walk through a wall, or fall through floors: but can hold a book, roll a bowl and kiss a girl without falling through her! High Physics, except for this last bit.

## Kite spiders : *Gasteracantha*

By Moira Fitzpatrick

As we are all forced to slow down and spend time away from others it is a wonderful time to take a closer look at what is in our gardens by watching the birds, identifying the trees, and watch all the insects and spiders. At this time of the year the Kite Spiders *Gasteracantha sanguinolenta* (Short-wing Kite Spider) adults are present and they are an attractive spider to watch as they busy themselves on their webs.

The females of most species are brightly coloured with prominent spines on their broad shell-like abdomens. Males are several times smaller than females and they lack prominent spines or bright colours.

The name *Gasteracantha* is derived from the Greek *gaster*, meaning "belly, abdomen", and *akantha*, meaning "thorn, spine"





There are 88 known species and subspecies of Kite Spiders occurring globally and five species have been recorded from Southern Africa. They construct large, complete orb-shaped webs in trees, (usually 1-2m above the ground) with the silk thread often decorated with silk tufts. They are diurnal and sit face down in the central hub of the web during the day. The web is not removed everyday but is regularly repaired. The egg sacs which are covered in fluffy yellow to orange silk are attached to the vegetation close to the web. Although they are wide spread throughout the tropics they are not often encountered, and adults are present in the late summer. The spines of the female *G.sanguinolenta* illustrated are shorter than those of *G.vericolor* and *G. milvoides* which are also found in Zimbabwe.

## Meet the staff- Miss P.N Tshabangu

By Phineas Chauke



It is just crazy how people always claim that queens or kings are born in their own months of birth, however, where it concerns the month of May, there is a good measure of truth right there. The adage ‘beauty and brains go hand in hand could not be better personified than it is in Phephile Nosindiso Tshabangu who is the Senior Librarian at the Natural History Museum and also responsible for the design, layout and editing of this newsletter, among other publications.

Born in the month of May sometime in the mid 80s, Phephile is the third in a family of four. She attended Thembeiso Pre-School before joining Mafakela Primary school in Old Luveve. She then went to St Columba’s High School for secondary education. Although she was quite reserved and rather shy as a kid, she participated in a number of extra-curricular activities at school including the school choir, drum majorettes and girl guides. In the home she always exhibited tremendous responsibility and maturity beyond her actual age. Being a Pastor’s child, Phephile attended and devoutly participated in the Apostolic Faith Mission church. However, apart from school and church, Phephi was fairly a ‘stay at home girl’.

Growing up, Phephile’s ambition was to become a nurse in transit to Medical School, for her ultimate aim was to become a medical doctor. However, as fate would have it, she ended up joining Bulawayo Polytechnic College in 2005 pursuing a qualification in Library and Information Science and she graduated with a Higher National Diploma in 2011. The single mother of one recalls that in 2011, just four days before her twenty sixth birthday, she gave birth to her baby-girl whom she named Nomqhele. Being the Natural leader that she is, Phephile was a student representative in the Zimbabwe Library Association during her college years.

Her incredible journey with National Museums and Monuments of Zimbabwe commenced in June 2013 when she took up the Senior Librarian post that saw her expertly revamping and managing the extensive research Library at The Natural History Museum of Zimbabwe with top drawer professionalism. Phephile is famed for her strictness, firm insistence on regulation and meticulous attention to detail in the execution of her duties. Her professional disposition and indefatigable work ethic boosted the image and profile of the museum earning it positive reviews from colleagues and clients alike. The Library, under Phephile’s management is now described as a shining example of a well curated library.

In 2014 Phephile enrolled for a Bachelor of Science Honours Degree in Library and Information Science with the Zimbabwe Open University (ZOU) in a quest to further hone her competencies in her chosen field of endeavour. At the museum, Phephile met

and mingled with all sorts of personalities but due to her exceptional people skills, professionalism and maturity, she managed (and continues to) get along with colleagues without compromising her work. She also cherishes meeting and getting to know people like the late Mrs Molly Mabiso, among others, who have positively impacted quite immensely on her life.

Her work at the Natural History Museum opened life enriching doors for Phephile, which include travelling to Vietnam and also undertaking training in Graphic Design for which she attained a Diploma, adding another feather to her cap of accomplishments. She also got an opportunity to mentor a total of seven aspiring librarians to date and pledges to continue doing so for the development of the profession in Zimbabwe.

Phephile's future plans include a advancing herself, educationally (the sky is the limit she says), automating and digitising the Natural History Museum library as well as expanding it. She jokingly suggests that an extra floor be added onto the museum building for the expansion of the library.





# 100 Years of Aviation celebrations in pictures





# 100 Years of Aviation celebrations in pictures cont'd

