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FUNDAY

Bioluminescence

By Cecilia Hewavitharana

Bioluminescence is the production and emission of light by a living organism and is a type of chemiluminescence (chemical reaction that creates light).

How does it happen?

Bioluminescent organisms either produce or absorb (as food or through symbiosis) a substance called luciferin. The light is created as a result of a chemical reaction involving luciferin and either luciferase or photoprotein.

"Luciferin" and "Luciferase" are generic terms for the light-producing substance and the enzyme that catalyses (causes) the reaction, respectively, and depending on the species, different substances can act as luciferins and luciferases.

Bioluminescence
is a "cold light",
meaning that it
generates very
little heat
(or thermal radiation).

Glowworms in a cave in New Zealand

Most of Earth's bioluminescent organisms are in the ocean – deep in the sea, on the surface and in between. While there are many terrestrial bioluminescent organisms (fireflies, click beetles, many species of fungi), there are only a few known species of freshwater organisms, all belonging to the genus Latia, which are snails that release glowing slime when disturbed. A possible reason is that bioluminescence is unlikely to be useful in murky freshwaters.





- Certain insect larvae (called glowworms) glow to warn predators of their toxicity.
- ◆ The vampire squid shoots bioluminescent mucus and escapes in the confusion.
- ◆ Species such as the Hawaiian bobtail squid, firefly squid and hatchetfish use

bioluminescence for counter-illumination. They emit light from their underside, so any predator looking up will not see their silhouette against the bright background above (created by sunlight or moonlight).



Railroad worm (the larva of a beetle), which glows in two colours

The terms luciferin and luciferase are derived from the Latin term, lucifer, which means "light-bringer".

Dinoflagellates in Tasmania

Symbiosis - an interaction

between two different organisms

living in close physical association,

usually to the advantage of both.



Panellus stipticus or Bitter Oyster, a species of fungus

How Bioluminescence differs from Fluorescence and Phosphorescence

These do not involve chemical reactions, but re-emit absorbed light. Phosphorescent light simply re-emits longer than fluorescent light.

Milky Sea Effect

The Milky Sea Effect
(or Mareel, derived from an
Old Norse word meaning
"sea fire") is a phenomenon
where a large area of the sea
glows. Scientists believe it is
created by millions of bacteria
that glow continuously, unlike
dinoflagellates (species of
bioluminescent algae)
that glow for short periods
when disturbed.

Predation

- Anglerfish use a protruding dorsal spine with a luminous tip to attract prey.
- Stoplight loosejaws (a type of dragonfish) emit red light (which is invisible to most fish) to light up their surroundings and search for prey.

to fight up their surroundings and scarefi for prey

Attracting mates

Examples: Fireflies, Caribbean ostracods and syllid fireworms.



Sea fireflies (Vargula hilgendorfii) in Japan

Colours underwater

Light travels in waves, with different colours having different wavelengths. Underwater, longer wavelengths (such as red light) cannot travel as far as shorter wavelengths (such as blue and green light). Therefore, many deep-sea animals do not have the ability to see red.







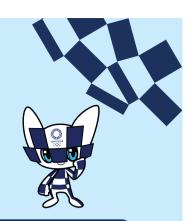
Olympic Games Tokyo 2020



The 2020 Summer Olympics, officially the Games of the XXXII Olympiad and branded as Tokyo 2020, is scheduled to be held from July 23 to August 8, 2021 in Tokyo, Japan.

The event was postponed in 2020 as a result of the COVID-19 pandemic, and will be held largely behind closed doors with no public spectators.

The Summer Paralympics will be held between August 24 and September 6, 2021. Let's get to know the Sri Lankan Olympians who will be competing at Tokyo 2020.



Chamara Nuwan Dharmawardana



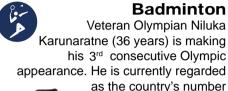
Chamara Dharmawardana
(29 years) will lead the
Sri Lankan contingent
at the opening ceremony
of Tokyo 2020 on July 23.
He was the first
Sri Lankan judoka to
compete in the modern
Olympic Games when
he took part in the
men's 73 kg judo event
at the Rio 2016
Games.

Milka Gehani De Silva



Gymnastics
Artistic Gymnastics
At just 18 years, gymnast
Milka De Silva will be Sri Lanka's
youngest-ever flag bearer
alongside team captain
Chamara at the Parade of
Nations at Tokyo 2020.
She was the Junior
National Champion from
2011 – 2014.
Representing Sri Lanka in
artistic gymnastics, she is
the women's overall
captain.

Niluka Karunaratne



as the country's number one premiere badminton player and Sri Lanka's most decorated badminton player ever, with a record 24 medals (including 9 Gold) to his name at international events.

Mathilda Karlsson

Equestrian

Mathilda Karlsson (37 years) born in Sri Lanka and adopted by Swedish parents, is the first qualifier for the Tokyo 2020 Olympic Games as well as the first equestrian representing

Sri Lanka in an Olympic event. She made her international debut for Sri Lanka in 2018. Mathilda is jumping with her horse Chopin VA at Tokyo 2020 to make her home country proud.



Matthew Abeysinghe (25 years) was the 1st swimmer to qualify under the Olympic Standard (to represent Sri Lanka in the 2016 Rio Games). He will represent Sri Lanka in Swimming 100 m Freestyle. The most decorated medalist in South Asian Games history, (14 Gold, 3 Silver, 1 Bronze) Matthew holds the South Asian record in the 100 m and 200 m

Yupun Abeykoon

Athletics 100 m Men

Yupun Abeykoon (27 years) makes his dream Olympic debut as the South Asian record holder for 100 m with a record timing of 10.16 seconds. He is the first and only Sri Lankan to achieve

direct qualification standards for Tokyo 2020 Olympics. He has represented Sri Lanka on numerous occasions and as of June 2021, Yupun reached his career best with a world ranking of 48.



Nimali Liyanarachchi

Athletics 800 m Women

Nimali Liyanarachchi (32 years) making her Olympic debut at Tokyo 2020 Olympic Games will represent Sri Lanka for athletics in the 800 m event. Nimali has represented Sri Lanka internationally and holds several accolades for her performances. She also won Gold in the Women's 800 m at the 12th South Asian Games in 2016.

Tehani Egodawela

Freestyle events.

Rifle Shooting 10 m air rifle 0.1777 event

Sharp-shooter Tehani Egodawela (38 years) of the Sri Lanka Navy qualified to represent Sri Lanka at Tokyo 2020 in the Women's 10 m air rifle 0.1777 event. She has been named the best shooter seven times,

representing the
National Pool since 2012.
She holds Sri Lanka
records in the Women's
10 m air rifle 0.1777 event
since 2018 and Women's
50 m rifle 0.22 event
since 2019.

Aniqah Gaffoor

Swimming 100 m Butterfly

Aniqah Gaffoor (17 years) is the youngest member of the Sri Lankan contingent this year and will make her Olympic debut swimming in the Women's 100 m Butterfly event.

She is the Sri Lanka National record holder for the 50 m and 100 m Butterfly events.



Source: www.olympic.lk

Tomahawk



Ouestions for the Tomahawk Quiz No. 186 are based on articles appearing in the Funday Times of July 4, 11, 18, and 25, 2021. All you have to do is to find the answers to the questions given. Write the answers neatly on a postcard. Cut the strip 'Tomahawk Quiz No. 186' seen at the top of this page and paste it on your postcard. Please get your entries certified as your own work by a teacher or parent.

> Two lucky winners will receive brand new

Tomahawk Mountain Bikes with the compliments of

Tomahawk Bicycle Mall

All Funday Times readers between 8 - 15 years are eligible to participate.

(Those who have already won a bicycle are not eligible to participate.)

Closing Date: August 31, 2021







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UESTIONS — Quiz no. 186

- 1. Name the only Grand Slam tennis championship played on a grass court.
- 2. What is Bonsai?
- 3. Where is Temple Mount situated?
- 4. What is the mathematical process Google Translate uses to translate text from one language to another?
- 5. Who is the youngest person to travel to space and what was the name of the spacecraft he travelled in?

Please send competition entries to:



Funday Times

C/O the Sunday Times P.O. Box 1136, Colombo.

8, Hunupitiya Cross Road, Colombo 2.

Please note that competition entries (except Reeves Art) are accepted by email.

Please write the name of the competition and the date clearly at the top of your entry and include the following details:

Full Name (including Surname), Date of Birth, Address, Telephone No. and School.

Please underline the name most commonly used.

All competition entries should be certified by a parent or guardian as your own work.

Competition entries without the full details requested above, will be disqualified.

Closing date for weekly competitions: August 18, 2021

Telephone: 2479337/2479333 Email: fundaytimes1@gmail.com

We regret that we are unable to announce winners this week since we are working from home.

Stay safe.

Young Reporters

If you are interested in joining as a Funday Times Young Reporter please fill in the coupon given and send it in to us along with a recent report or interview not exceeding 300 words. Photographs or illustrations would enhance the report.

Young Reporters who have already enrolled with us, please send in new reports for publication.

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Young Reporters Coupon

Name: Date of Birth: Address: Telephone:

School:

Parent's approval: Date:

NOTE

Please log on to the Funday Times website on

www.fundaytimes.lk

or check out the **Sunday Times** epaper on

www.sundaytimes.lk

for additional pages of this week's **Funday Times.**



Let's read with Room to Read!

Dear Children,

Today's story is called 'Lucky Time'.

Two mice are determined to taste some jaggery kept on a stand. They try their best to snatch a piece of the sugary treat. Do you think the mice will ever get to taste the jaggery?



Let's begin...

One hot afternoon, everyone had fallen asleep except two sneaky mice.

They were hungry for some of uncle's jaggery.

Just as they were about to reach for the jaggery,

aunty came back from fetching water.

"Run!" cried the mice as they scurried away.

Again, they reached for the jaggery, but just as they grabbed it, the cat spied them.

"Run!" "HIDE!" What a narrow escape!

Finally, all was quiet.

"Let's get the jaggery now," squeaked the mice.

Clang! BANG! Down came the jaggery! Down came the mice!

"Bow-wow! Bow-wow!" The dog ran past.

"This dog is so naughty!" cried aunty, as she chased the dog. "What a mess!" said aunty, as she picked up the jaggery from the floor.

The mice ran to the kitchen to hide.

Aunty opened a basket and put the jaggery away.

"What luck! Jaggery all to ourselves".

The jaggery was finally theirs to eat. They couldn't believe it!

They ate and ate until their stomachs were full. "Such good Jaggery!"

After they were finished, the sneaky mice took as much as they could carry and went home.

-The End-

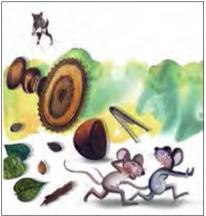
Access the full story with illustrations via Room to Read's *Literacy Cloud*. https://literacycloud.org/stories/1750-lucky-time/

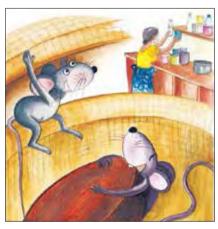
These storybooks are published by Room to Read, who believes that World Change Starts with Educated Children. This book was originally published in Sinhala by Room to Read Sri Lanka.

This week's trivia How did the mice get the jaggery in the end?

Send your answer to literacylk@RoomtoRead.onmicrosoft.com and stand a chance to win a storybook by Room to Read! One lucky winner will be chosen every week and the prizes will be given at the end of the series.







Cartoon Time!

Hey Kids! We plan to put in more cartoons in the Funday Times and what's more they will be your own cartoons.

So, here's a chance for you to try your hand at producing your very own original cartoons.

Draw a little cartoon with a caption. It could even be a small cartoon story in a strip (not more than three boxes). The best cartoons you send will be published in the Funday Times.



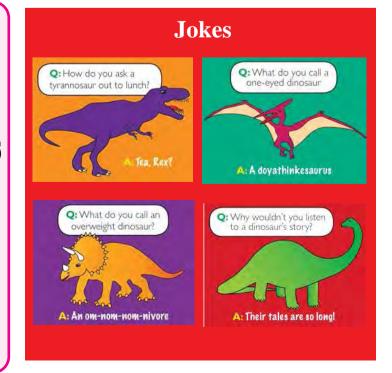
Please remember that the cartoons you send in should be your original work and not copied or traced from anything. They should be certified as your own work by a parent or teacher.







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July 27

News in Pictures





Yellapur, India

Onlookers gather near the site of a landslide due to ongoing heavy monsoon rains in the Uttara Kannada district of Karnataka.





Zhengzhou, China

Rescue workers enter a subway station to inspect flood waters following heavy rainfall in Henan province.





Susanville, USA

A firefighter uses a drip torch to ignite vegetation while trying to stop the Dixie fire from spreading in **Lassen National Forest** in California.



A man performs on his wakeboard on a lake in Suesel.



North Korea

Pyongyang,

Leader Kim Jong-un lays a flower at the **Fatherland Liberation** War Martyrs Cemetery for the 68th anniversary of the Korean armistice.

Calgary, Canada Dr. Liz Ruelle uses a new app called Tably that reads cats' faces and helps her monitor their health at the Wild Rose Cat clinic

in Alberta.



A view of one of two areas now being used at a warehouse facility for boats used by people thought to be migrants. The boats are stored after being intercepted in the Channel by Border Force as attempts to make the crossing continue.



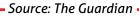
Fujisawa, Japan

Norway's Helene Naess and Marie Rønningen capsize during the 49erFX Olympics race at Enoshima harbour.



San Juan, USA

A phoropter is used to find the right eyeglass prescriptions during Operation Lone Star, a programme involving local, state and federal health agencies conducting public health exercises nationwide, in Texas.



July 26

News in Pictures



Mersin, Turkey
A lemur checks the rushes on Media Day at Tarsus nature park.



Tokyo, Japan
Adam Peaty
celebrates winning
Olympic gold in
the men's 100 m
Breaststroke final.





Skofljica, Slovenia Lost Highway by Piotr Skrzypiec, which shows the 1 km-long Crni Kal viaduct shrouded in fog - the winner of Canon's first Redline Challenge photo competition.



Aleppo, Syria
A labourer
works on the
renovation of the
Beit Ghazaleh
house, an
Ottoman-era
residence.



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Rome, Italy
People demonstrate
against Covid
vaccination passports.



Moscow, Russia
A plane flies in front of the waning gibbous moon.



Sardinia, Italy
A plane drops water on a wildfire near Oristano.



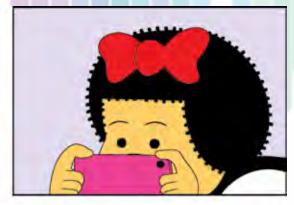
New York City, USA

People take part in an annual body-painting day near
Union Square.

Source: The Guardian



















Rugrats







Ginger Meggs

