SEASON 2021 - 2022
ISSUE 2

QATAR NATURAL HISTORY GROUP

CHAIRMAN'S MESSAGE

Photo credit: Omer bin Abdul Aziz

On behalf of the Steering Committee, I am pleased to introduce another fantastic issue of our newsletter. Many thanks to Laura and all the contributors!

In this issue, we're glad to share reports from our recent rambles, discovering some of the ecosystems on the peninsula.

Other topics of interest include eco-theology, agriculture in Qatar, and conchology. You will also find some sound advice on urban farming, composting, and many other stimulating reads.

We warmly welcome all new members and are grateful to those who have volunteered to join the Steering Committee. We are always delighted for any help organising our activities.

Happy reading, and do feel free to contribute to the next issue!

Best wishes,

Thierry Lesales

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OUR SPEAKERS

In November, Dr Theodora Karanisa, Agricultural Researcher at Qatar University gave us an overview of the recent evolution of Qatar's growing agricultural sector and discussed its importance for the country's food security.

In December, Dr Alex Amato, QGBC told us about biotecture & its place in our built environment, Giulia Pinna, Sec Gen, THIMUN-Q talked to us about COP26.

In January, Dr Alan S. Weber, Weill Cornell Medicine shared his research on Ecotheology. Dr Diana Woodcock, Virginia Commonwealth University read us her poems.

In February, Dr Muhammad Ali Nawaz, Associate Professor Wildlife Ecology, Qatar University talked about the technology that can fill critical knowledge gaps in managing Qatar's wildlife.

In March, we were back at DESS! Dr Leena Amine, Manager of the Qatar Poison Center explored the venomous species indigenous to Qatar and described signs and symptoms of envenomation.

Thank you to all our speakers!

WHAT IS ECOTHEOLOGY?

Dr Alan S. Weber

Religious scholars have been thinking about nature and the environment since the dawn of organized religions. Early spiritualist and animist religions placed nature at the center of devotional practices. Only recently, however, have Christian, Jewish, and Muslim Ecotheologians (along with all other major faith traditions) started to re-examine what traditional religious writings, attitudes and rituals have to say about animal rights, the moral rights of nature, climate change and humankind's stewardship of natural resources.

Photo credit: Phil Cullen

In the late 1960s, historian Lynn White, Jr. published an explosive and controversial work accusing Christianity of forming the basis of our current environmental crises. White argued that early Christians interpreted passages from the Latin Bible to mean that mankind had been appointed by God as the Master (Latin: Dominus) of nature, and therefore possessed complete and absolute control over it for his own uses, without any consideration for other living beings. This Christian concept of 'Dominion' has generally been replaced in modern Christian thinking (for example, in Pope Francis's Laudato si') by the concept of Stewardship, the idea that man is the caretaker of nature, and holds moral responsibilities towards the environment and other species. Muslim thinkers soon began investigating his arguments as well.

The field of Ecotheology is now well established, with thousands of books, articles, research centers, and annual conferences. Historically, the relationships among philosophy, religion, and popular views of nature are quite complex; ranging from late Neanderthal worship of animal spirits and natural forces in rivers and forests (shamanism) to dualistic Eastern religions which viewed reality as warring factions of principles of light and dark, with darkness sometimes associated with earth and nature.

Neoplatonism, influential on medieval Christianity, viewed the material world as corrupt and evil and something not to be worshipped or contemplated. Many religions to this day support a monastic element (hermits and monks) who turn away from the world and its sins. But equally important, many passages from the Quran, Bible, and Torah can be found that praise the beauty of the world as God's creation. The earth has been given as a gift and must be preserved and cared for.

Photo credit: Tina Fernandes

In the 19th century, the religious philosophy called "Natural Theology" proposed that the very complexity and beauty of the world was itself a rational scientific argument for a benevolent Creator, God, since such intricate organizational structures and profound gloriousness could not have been produced by random chance and material physical and chemical laws. Internationally, a consensus appears to be emerging among theologians that the earth is in serious crisis, and that the ethical frameworks of religion can be harnessed to lead more spiritually satisfying and healthy lives by respecting the gifts that nature provides.

GUM ARABIC TREE *by Diane Woodcock*

Eating ice cream and candy,
I give thanks for the acacia –
for its Gum arabic. I come

into the shade of one
in the desert and praise
its slanted, flat top; admire

its wisdom: small leaves
for conserving water;
thorns and prickles keeping

grazers at bay; the heartwood's
deposits of metabolic wastes
serving as preservatives –

making it unpalatable
to abrasive insects, resistant
to invasive fungi.

Sole wood used to construct
the tabernacle and all its features.
Chosen by Noah for the ark,

by boat builders in ancient Egypt
and modern Sudan. We are broken,
out of sync with the universe

while the acacia's not strayed
one millimeter from the sacred way.
Listen: Persian nightingale still singing

plaintively dawn and dusk
from its crown. A haunt
from the beginning till now

for little owl Athene noctua,
Crested lark, Southern Grey shrike
and White wagtail alike.

Acacia's austere stamina resonates
with the hermit's resolve – a solitary
stand against the grains of sand.

Publication credits:
Reverent Flora: The Arabian Desert's Botanical Bounty (poems inspired by plants of the Arabian Desert and the 22 most often mentioned in the Qur'an), forthcoming in 2022.

Qur'anic name: Talh
Botanic name: *Acacia nilotica*
Arabic name: Sunt Garath, Tulh

It shall be the reward for Heaven's people
– Qur'an 56:27-33

. . . one whiff . . . is all Arabia
- Rudyard Kipling

WE ARE NOT GODS *by Diane Woodcock*

One extreme event, September 2016,
and the second largest Emperor penguin
colony, Antarctica, collapsed –
most severe El Niño in sixty years,
strong winds and record-low sea ice,
the chicks not yet fledged. This is how close

we are to the edge. July 2018, researchers
announce the world's largest colony of King
penguins on the subantarctic Pig Island
has shrunk
by nearly 90% these last three decades.
Jeremiah's words echo in my memory,
*The whole land . . . a desolation.**

The warming, the sacredness of all things,
the eggs, the fledglings, fire's holy
flame remains beyond awake.
The vividness of a gleaming blue glacier –
the sound of its melting, calving enough
to break the heart as it falls apart.

Melting of the ice shields soon to
accelerate, sea levels continue to rise.
Oh to realize we are not gods.
Too many coral reefs bleached and dying.
Dead zones spreading like a cancer
in the oceans. Marine defaunation.

*Jeremiah 4:27, Holy Bible, KJV

Photo credit: Gail Kyle

Not like falcons of the Hyperborean cliffs,
nesting far above the sea in a show of audacity
and stamina, vulnerable penguins cannot
climb cliffs as high winds whip across the ice.
Still, a ray of hope: many of those Emperors
moved themselves 35 miles to the south,

joining a colony there where penguins
since have increased ten-fold. Behold,
we are not gods. What if it's already
too late? Which is why I wake
at dawn, frightened by the dream,
the cliff edge, the falling.

Publication credits:
Holy Sparks (forthcoming in 2023, Paraclete Press)

START YOUR OWN URBAN FARM

Dr Theodora Karanisa

The use of the urban environment for agriculture has multiple economic, social, and environmental benefits with the main one being the access to fresher, healthier, local food.

To start you need a backyard, a rooftop garden, or even a balcony. Fruits and vegetables need more sunlight than green foliage plants and herbs which can tolerate partially-shaded areas.

Plants need three 3 basic elements: soil, water and air.
Soil must be fertile, light and be able to hold water. Cow manure, biochar, compost, and coco peat enhance soil fertility. They can also be added to potting soil and perlite, to improve the soil aeration in pots.

Many food types can grow in Qatar's urban environment due to the microclimate effect created in the gardens. See Table 1 for plants already grown here.
Be careful not to overwater or underwater. Stick your finger in the soil; if it feels moist at 5-10 cm deep, it is good, otherwise, you have to water.

Over time, plants will need extra food as the nutrients in the soil, especially with potted plants, naturally deplete as they are consumed by the plant or washed away from watering. As a general rule, fertilize every month for foliage plants and every 2-3 weeks when plants are flowering or bearing fruits. Keep in mind not to fertilize when the temperature is high.

Finally, pests and diseases are your plant's enemies, so monitor regularly, paying special attention to under the leaves, as pests like to hide there. The most popular organic, safe, and environmentally-friendly pest treatments are plant-based, such as neem oil, dishwashing liquid and baking soda.Use 1 tablespoon per litre or 10 drops per litre for neem oil. Make sure that your plants are sufficiently aerated and isolate any infected plant.!

Plant species cultivated under urban conditions in Qatar		
Vegetables	**Leafy greens**	**Roots & tubers**
Gourds	Bok choy	Potato
Cucumber	Kale	Sweet potato
Pumpkin	Cabbage	Taro
Zucchini	Rocket	Beetroot
Melon	Spinach	Turnip
Watermelon	Lettuce	Radish
Beans	Celery	Carrot
Tomatoes	**Aromatic plants**	**Trees**
Cherry tomatoes	Oregano	Agati
Eggplant	Parsley	Sidra
Bell & chilli peppers	Coriander	Jujube
Cauliflower	Curry	Moringa
Broccoli	Lemongrass	Papaya
Shallots	Mint	Mango
Onions	Dill	Banana
Okra	Basil	Fig tree
Strawberries	**Medicinal plants**	Pomelo
Corn	Tulsi (holy basil)	Kumquat
Edible Flowers	Indian borage	Pawpaw
Roselle (Puli venda)	Neem	Rose apple
	Butterfly pea	Pear

EVOLUTION OF AGRICULTURE IN QATAR

Dr Theodora Karanisa

Traditionally, agriculture in Qatar was small due to harsh climatic conditions and limited resources, leading the country to rely on imports to satisfy its food needs. Indeed, Qatar imported approximately 90% of its food items from more than 100 countries until 2017 when neighboring Arab countries and their allies imposed an air, sea, and land blockade. The blockade raised national concerns regarding food security and led the country to explore alternative supply-side strategies and sources to satisfy the country's food demand. In response, local food production in Qatar greatly increased and the agricultural sector expanded; now it can be considered as an emerging industry.

As local food production was rapidly prioritized, the percentage of perishable food produced within Qatar such as vegetables and milk, had nearly tripled between 2017 to 2019. Moreover, self-sufficiency in many food products like meat, dairy products, and vegetables has increased from 15.2% in 2014 to 28% for vegetables in 2019 with a growth of 16 local varieties, while the Ministry of Environment and Climate Change (MOECC) has targeted ambitious goals for 2023, reaching 70% self-sufficiency in vegetables, 90% in fish, 30% in red meat and 70% in table eggs. It is noteworthy that Qatar was greater than 100% self-sufficient for fresh dairy products and poultry in 2019 with 106% and 124%, respectively and the same trend is noticed until nowadays, in 2022.

The agricultural sector in Qatar has the possibility to further expand with the adoption of modern cultivation techniques, overcoming the traditional limitations to agriculture caused by the harsh summer weather conditions and the limited extent of fertile soil. Technological advancements in smart greenhouses enhancing productivity, soilless cultivation techniques, water-saving irrigation methods, and optimal resource management reducing the cost of production, offer an additional opportunity to expand domestic food production.

Literature sources:

Planning and Statistics Authority in Qatar. Economic and Agricultural Statistics, 2019; Planning and Statistics Authority: Doha, Qatar, 2019.

Ministry of Municipality and Environment. Qatar National Food Security Strategy (2018–2023); Ministry of Municipality and Environment: Doha, Qatar, 2020.

Miniaoui, H.; Irungu, P.; Kaitibie, S. Contemporary Issues in Qatar's Food Security. Middle East Insights No. 185; Middle East Institute: Singapore, 2018.

TO COMPOST IS TO KEEP EARTH HEALTHY - GUIDE OF PRACTICES MADE EASY

Dr Aspa D. Chatziefthimiou, ESA Certified Senior Ecologist and a Research Associate at Brain Chemistry Labs. She is the Executive Director of The Wilderness Series, and QNHG Talks Coordinator.

I distinctly remember the first time I heard the word “compost”. It was a Friday in June 2007, while having lunch at the communal table in the kitchen of the Rutgers Pinelands Field Station in NJ. I was a young Ph.D. candidate, having just completed a course in the analytical methods scientists use to determine how microbes cycle nutrients in, around and out of the soil. Disclaimer: I am talking about beneficial microbes that keep our soil and Earth healthy. As we were wrapping up lunch, my colleague collected all our leftovers, fruit and vegetable clippings adding them to a week’s worth she stored in a tightly-sealed container. “I am so excited to add such a diverse variety of food sources to my compost heap back home! I cannot wait!”, she said jumping up and down with joy! Her joy and the realization of how easily we can help magnify microbial nutrient cycling in soil, left quite an impression on me. That Friday, a pivotal point was marked in my ecological thinking not only as a scientist, but as a citizen as well: I was turned into a fervent practitioner, proponent and promoter of composting!

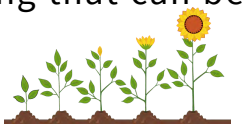
In simple terms, composting is the act of returning organic material, such as clippings, leftovers, and expired dairy, back to Earth, where it gets decomposed by an army of microbes, to serve as a natural fertilizer, rejuvenating Earth’s skin: the soil! If instead, this organic material is mixed in with un-recyclable trash that ends up in the landfill, it will still be decomposed by an army of microbes, but it will not get assimilated with the soil. And, because landfill is usually not turned, anaerobic (no oxygen) conditions ensue, favoring microbes that produce methane during their decomposition activities.

Home compost
Laura Brennan

We may not be aware of this, but food waste from *households*, NOT from restaurants, is the biggest emitter of methane, the “warmest” of the greenhouse gases causing our climate to be in a crisis!! This may be too technical for some readers, yet the take home message is quite simple. Composting: good. Trashing food waste: bad!

The most “analogue” way, which I follow, is to store organic material in a container and when out in nature, locate a spot of soil next to plants, dig, decant and bury. My permaculturalist friend and colleague calls this “building the future”, in big part because the composted soil has no downstream use for me. I singly do it for Earth’s benefit. It may sound humorous, yet the plants and microbes in my adopted nature areas are always very happy to receive such a feast. And a sign of this sentiment is evidenced by the aroma of the soil post-composting. It smells of a rainy day in the forest!

There are of course many other equally legitimate reasons why people compost, and many more advanced ways to compost with variable price tags associated with each. Two of my best friends bury their organic material directly next to the trees in their backyard garden. My aunt and my sister have contained compost heaps on their balconies where they mix-in their organic material. My Ph.D. advisor, does the same, yet her heaps are populated with specialized worms, that chew and chew, helping microbes degrade the organic material faster. The worm movement also keeps the heap aerated, something that can be achieved mechanically with a shovel or a tumbler bin.



When the compost is ready, they all add it as a fertilizer to enrich the soil in their flower gardens. Some people also pour the “compost tea” (liquid produced by compost) directly on their plants. Another way to accelerate the composting process, is to increase the number of microbial degraders. There are many commercially-available products, where the natural microbial community has been isolated from soil and made into a ready-to-use cocktail powder for direct application to the compost heap.

My mother, the lucky owner of a summer house-turned-small farm, and the best pupil I have when it comes to taking to heart and applying my “ecologically grounded worldview”, has taken composting to a whole different level. To her chickens, who live in a luxurious no-kill pen, so big it is visible on satellite images, she offers all the fruits and vegetables she produces that have not been consumed by humans. Many of our discussions start with “do you know how crazy the chickens go over olives, lotuses, apples, apricots, figs, and so on?”. Any other organic material the chickens are not crazy about, go to compost heaps, along with clipped branches and leaves that, when fully degraded, end up in the soil of her fruit-bearing trees. The chicken excrements, of course, go to her vegetable garden. A perfect little circular economy!

Finally, for those among us who need cutting-edge technology to get them enthused about composting, there are many countertop electric composters available in the market already. These use heat and can turn your organic material and garden clippings, anything that is biodegradable really, into powder in a matter of hours. They are also equipped with filters which capture any methane produced in the process. The downside of this scenario is that although this powder can be used in your garden, it lacks the fertilizing quality of regular compost, since the heat deactivates the microbial community. The upside is that organic material gets minimized, and because the microbial community is destroyed, even if it ends up in landfills it will not be emitting methane.

Dr.Aspa's compost in the mangroves

Due to my profession, I often get asked: “Dr. Aspa what can I do to help avert and mitigate the climate crisis?” Just talking about the beauty of nature and the problems that Earth faces is a simple and powerful way to help. Composting (to borrow from Neil Armstrong) is another small step for a human, but a giant leap for mankind in our effort to preserve and improve the health of our Planet. So, start composting and spread the word!

Price tags per composting method:

($) container + shovel

($$) container + compost starter powder

($$$) container + worms

($$$$) tumbler bin

($$$$) countertop electric composter

RAMBLE ROUND-UP

It's been a wonderfully varied ramble season with members making the most of many opportunities to explore Qatar.

Agrico Farm
Uma Pandiyan

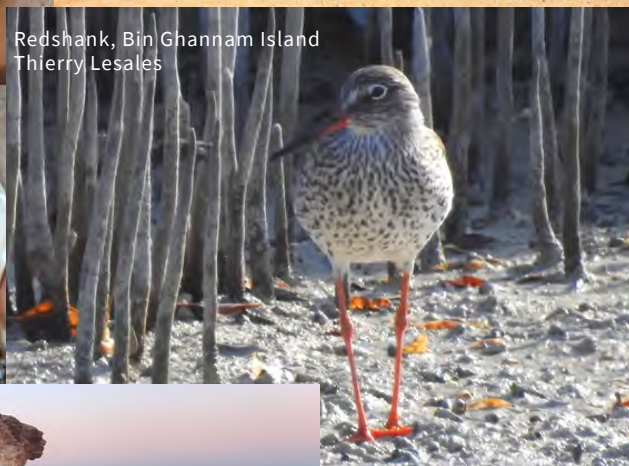
Bin Ghannam Island
Thierry Lesales

We picnicked at Umm Bab beach, watched the desert transform after the rains in Al Jumayliah rawdat, climbed spectacular rock formations in Zekreet, descended into the Musfur sinkhole, birdwatched in Doha Golf Club, enjoyed a guided tour around Jeff Koons, visited Agrico organic farm and took a nature walk on Bin Ghannam Island.

Sunrise at Musfur sinkhole
Colin Clelland

Mushrooms at Agrico Farm
Kay Woodward

Richard Serra



Redshank, Bin Ghannam Island
Thierry Lesales

Tomatoes at Agrico Farm
Suzanne Ghadanfar

Eastern skink

Horned viper
Thierry Lesales

Zekreet
Omer bin Abdul Aziz

Al Jumayliah
Sneha Parthasarathy

A SUNRISE RAWDAT EXPLORATION

Thierry Lesales

On December 4th, members met at 5.30am, on a side road along Dukhan Highway. After a short drive along a small track, we arrived just in time to enjoy a beautiful sunrise.

Outside the rawdat, we spotted many animal prints, antlions traps, and several burrows on the dry soil. One of the burrows was quite recent, and we could see all the work done to disperse the soil from the excavation.

While focusing on a Little Owl resting on the ground in the shade of an Acacia, the group was startled by several high pitched screams. Some members were lucky enough to get a glimpse of two foxes running over a mound, before they hastily disappeared.

We were joined on our walk in the dry rawdat, by a Whitethroat, a couple of Grey Shrikes and some Desert Wheatears.

CAMPING

Omer Bin Abdul Aziz

We enjoyed a beautiful camping trip this season in November in the south of the country. The night sky was filled with meteors and the morning sands covered in tracks of elusive wildlife. We also got a lesson in how to change the tire by Michel Michaud who gave a textbook style demonstration to both young and old!

Phil Cullen

Ouahiba Bouchenafa

Thierry Lesales

Omer bin Abdul Aziz

Thierry Lesales

Colin & Susan Clelland

Thierry Lesales

AL WAKRA BEACH

Uma Pandiyan

These pictures from our ramble to Al Wakra beach in February show a seashell view of the wetland. It was a conchologist's delight.

We heard about bivalves and molluscs. It wasn't easy walking with bare feet!

Lots of food for the birds. We saw Grey plovers, Western Reef herons, Black headed gulls, Kentish plovers, Sanderlings, Black tailed godwits and a Kingfisher.

It was good to see lots of people enjoying the winter afternoon, while the hermit crabs and other molluscs that had so far escaped the many sharp beaks, waited for the tide to rise.

Photo credits: Claire Kelly

© Uma Pandiyan

CONCHOLOGY: THE STUDY OF SHELLS

Omer Bin Abdul Aziz

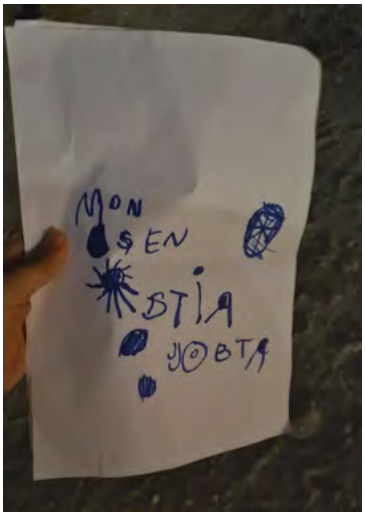
Our Rambles Coordinator, Omer, shares his observations, assisted by Andrew Childs, the seashell recorder for the Dubai Natural History Group. Andrew started collecting shells in 2013, focusing only on the coasts of UAE and Oman. The shells he finds are 100% dead-collected by beach combing or looking under rocks or sand at low tide.
Omer's shells are from the coast of Qatar.

MOON AND PLANET WATCH

Omer Bin Abdul Aziz

Venus, Saturn, Jupiter and the moon offered a nice visual alignment display in the 2nd week of December 2021.

The moon hopped from within these planets to settle on the outside on the 10th December. This is when QNHG members gathered to appreciate this alignment together and view the cosmic sights through the telescope.



One of our young participants drew the sky for himself!

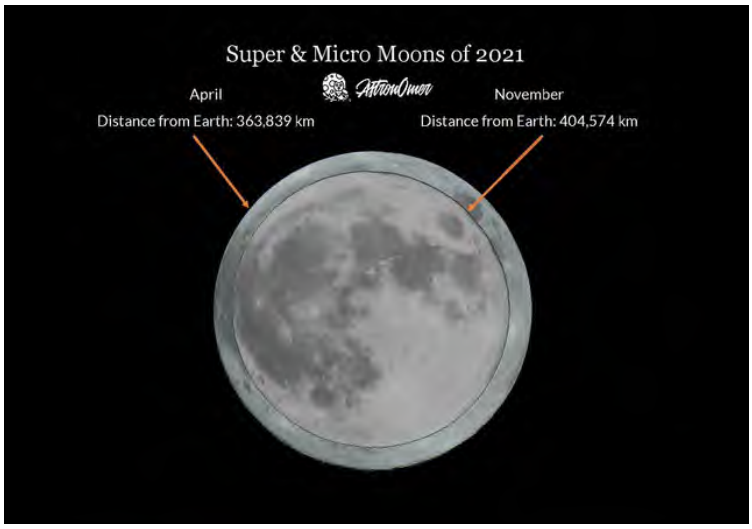
Photo credits: Suzanne Ghadanfar

MOONRAKER

Omer bin Abdul Aziz

Not all full moons are made equal - some are bigger than others. It's hard to notice unless you compare each full moon side by side. So QNHG decided to do a 1-year experimental project named Moonraker.

A number of members took part, taking photos each month of the full moon. These pictures were then compared to see the difference between the sizes of the full moon - when it becomes full closest to its orbit (super full moon) compared to when it is full farthest in its orbit (micro full moon).



Comparing these two images, we can see a super full moon is around 15% bigger than a micro full moon. This agrees with the theoretical difference of 14%. The 1% discrepancy can be attributed to the processing technique.

Here are some moon photos taken simultaneously from Qatar and Europe. It's intriguing how people separated by thousands of miles can look at the same celestial object and relate to one another!

A (super!) big thank you to everyone who participated in the project.

Photo credits: Keith M Milne

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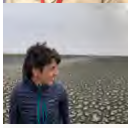

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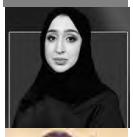

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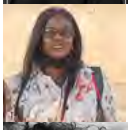

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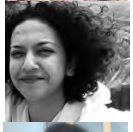

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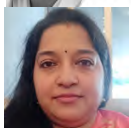

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Thank you!

Brenda Mooney and Indee Thotwattage for your contributions as Treasury Secretary and Social Media Manager

Welcome!

Lolwa Ammar Al Khuzaei, Viviane Carpin, Sneha Parthasarathy and Geetha Karthik to the Steering Committee

UPCOMING TALKS

4 May & 1 June
Soon to be announced

UPCOMING RAMBLES

28 April
Overnight dhow cruise, pelagic bird watching and star gazing
6 May
Desert camping and meteor shower
13 May
Heenat Salma Farm
20 May
Nature reserve trip
26 May
Beach nature walk
3 June
Last camping trip of the season
10 June
Clay quarry and sunset beach picnic

We have some exciting news about the ongoing turtle nesting season!

We are partnering with the Children's Museum to lead some visits to the protected nesting site on Fuwairit beach.

It's a unique opportunity to discover the nesting site and the conservation strategy in place and hopefully see some hatchings.

We need a few volunteers to help with various tasks, including guiding small groups on the site: in May (10, 12, 17, 19), June (16, 21, 23, 28, 30), and July (5, 7, 12).

These visits are scheduled on Tuesdays and Thursdays, from 8 to 9 pm. The number of volunteers is limited, and please apply only if you are available for several evenings.

To apply, email Thierry: b40241@gmail.com