DUBAI NATURAL HISTORY GROUP

Vol 37, No 1, January 2022

GAZELLE

مجموعة دبي للتاريخ الطبيعي

Inside this month:

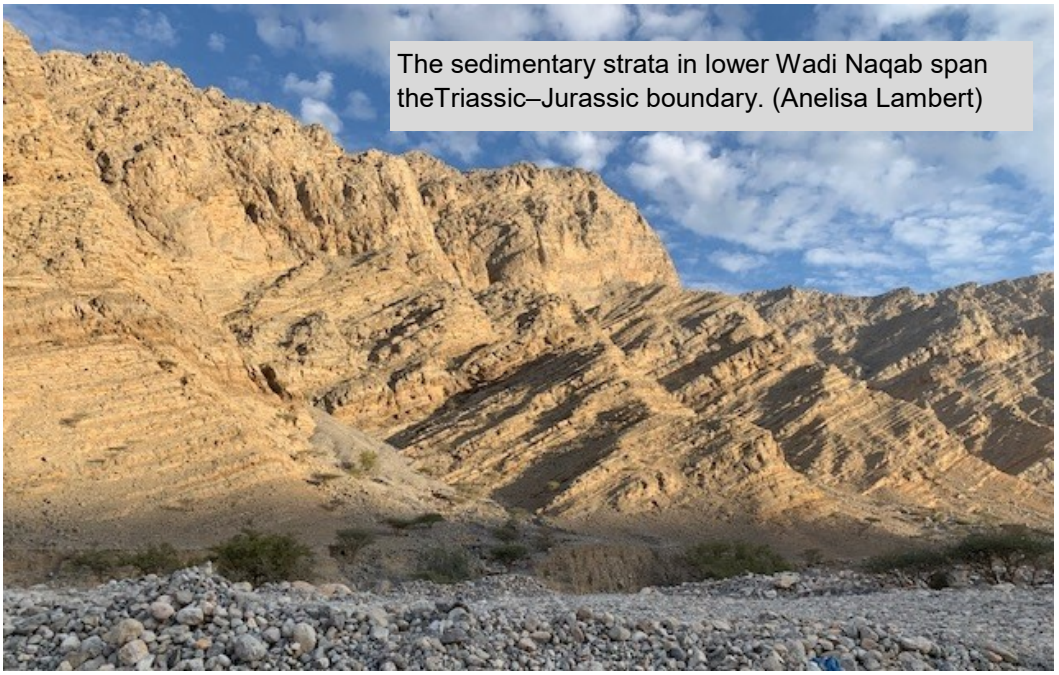
Contributors—

Thanks to the following for their contributions this month:

Angela Manthorpe, Gary Feulner, Sandi Ellis, Anelisa Lambert, Lamjed El Kefi, Rowland Browne, Val Lindsay and Dominika Durtan.

Clay head of a human figure

See page 6



The sedimentary strata in lower Wadi Naqab span theTriassic–Jurassic boundary. (Anelisa Lambert)

The Triassic-Jurassic Boundary in Wadi Naqab

Petroleum engineer David Kingston took us behind the scenes in mid-January to show us how a geological scientist 'reads' the rocks, both by close observation and by analytical techniques, to decipher the history that they record. He also showed us how understanding that history is relevant to present day concerns. (David began by giving us an engineer's look at the construction of the earthen dams that are now found in so many UAE wadis, and an interpretation of the recent conglomerates, gravels and other sediments seen beside the wadi bed.)

The well-exposed sedimentary beds on the steep flanks of Wadi Naqab were deposited more or less continuously in the coastal waters of Arabia and neighboring areas for more than 150 million years, on the margins of the former Tethys Sea. They encompass the 201 million year-old horizon that marks the end of the Triassic Period, defined by one of the five great extinctions that punctuate the 550 million year history of multicellular life. In the rocks above and below that horizon, we were introduced to many features including shell beds, oolites, worm borings, ripple marks, teepee structures, thin bacterial layers, etc., that indicated both the depositional environment and the presence (or absence) of marine life.

David's well-illustrated notes also presented the results of analysis of the ratios of carbon and oxygen isotopes contained in the different layers of rock (which are mostly limestone – $CaCO_3$). The ratio of carbon and oxygen isotopes deposited in limestone changes with variations in atmospheric ratios and with ocean temperature. Laboratory results for carbon isotopes suggest very high levels of volcanic activity at the Triassic-Jurassic boundary and therefore high levels of atmospheric CO_2, consistent with vulcanism that accompanied the early stages of the opening of the Atlantic Ocean. This also implies that ocean waters were relatively acidic, which makes it more difficult for marine organisms (from micro-organisms to molluscs) to create their customary calcium carbonate shells. At the same time, oxygen isotopes show very high ocean

(Continued on page 4)

Announcements and Recorders

Virtual Monthly Speaker

6th February, 2022 at 8pm (via Zoom)

Presenter: **Ali Iqbal**

Lecture Title: **"UAE during WW2: Incidents and Accidents"**

The untold story of an Italian Second World War submarine sunk off the UAE coast. The wreck of the 'Luigi Galvani' lies on the sea floor—untouched in a silent world. Through his research, Ali Iqbal shares insights into this and other air incidents and accidents that occurred during WW2.

Ali Iqbal is a 38 year old independent researcher and Dubai resident of 33 years. With a passion for the history of the UAE, over the past few years he carried out extensive research that has led to some fascinating discoveries of the history of the Second World War and the region.

Through this research he has been able to identify and publish previously forgotten stories behind crashed aircraft, lost crew members and sunken submarines, amongst other things.

Ali Iqbal and Peter Hellyer at the memorial of a crashed WW2 Airman in Fujairah

His research has been published in several UAE publications such as *The National* newspaper, academic journal *Tribulus* and some books. He has given presentations for the British Embassy in Dubai, The Sharjah Museums Authority, and other establishments.

"My research is ongoing and I am continuing to discover more and more to contribute to the fascinating history of this beautiful country. In addition to my passion for history, I like to spend my time outdoors, either fishing off the coast of Dubai or horse riding in the desert." (Ali Iqbal)

Additional Informative Links:

https://www.google.ae/amp/s/amp.thenationalnews.com/uae/heritage/the-forgotten-story-of-a-fatal-second-world-war-air-crash-in-sharjah-1.715668

https://www.google.ae/amp/s/amp.thenationalnews.com/uae/heritage/how-sharjah-played-its-part-in-winning-the-second-world-war-1.1071217

https://www.thenationalnews.com/arts-culture/film/sharjah-paramount-the-story-of-the-uae-s-first-cinema-a-meeting-place-for-british-servicemen-and-locals-1.1015819

https://www.thenationalnews.com/uae/heritage/parties-in-the-streets-how-dubai-and-sharjah-celebrated-the-end-of-the-second-world-war-1.1071468

https://www.thenationalnews.com/uae/2021/07/01/the-untold-story-of-an-italian-second-world-war-submarine-sunk-off-the-uae-coast/

DNHG Recorders

Reptiles - Dr. Reza Khan
050 6563601

Astronomy - Lamjed El-Kefi
res: 06-5310467 off: 06-5583 003
lankefi@emirates.net.ae

Marine Life - Lamjed El-Kefi (contact as above)

Geology - Gary Feulner
res: 04 306 5570
grfeulner@gmail.com

Insects - Binish Roobas
050 243 8737
johanruphus@hotmail.com

Fossils - Valerie Chalmers
res: 04 4572167
mobile: 050 8305018 email:
valeriechalmers@gmail.com

Plants - Valerie Chalmers
(contact as above)

Archaeology - Anelisa Lambert
056 6904508
anelisalambert@gmail.com

Seashells - Andrew Childs
050 4590112
andrew.childs@eim.ae

Bird Recorder— Panos Azmanis
050 7083555
azmanis.vet@gmail.com

Mammals—Jacky Judas
04 354 9776
050 6181026
jjudas@enwwf.ae

From the Editor:

Thanks to Binish Roobas for taking a video of the Al Buhas Geology Park field trip this month. An article will be included in next month's Gazelle but in the meantime, readers can view the footage on our YouTube be channel at:

https://youtu.be/9IMTykx8Iqs

Plants and insects flourish after rainfall. See pages 5 and 7 for reports.

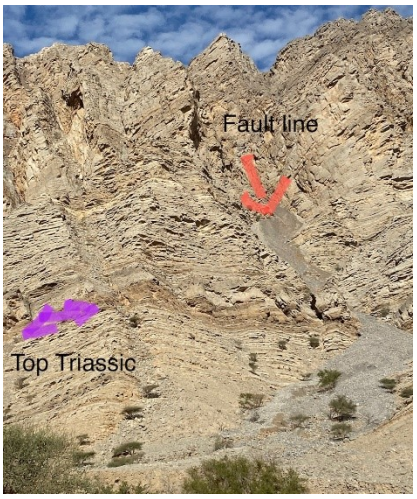
Fresh finds on the Umm al Quwain side of Tell Abraq include a statue of a Roman soldier. Follow IAMUQ_UAE on Instagram to keep up to date with new archaeological discoveries.

Spotlight!

DNHG Field Trip to Wadi Naqab Dam with annotations by Lamjed El Kefi

Wadi Naqab Dam

Over 200 million year old traces of coral



Stunning strata surrounding the Wadi Naqab Dam by Dominika Durtan

Field Trips and Book News

(Continued from page 1)

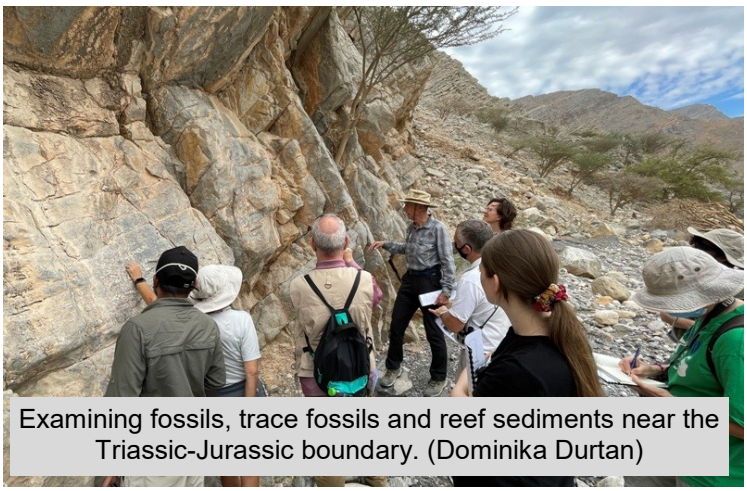
temperatures, which limit oxygen capacity and impose other stresses on marine organisms.

The question posed for geologists is which of those processes, ocean acidification or high temperatures, was most responsible for the mass extinctions seen in the geological record. Observations in Wadi Naqab (and elsewhere) do not support the hypothesis that marine organisms experienced difficulty in forming their shells. This puts the greater burden of suspicion on high temperatures, *per se*. Theoretical calculations suggest that methane (CH_4) emissions triggered by early global warming could have become an additional and more effective cause of accelerated warming, even before CO_2 levels caused an acidification crisis.

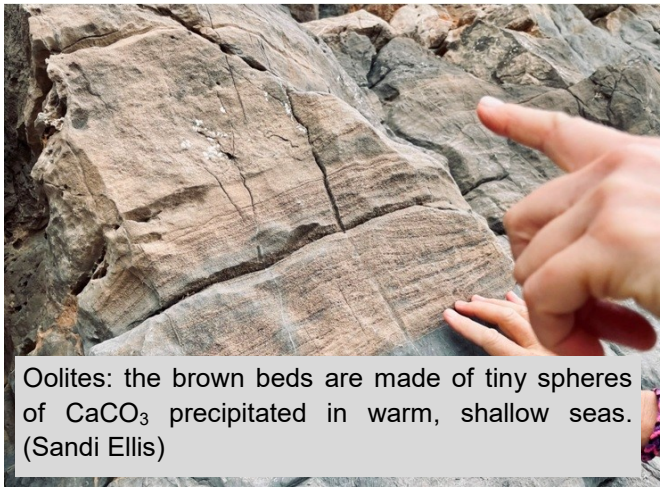
David Kingston introduces the "big picture" to an attentive audience. (Dominika Durtan)

That conclusion contains a warning for the present day. Methane is 23 times more effective than CO_2 as a greenhouse gas, and the potential for greatly increased release of methane exists from sources such as melting of permafrost in Canada and Siberia, from disturbance of the deep sea floor by prospective mining and other activities, and from the expansion of cattle farming. Thanks to David for an insightful day out.

Contribution by Gary Feulner (photos by Anelisa Lambert, Sandi Ellis and Dominika Durtan)



Examining fossils, trace fossils and reef sediments near the Triassic-Jurassic boundary. (Dominika Durtan)



Oolites: the brown beds are made of tiny spheres of $CaCO_3$ precipitated in warm, shallow seas. (Sandi Ellis)

Book News!

Already a well-established coffee table book, *The Windtower* offers a unique insight into a past way of life, exploring Dubai's rich and storied past and heritage. From its original research in 1974, this compact edition celebrates the 50th anniversary of the formation of the United Arab Emirates, diving deeper into the merchant community's central role in Dubai's pre-oil economy and social life. The new edition also considers the lessons to be learned from Dubai's traditional windtowers at a time of global warming and climate crisis, and how this knowledge might benefit contemporary urban design. *Windtower* is a must-have book for anyone interested in Dubai's architecture, culture and fascinating historical development. It will be formally launched next month and available at local bookstores. An Arabic translation is expected to launch in three or four months.

On 13th February at the Emirates Airline Festival of Literature, a session on the recently published book *Butterflies of the UAE* will take place, followed by a session on urban development in the UAE entitled *Evolving Cities*.

Details of the Literature Festival can be found here:

https://www.emirateslitfest.com/

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In other book news, last month's speaker, Dr. Sanjay Gubbi, has written the books listed below. A recording of this presentation has now been added to our website on the lecture page.

- *The Leopard Diaries: The Rosette in India.*
- *Second Nature: Saving Tiger Landscapes in the Twenty First Century.*

Field Clips

Dark ooze explained

Have you ever spotted the dark streaks on the trunks of umbrella thorn acacia (*Vachellia tortilis*) that look like the tree is oozing sap? I've seen it a few times and, after spotting a pronounced example while hiking in Ras Al Khaimah, I thought I'd try and find an explanation. At the suggestion of Gary Feulner, I sent a photo to Dr. Dave Aplin, who gave a talk to the DNHG in November 2021 on plant survival strategies, and this is his response:

"A curious spectacle was spotted on a hike in Ras Al Khaimah a few months ago. Seeping out of the base of an acacia (*Vachellia*) was a black, almost glass-like substance. This phenomenon is likely to be gummosis. Gummosis often occurs after a fungal or bacterial infection, by bark wounding or insect damage. The damage stimulates exudation of viscous sap that then hardens. A form of gummosis produces gum Arabic on certain species, which is harvested and used for a wide range of purposes, such as in food and as a constituent of pigments. The black gum produced on the tree in Ras Al Khaimah, which I have also observed in Wadi El Gemal National Park in Egypt, is likely to comprise large amounts of tannin. Ultimately, gummosis is a reaction to a stimulus, produced as a defence compound, and is not exclusive to *Vachellia*, often occurring in smaller amounts and brown in colour on stone fruit, such as peach, apricot and almond".

Thanks to Dave for that explanation. His photos show gum dripping from the tree in Wadi El Gemal and in that case the amount of gum was so great that it formed numerous hard plates around the tree – his friend is holding one for size.

Contribution by Angela Manthorpe

The main photo, taken by Angela, is the tree in Ras al Khaimah. The remainder of the photos were taken in Wadi Al Gemal in Egypt by Dave Aplin).

Not now dear….

Recently I was lucky to watch a brief courtship between a pair of African Emigrant butterflies (*Catopsilia florella*). The African Emigrant is quite a large yellow-white butterfly and as I was wandering in the hills near Masafi several had flown past at speed, a few metres above the wadi bed. I sat down in a shady spot and not long after a slightly yellow coloured butterfly, which I took to be a female, come to rest on the ground, wings opened flat and abdomen held high. Another butterfly, a pale greenish-white male, approached a couple of times but his fluttering advances were of no interest. The female left the area shortly after and settled on the underside of a *Tephrosia apollinea* bush where I was able to see the characteristic brown spots on the underside.

In the new book "*Butterflies of the United Arab Emirates*" by Gary Feulner, Binish Roobas et al, the authors note that in several of the UAE's Pieridae (Whites and Yellows), the posture of a female, "with wings spread flat but overlapping and abdomen raised, is regarded as signalling rejection of the male's advances, at least for the time being." As butterflies mate tail to tail you can understand how this posture sends a distinct message.

The African Emigrant is a regular visitor to the UAE during the winter and spring, and interestingly, you don't need to venture too far to see them. Only a few weeks prior I was pleased to spot an African Emigrant fluttering around the landscaped edges of Mirdif City Centre.

Contribution by Angela Manthorpe

Field Trips

DNHG Field Trip November 2021 to Tell Abraq (Umm al Quwain side)

(1) The 'palace' building (IAMUQ)

Tell Abraq is a highly significant first and second millennium coastal site whose stratigraphic sequence is unparalleled in the UAE. It is perhaps best known for its dominant, central Umm an Nar tower and tomb, but it reveals almost continuous occupation across several millennia, incorporating the use of Mediterranean cement technology in its upper, Late Pre-Islamic (LPI) levels. Although Dan Potts excavated freely across the whole site between 1989-1998, it was subsequently bisected and placed under the Emirates of both Sharjah and Umm al Quwain.

In November 2021, the DNHG had the opportunity to visit the Umm al Quwain side, which has generally been less accessible to the public and to excavation since the late nineties.

Michele degli Esposti and the Italian Archaeological Mission in UAQ (IAMUQ) have been excavating this northern half of the site since 2019, in preparation for a formal opening to the public. The DNHG tour started by looking at the Wadi Suq terraces and retaining walls that surround the central, Umm an Nar tower; post holes across these terraces suggest scattered Areesh dwellings. Unique to the UAQ side are the late pre-Islamic graves, in a very poor state of preservation, and a structure termed the 'palace' (PHOTO 1) whose purpose remains unknown to date. An Iron Age 'tanoor' from c. 800-500BC was found in the wall, but the palace itself belongs to an earlier period. It is an important structure with several rooms and phases. A unique ceramic jar with a cylinder seal impression was found in one of its rooms (PHOTO 2).

(2) Cylinder seal impression on ceramic jar (IAMUQ)

A number of deposits have been found at the site, containing LPI artefacts – possibly items dumped as a result of grave looting, or perhaps as votive requests for healing: some of the artefacts include items like an alabaster hand and foot with parallels in Hellenistic art and a complete, miniature bronze lower leg with foot.

Other artefacts to date include an exceptional sandstone human figurine that has been beheaded, wearing what appears to be Roman armour (PHOTO 3). We were also shown the remains of a ceramic camel and horse, a Late Bronze Age crescentic dagger handle, a Wadi Suq socketed spear head, a bronze figurine representing an ibex (PHOTO 4), the bronze miniature of a male figure (PHOTO 5), and the head of a human, clay figurine (page 1) amongst other items.

A white-walled structure, unusual across the site in terms of its paler appearance, was excavated at the northern end of the UAQ side. Interpretation is ongoing, but it seems to be constructed of clay bricks, incorporating the use of gypsum paste/lime (PHOTO 6).

The 2021 season ended after 5 fruitful weeks. Michele and his team have kindly invited us to return in 2022 for an updated tour, workload permitting. Interested parties can stay up to date by keeping an eye on their Instagram page (iamuq_uae).

Written by Anelisa Lambert with photographs by Anelisa Lambert and the IAMUQ_UAE Instagram page

(3) Sandstone figurine in Roman dress (Anelisa Lambert)

(4) Bronze Ibex miniature (IAMUQ)

(5) Bronze figurine (Anelisa Lambert)

(6) White-walled structure (Anelisa Lambert)

Field Clips

New Year's rain welcomes the Vagrant Emperor

Contrary to its common name, the large dragonfly called the Vagrant Emperor (*Anax ephippiger*) keeps a fairly regular schedule in the UAE. Each winter, from about mid-December into February, *A. ephippiger* can be found throughout the country, frequently in swarms of dozens of individuals. They are one of a few species of UAE dragonflies that are "hawkers"; that is, they hunt by patrolling an area in near-continuous flight, rather than perching and darting out only occasionally and opportunistically.

Vagrant Emperor pair flying in tandem (Binish Roobas)

Over the years, they have been observed in a wide range of environments including: treed gardens near the tip of the Musandam peninsula; over abandoned fields in the high Musandam, choked by thick annual vegetation after heavy rains; over the flowing streambed of Wadi Khadra (Khudayrah) at Khadra village in the Mahdhah area; and over agricultural plantations deep within the dunes of the Liwa crescent.

We saw *A. ephippiger* at Al Qudra Lakes in Dubai at Christmas time in 2021, but the heavy rain on New Year's Eve was a special gift. At the venerable plantations at Ruwayah, just inland from E611, the rainstorm flooded a historical low area of waste ground and created a complex pond environment among mesquite trees *Prosopis juliflora* and scattered native shrubs.

Vagrant Emperor pair ovipositing in tandem (Binish Roobas)

There, we could see that *A. ephippiger* was not just a migrant, passing through and refueling on its way to somewhere else. Instead, this environment was a temporary home. Males staked out and defended territories, even seeing off occasional intruding birds (albeit small ones like Sparrows or Graceful Prinia). Multiple pairs were mating and laying eggs. In *A. ephippiger*, a pair that has mated flies in tandem, the male holding the female by the neck using the claspers at the end of his abdomen. The male continues to hold the female in this way even when the pair settles on emergent or floating vegetation, where the female deposits individual eggs in tiny slits cut into submerged stems.

Ponds like the one at Ruwayah are ephemeral, but the biology of *A. ephippiger* has adjusted so that eggs and larvae can develop, emerge and metamorphose into adult dragonflies in the space of a month or two. The ponds may be too short-lived for most other dragonflies (But how do they "know" this?) because very few others were seen, except our other strong and opportunistic migrant hawker, the Wandering Glider *Pantala flavescens*, which is present throughout the year and often swarms in response to local rain showers. The Vagrant Emperor is best distinguished by its large size, a blue 'saddle' (not a full blue ring) at the anterior of the abdomen, and a pale, yellowish abdomen when seen in full light. The long, thin abdomen is held straight, not dipped.

Multiple pairs ovipositing gregariously at Qusheesh Dam, Jan 2022 (Gary Feulner)

A week later the Vagrant Emperor was abundant at Qusheesh Dam, south of Kadra. The water was extremely high and so many mating pairs were competing for so little emergent vegetation that we observed densities of as many as nine pairs per square meter.

Large but ephemeral ponds at Ruwayah, Jan 2022 (Gary Feulner)

Where does the Vagrant Emperor go during during the nine months of the year when it is not in evidence in the UAE? Most individuals probably migrate north to somewhat cooler climates, but they are believed to return south before breeding again in the Middle East and North Africa, with only limited evidence for a summer generation in, say, Mediterranean Europe. Once, however, we found small numbers of adults in the UAE in summer, in the mangroves at Khor Zawra.

Contribution by Gary Feulner and Binish Roobas

Field Trips

DNHG Christmas picnic and overnight camping

On Friday 17th December, members met at 13.00hrs in Biyatah Village and then departure 13.30hrs after a driving debriefing.

We stopped en route to enjoy the dunes and see the forest of Sodoms Apple/Milk Weed *Calotropis procera*, as well as a magnificent crop of Desert Gourd *Citrullus colocynthis.* The former is the preferred food plant for the caterpillars of the Monarch butterfly, and has numerous practical and medical uses For example, the fruit can stop wound bleeding, juice of fruit helps toothaches, boiled roots relieve stomach pains and stems serve as tooth brushes. The latter is used in traditional medicine as a laxative and a diuretic.

Enjoying the dunes

Desert gourd *(Citrullus colocynthis)*

The next stop was the Biyatah Oasis. This was a beautiful expanse of date palms, sadly fenced off so exploring was not possible, but the clear, cool water in the drinking trough was worth “enjoying”

Eventually we arrived at our habitual Christmas camp site at 1530 hrs only to find the Ghaf trees *Prosopis cineraria* that provide the much-needed shade had suffered severe haircuts. All the top branches had been decapitated and left haphazardly around our camping area, apparently to feed the camels, so clearing was required before tents could be erected.

During camp clearing the area was visited by the residential troop of camels, probably interested to see what we were doing with their food.

Thanks to Sonja Lavrenčič for the plant identification.

Contribution by Rowland Browne with photographs by Val Lyndsay

Dubai Natural History Group (DNHG) Programme 2021/2022

Monthly lectures are presently transmitted via Zoom, starting at 8.00pm

6 February	Ali Iqbal will present an illustrated talk on "UAE during WW2: Incidents and Accidents "

DNHG Field Trips

5 February:	Al Hala village
19 February	Khor Kalba protected mangrove area, Qurum

Please note that field trips will only take place in accordance with current Dubai Government regulations. Participants will remain socially-distanced and capacities are limited. Proof of vaccination or proof of PCR test not older than 72 hours is required upon registration/arrival and masks should be worn at all times by participants.

If any member would like to suggest or lead a field trip, please contact Sonja, DNHG Field Trip Co-ordinator at the email address below.

DNHG COMMITTEE 2020/2021

When possible, please contact committee members outside office hours

	Name	telephone	email
Chairman	**Gary Feulner**	04 306 5570	grfeulner@gmail.com
Vice Chairman	**Valerie Chalmers**	050 830 5018	valeriechalmers@gmail.com
Treasurer	**Puneet Kumar**	050 452 4820	puneetcps@gmail.com
Membership Secretary	**Alessandra Pipan**	054 7771183	lssndr.ppn@gmail.com
Speaker Co-ordinator	**Michelle Sinclair**	050 458 6079	sinclairmichelle611@gmail.com
Fieldtrip Co-ordinator	**Sonja Lavrenčič**	050 256 1496	lavson@gmail.com
Member-at-Large	**Pradeep Radhakrishna**	050 450 8496	wgarnet@eim.ae
Member-at-Large	**Anindita Radhakrishna**	050 656 9165	anin@eim.ae
Newsletter Editor	**Margaret Swan**	050 798 4108	gazelleeditor@gmail.com
Librarian/Book Sales	**Angela Manthorpe**	058 135 4143	manthorpe2005@yahoo.co.uk
Postmaster	**Sandi Ellis**	050 644 2682	sandiellis@gmail.com
Chief Engineer	**Binish Roobas**	050 243 8737	johanruphus@hotmail.com
Website Co-ordinator	**Alexis Biller**	055 103 9014	alexis.biller@gmail.com

Postal Address: DNHG, PO Box 9234, Dubai, UAE

DNHG Membership

DNHG membership remains one of Dubai's best bargains at Dh100 for families and Dh50 for singles. Membership for the current year is valid from September 2020 to September 2021. In consideration of the restrictions on our lectures and field trips due to COVID-19, **all members who were paid up (or considered paid up) for 2020—2021 will be automatically renewed for 2021-2022**, without a renewal fee.

New members can join by (i) sending to the Membership Secretary (see above) a completed one-page membership form, which can be downloaded from our website (www.dnhg.org) and (ii) making payment to our Emirates NBD account by cash deposit or transfer from your bank or ATM, using our IBAN number AE640260001012012013302. However, this process does not always identify the payer. So if you wish to pay by cash deposit, please also photograph or scan a copy of your payment confirmation and send via e-mail to the Membership Secretary, so we know whose money we have received.

DNHG membership entitles you to participate in field trips and helps pay for our lecture hall, publication and distribution of our monthly newsletter, the *Gazelle*, our post office box, additions to our library, incidental expenses of speakers and occasional special projects.