



GAZELLE

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مجموعتنا دورية للتاريخ والطبيعي

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Contributors—

Thanks to the following for their contributions this month:

Harold Bekker, Maks Lavrenčič, Gosia van Unen, Ulrike Andorff, Aisha Thani, Gary Feulner, Binish Roobas and Hiba Allam.

Send your contributions for inclusion in the next issue to:
gazelleeditor@gmail.com

by 25th October, 2019

Sleepy Bee—read about local solitary bees on page 3



The corpus delicti – a recently dead goat.

Summer Sleuthing: Forensics, Photos and Foxes

Harold Bekker has previously shared with us some of his observations and enjoyment from exploration of the Hajar Mountains last winter and spring. But even as the summer season began, with the blistering sun and high humidity limiting time outdoors for most naturalists and most fauna alike, Harold found to his delight that it was still fair enough for early morning hikes.

In one wadi bed his attention was drawn to a carcass of a goat which, judging from the still bloody remains was quite fresh. Investigation at the 'crime scene' revealed, beside traces of one or more foxes, a print which seemed to him to belong to a large cat. Foxes are unlikely to successfully attack a healthy adult goat. So, Harold wondered, could it be that the goat was the prey of a larger feline species? And if so, could the culprit be the elusive Caracal . . . or could it even be an Arabian Leopard?

Harold knows that most UAE wildlife researchers believe the Arabian leopard became extinct in the UAE and the Musandam region during the years following the turn of the century, but the enigmatic footprint and the possibility of a surprise encouraged him to continue his search for the perpetrator. He purchased two trail cameras, did some research on the internet, and consulted a friend and South African wildlife expert about how best to deploy them. A week later, he returned to the crime scene and installed the cameras at two locations about 1.5 km apart.

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Announcements, Clips and Recorders

Monthly Speaker - Sunday, 6th October, 2019

Lecture Title: "Vegetation mapping and plant species diversity in Ras Al Khaimah"

Biography: Marina Tsaliki

Marina studied in Germany (Goettingen and Bremen). She has worked on plant species (Rhododendron), the grazing effects on the woodlands of Northern Greece, habitat fragmentation and the effects on rare and endangered heathland and bog species in Germany.

In 2011 Marina moved to Oman where she worked at the Oman Botanic Garden, then with Earthwatch, in Dhofar, Oman. She has also worked as a freelance plant ecologist on a few smaller projects.

Since 2017 Marina has worked in Ras Al Khaimah, employed as a Plant Conservation and Research Specialist with RAK Government.

Chilling Among the Fjords

If you travel to Norway you will most likely be enchanted by the dramatic landscape with forests, lakes, waterfalls, mountains and fjords but you must also turn your attention to its smaller components. When you hike just look under your feet.

Some of the oldest rocks in Norway were formed during the Caledonian Orogeny around 420 million years ago but the mountains standing there today are the remains of ancient mountain ranges that have been eroded down to sea level and later lifted. During the last 2.6 million years Norway has been shaped by glaciers that have worn down the land, carved valleys and deep fjords. There were as many as 40-50 ice ages in this period with huge ice sheets covering Norway and the surrounding seas. 20,000 years ago during the peak of the last ice age, the layer of ice was up to 3 kilometer thick. When the glaciers moved they took along gravel, stones and boulders along that carved the present day fjords to the overall depth of 2000m. Now the glaciers are melting again.

It is easy to get distracted by the variety of rock in Norway. Most of the rock in areas we visited were igneous and metamorphic; granite, gneiss, gabbro, quartzite, labradorite. At the water's edge some colourful sediments were present but their origin was difficult if not impossible to determine as glaciers carry and redistribute debris over a long distance. Among the many rock types and minerals that can be found in Norway there are a few that are either found exclusively there or are very rare. These are:

Larvikite - national stone of Norway, igneous rock found in the town of Larvik, formed in the Permian, 290 million years ago, with a characteristic silver-blue shine caused by microscopic feldspar crystals.

Tulite - as a gemstone it is found in Lom, mined from quartzitic horizon in 1600 million year old gneiss. It varies from pink to wine in colour depending on its manganese content.

Cordierite - hard, glassy mineral which in crystalline form displays dichroism (appears blue as seen from one direction and yellow from another). It is believed to have been used by the Vikings to navigate the open seas enabling them to determine the direction of the sun even on overcast days.

Other interesting rock types include folded quartzite, labradorite, rhomb porphyry, Gardnos breccia (from a meteorite impact) and mylonite.

If you tire of the fine detail you can admire colourful lichens growing on the rocks or follow examples of weathering and erosion in all forms and sizes.

Note: Rich in oil and mineral resources, Norway uses almost exclusively electric or hybrid vehicles. The main source of electricity is hydropower and the people are living sustainably and are environmentally conscious. Nature is an important part of the Norwegian identity, a part they are proud of and cherish. More photos can be found at the following link:

<https://photos.app.goo.gl/dJqHUizWmNZVLSqS9>

Contribution by Gosia van Unen

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From the Editor:

Thanks to all that sent contributions this month. They cover a wide range of local topics, including bees, beach finds, plants and even a natural 'crime scene investigation!'

The trip to Krygystan outlines a unique geology focus as does the article on the Norwegian fjords.

Enjoy your read!

Spotlight!

Solitary Bees, by Aisha Thani

I love insects and have lately been fascinated by solitary bees which, thankfully, do well in desert climates.

Here is one of my favorites: *Pseudapis nilotica* (identified by Laurence Packer from a sample). They're in the family *Halictidae* and are a lovely white, cream, black and orange colour.

Around this time last year near the airport in Dubai, I was finding sleeping males in the evening though I haven't been lucky enough to find any this September as yet.

Like most of our solitary bees they are ground nesters. I observed them from September last year until June this year.

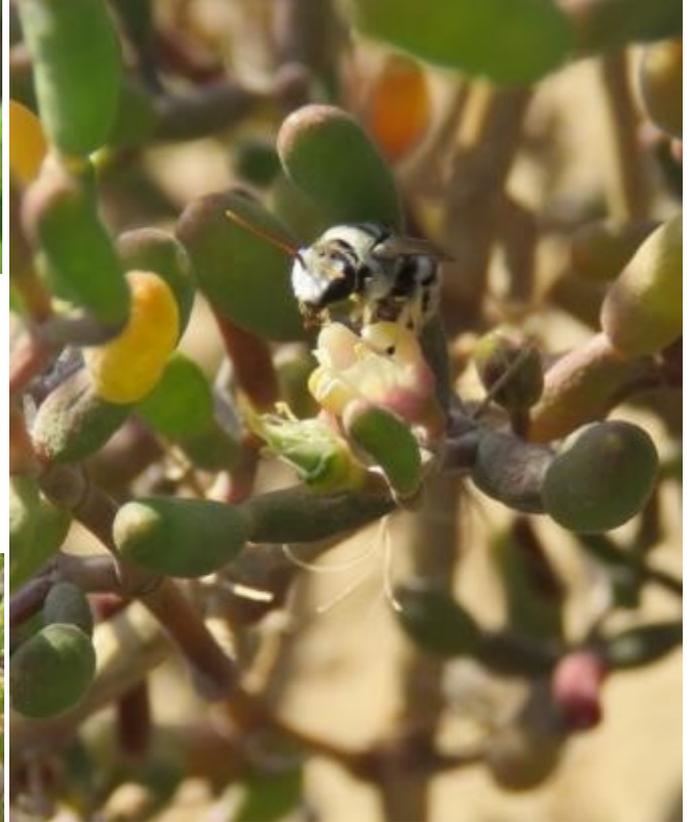


Males blend well with their surroundings (above and below)



(above) female visiting a flax flower. I've also seen them visit basil, *Indigofera* sp., *Zygophyllum*, myrtle, whereas I've only seen the males visiting *Zygophyllum* and *Heliotropum*

(below) male chasing a female



Binish Roobas confirms the identification of this bee, more commonly known as the Zebra bee. Binish adds that they are common and found in oases, vegetated wadis and gardens, where it is one of the most important pollinators of small flowers. Binish has written an entry on this species, which can be found at [https://commons.wikimedia.org/wiki/File:Zebra_bee_\(Pseudapis_nilotica\).jpg](https://commons.wikimedia.org/wiki/File:Zebra_bee_(Pseudapis_nilotica).jpg)

Gary Feulner notes that the photos show this bee nectaring on two local species that are very common 'saltbushes' that have very tiny, inconspicuous flowers. The plant in the large photo on the right is *Zygophyllum*, whereas the plant in the lower middle is identified as *Salsola*. These grow very well in nature in the coastal UAE but are seldom used in local gardens.

Wild Flowers in the Hajar Mountains, by Ulrike Andorff



Convolvulus virgatus



Centaurea pseudosinaica



Haplophyllum tuberculatum

Field Clips

(Continued from page 1)

A further two weeks later, Harold returned to collect the cameras and downloaded the contents. These included many photos of goats and sheep, plus a few donkeys, but no Caracal or Arabian Leopard. He was, however, rewarded with images of two of the UAE's known fox species, the Arabian Red Fox *Vulpes vulpes* and Blanford's Fox *Vulpes cana*, and icing on the cake was a nice selfie of a Blanford's Fox.

The Red Fox has multiplied and spread with the expanding reach of peri-anthropoc (human-influenced) environments in the UAE. Blanford's Fox is widespread within the Hajar Mountains (as well as Iran and Baluchistan) but it was first recognized there scientifically only in ca. 1995, by researchers Chris and Tilde Stuart, working under the auspices of the Arabian Leopard Trust (a privately organized wildlife conservation group active in the 1990s, which first encouraged the establishment of what is now Sharjah's Breeding Centre for Endangered Arabian Wildlife and also first proposed to have Wadi Wurayah declared a protected area).

Harold's accompanying photos show the differences between the two foxes. The Red Fox is longer and thinner overall, with a white tail tip. Blanford's Fox is smaller, with a proportionately larger, bushier tail, larger ears, rear legs that appear longer than the forelegs, a black tail tip and black cheek markings. From its scat, the diet of Blanford's Fox consists substantially of beetles and other arthropods.

Contribution by Harold Bekker with background information by Gary Feulner

Field Reporters for Gazelle

Do you have a field report, unusual finding, interesting news article, book review, an amazing photograph or community news to share? Perhaps you have some interesting photos for the Spotlight page?

Send your contributions to: gazelleeditor@gmail.com

Due to the small size of the Gazelle, articles with four or five photographs can either be accompanied by a few sentences or a small number of paragraphs. Ideally, longer articles should be around (or less than) 600 words.



An enigmatic print - from a relatively large cat.



A Blanford's Fox selfie.

80F 27C 2019/05/19 02:43:47



A Red Fox by day (early morning), taken by a trail camera.

69F 21C 2019/05/21 05:19:58



A Red Fox by night.

77F 25C 2019/05/20 21:58:35



A Blanford's Fox by night.

80F 27C 2019/05/19 02:42:33

Field Clips

Friendly Beach Bird

I sometimes spot birds as I walk along the Jumeirah 1 beach in the mornings but it is the first time I have come so close to one. The bird just stood there and did not fly off as I came closer. It did not seem injured nor sick. It was just standing there occasionally shaking its head. I called Dubai Municipality as I was concerned it was a juvenile in need of help. I was told that so long as the bird was not injured it was not necessary for Dubai Municipality to intervene. The Dubai Municipality agent informed me that this type of bird rests as they digest hence the bird not flying away. I hope this holds true for this bird.

Research later identified this bird as a Socotra Cormorant.

Contribution by Hiba Allam



Addendum to the report “Sea Treasures”, Gazelle edition April 2019

After several months, I was finally able to identify the starfish and sea urchins with the help of the new publication “Shallow Water Echinoderms of the Sultanate of Oman,” as well as with the direct input by Michel R. Claereboudt, who is the author of this handy photographic guide.

As you may recall I found these rare species on the UAE east coast after unusual high winds in March.

The giant starfish is suggested to be *Luidia maculata*. It typically has 7 arms and can reach up to 60cm in diameter. The one I preserved is approximately 54cm in diameter. For display purposes, I dried *Luidia* with the arms slightly curled.

The other starfish are suggested to be examples of *Astropecten*. *Astropecten* are difficult to differentiate as the colour is extremely variable between different geographical areas. The starfish in vivid orange red with blue border lines along the arms ending together in the centre is suggested to be *Astropecten monacanthus*.

The rare sea urchin with the bright red spines is suggested to be *Salmacis bicolor*. The publication says that this sea urchin seems to be restricted to the Arabian Sea from Dhofar to Masirah. Therefore, it is an extraordinary find on our east coast thanks to the storm.

The black sea urchin with the spine remains is suggested to be the common *Diadema setosum*.

Contribution by Ulrike Andorff



(left) *Luidia maculata*
(right) *Astropecten monacanthus*



Astropecten



(left) *Salmacis bicolor* (right) *Diadema setosum*

Field Clips

Geology of Alay Mountains in Kyrgyzstan

Last month a small group of us went to the Republic of Kyrgyzstan with the goal of trekking in the Alay mountains and to reach Camp 1 of Lenin peak in the Pamir mountains. Kyrgyzstan is one of the most diverse countries when it comes to geology, offering everything from magmatic basalt rock to shallow water limestones and large glacial sediments of different origins.

The land that Kyrgyzstan comprises started out as volcanic island arcs several hundred million years ago. These island arcs began to slowly collide into each other. A good analogy of this would be objects on a conveyor belt colliding into each other and forming a large pile of objects. In a similar fashion the island arc formed a large landmass that, due to tectonic activity, began to lift up and formed a large mountain range. These mountains were however over time almost completely eroded but, when the Indian subcontinent collided with Asia, the uplifting resumed and the mountain range that we know today as Tien Shan was formed.

The basalts that we saw were interesting as these were showing signs of being a bit metamorphic, but still being mainly magmatic. They were black, dark blue or dark violet in colour. Even with this change in colour, one distinct thing they all had in common was that whilst in the sun, they all shined as if they were polished (Figure 1).

These sandstone examples (Figure 2) are the remains of sand dunes in an arid desert. In a naturally-formed cave that we came across, the absence of stalactites was noted. Sandstone



Figure 2

is resistant to corrosion and is unable to form stalactites, as opposed to limestone which can be corroded by water and re-deposited on a different location, where it can form stalactites.

On day 4 we came across small limestone blocks which suggested the area was once a shallow seabed with carbonate production. In the distance we could see a large light grey mountain (Figure 3), which was most likely made of limestone.



Figure 1

Figure 2



Figure 3

The terrain that we walked on was mostly glacial sediments in a glacial valley. The latter can easily be recognized by a distinct U-shape. Glacial moraines were also present in the valleys and, along with small lakes, showed the extent of the glacier. The glaciers that are present today are massive and a very interesting sight to see (Figure 5, Figure 6). In most of them you can clearly see the flow of ice in the glacier. Ice in a glacier moves very slowly and in a way the river would flow. Along with U-shaped glacial valleys are V-shaped river valleys which are also very common. These form when a river carves its way in a landscape, eventually forming steep and deep V-shaped valleys. The two types of valley regularly shift into one another which shows where glacial erosion ends, and river erosion

(Continued on page 7)

Field Clips

(Continued from page 6)

begins. In some rocks in these valley folds can be seen, which tell us that the rocks were subjected to a large amount of stress and high temperatures (Figure 6).

On day 6 we started our trip in the Pamir mountains south of Alay. Our goal was to reach Camp 1, which is 4400m high and lies under Lenin peak (7134m, Figure 7). On our way up to the camp we saw large glacial valleys, moraines, lakes and even bigger glacial flows (figure 8). In the glacial valleys the dominant rocks are tills. These are sharp edged, chaotic



Figure 4

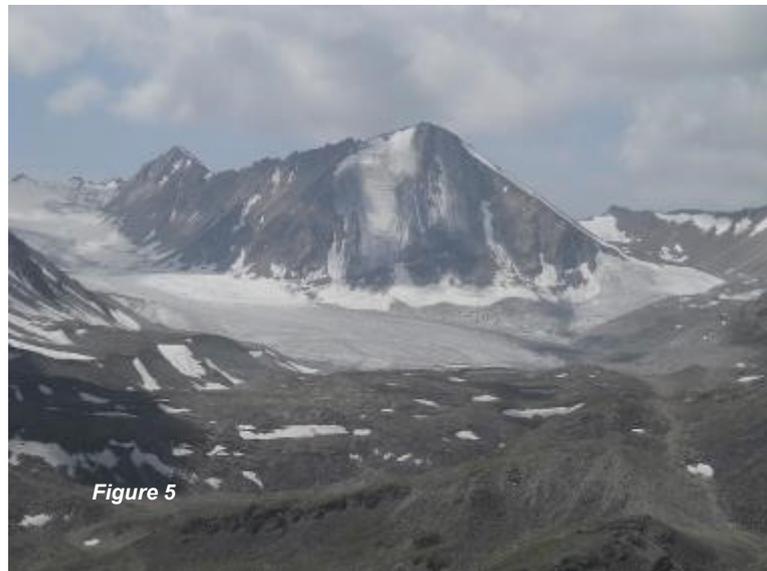


Figure 5

glacial sediments which when solidified form the rock known as tillite. These tills were not homogenous, but varied from rock to rock. Most were of magmatic origin, mainly basalt, but some were formed out of sediments. Even more surprising was that some of these sediment rocks were full of fossils like clam shells which show that the rock formed in a shallow sea. Also interesting were basalt rocks which, at first glance, resembled conglomerates as they contained clasts or pebbles of different origin than the basalt base. These clasts were mostly likely picked up by the basaltic lava and kept in place when the lava solidified. The basaltic lava also burnt the

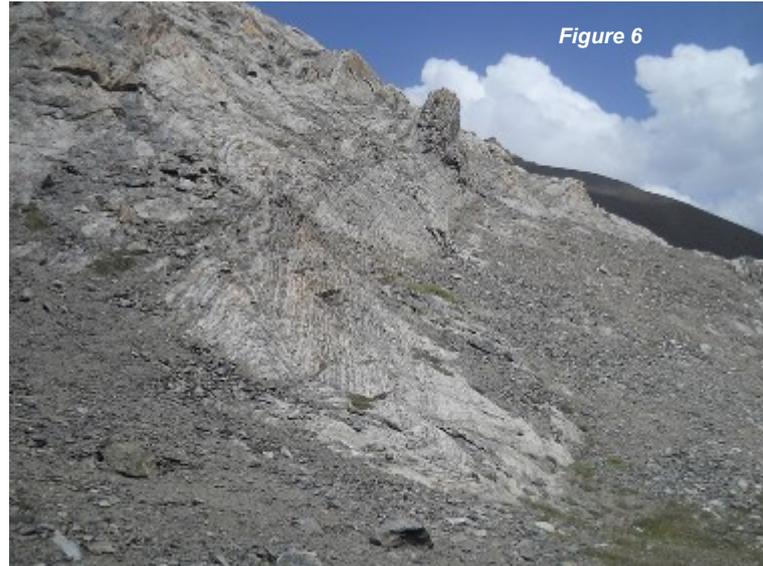


Figure 6



Figure 7

contact edges of the clast.

In conclusion, even though we didn't even scratch the surface of Kyrgyzstan's geology, the Alay and Pamir regions of Kyrgyzstan are some of the most interesting places in terms of geology that I saw so far. They are very diverse, show a lot of different developments in geological history of the area and are also incredibly beautiful to look at. The trip was a real pleasure and a great way to learn something new. As a geology student I would definitely go again.

Contribution by
Maks Lavrenčič



Figure 8

Dubai Natural History Group (DNHG) Programme

Lectures at Emirates Academy of Hospitality Management, 7.30 for 8.00pm

- October 6:** Marina Tsaliki will present an illustrated talk on
"Vegetation Mapping and Plant Species Diversity in Ras Al Khaimah"
- November 3:** Hessa Al Yasi will present an illustrated talk on
"Traditional Dhow Building in the UAE"

Scheduled Field Trips (Members only)

- October 4—11:** DNHG Trip to Greece (fully subscribed)
- October 5:** Ferry Trip to Sharjah Aquarium and Maritime Museum
- November 1– 2:** Daymaniyat Islands overnight camping trip
- November 29 - December 6:** DNHG Trip to Northern Laos (fully subscribed)

Field trip details will be circulated to members via e-mail

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DNHG Membership

Membership remains one of Dubai's best bargains at Dh100 for families and Dh50 for singles. Membership is valid from September 2019 to September 2020. You can join or renew at meetings or by sending us a cheque made out to Emirates NBD account number 1012012013302. (Please note we cannot cash cheques made out to the DNHG.)

Payment can also be made by cash deposit at a 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.