

GAZELLE

Vol 25 no 2 February 2010



مجموعة دبي للتاريخ والطبيعي

DUBAI NATURAL HISTORY GROUP

PO Box 9234, Dubai, United Arab Emirates

Members' News

At the recent conference in Sharjah on Biodiversity in the Arabian Peninsula, held on Feb 3-4, the DNHG was represented by a substantial contingent including Chairman Gary Feulner, Vice Chairman Valerie Chalmers, Jean-Paul Berger, Dr. Richard Hornby, Jenny Hill, Lamjed El-Kefi, Sandra Knutesen, Ada Natoli, Maureen Steer as well as life member Dr. Marijcke Jongbloed, visiting from France, who played a seminal role in UAE conservation efforts as the coordinator of the Arabian Leopard Trust.



Dr. Marijcke Jongbloed

The conference, which was inaugurated by the Ruler of Sharjah, H.H. Dr. Sheikh Sultan bin Mohammed Al Qassimi, built on the results of regionally oriented workshops held over the past ten years under the auspices of the Environment

and Protected Areas Authority and coordinated by the Breeding Centre for Endangered Arabian Wildlife.

Louisa Akerina, DNHG Treasurer, is currently in Sri Lanka, catching waves, having encounters with the wildlife and staying up to date online.



Louisa Akerina, Anne Millen and Peter van Amsterdam

Here's a challenge for Middle East explorers: Four members of the Cley Bird Club in North Norfolk, UK, are offering a total of \$1,000 for any photograph of a live slender-billed curlew taken in the Middle East. Because of the identification challenges posed by the species, any photograph will have to be verified by the SBC Identification Verification Panel, which comprises wader experts with past experience of the species. A properly time-stamped picture is a minimum requirement. A full survey and search for this species is under way this winter.

DNHG Membership

DNHG Membership remains a bargain at Dhs.100 for couples and Dh. 50 for singles. You can join or renew at our meetings or by sending us your details and a cheque made out to: Lloyds TSB Bank account no. 60600669933501. (Please note we cannot cash cheques made out to the DNHG. Please also note our account number has changed.) Subscriptions paid now are good through to September 2010.

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*, additions to our library, incidental expenses of speakers and occasional special projects.

This month's Contributors

The Editor would like to thank the following for their reports and contributions:

Juliette Winsor, Geoff Sanderson, Lamjed El-Kefi, Ziad Makhoul, Khalid Rafeek, Gary Feulner, Tom Duralia, Brock Fenton, Drew Gardner



Questions in the Wadi

Under the patronage of H.E. Sheikh Nahayan bin Mubarak Al Nahayan



Geology Trip with Jean-Paul Berger Fri 5 March

This will be a one day geological tour around Dibba and Wadi Shams. Participants will learn to recognise geological indices of the existence of the old Tethys ocean - its opening (oceanic crust) followed by its closing (obduction).

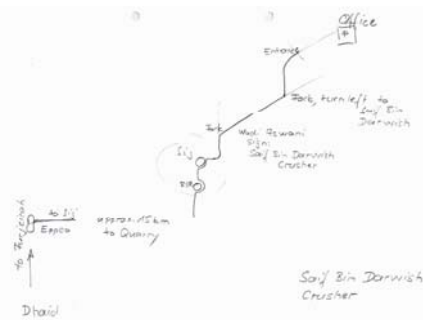
You will see:

- part of the oceanic crust down to the mantle (opening),
- underwater volcanoes
- sedimentary rocks from the platform, the slope and the bottom of the ocean (opening),
- tectonic convergence (closing).

The trip will be limited to 8 cars and to DNHG Members only. Sign up for this by email to Jean-Paul: jpberger@eim.ae with a copy to Pradeep: wgarnet@eim.ae

Sij quarry with Hans Rau Sat 6 March 2010

Time: 9'clock at quarry entrance
Parking place: in front of the office
Participants: max. 25 persons
Duration: approx.2hrs.



To reach the quarry one would have to calculate ca 1.5 hrs. from Dubai, to be on the safe side. Safety vests and hard helmet will be provided. Transport into the quarry will be by small bus. We will be hearing something about how a quarry is developed, what material they are mining, environmental issues and the like. The quarry of Saif bin Darwish is the biggest in the area and produces the highest quality of aggregates, crushed rocks and marine materials.

Please let Hans know if you need more details, and members can contact him by email: Hans.rau@perime.com

Temple Walk with Sandhya Sat 27 Mar

Sandhya will lead a temple walk through the wonderful alleys of Bur Dubai. Dress appropriately, but you can bring your camera. Contact Sandhya on sandy_pi@yahoo.com

Birds of Prey Show with Martina Fella Date TBA

Martina is organising a visit to the raptor farm of Zoltan Loerentei and his wife. We need to have a minimum of 20 people signing up for the trip to get a private show, and it will probably be on a Friday morning. Entrance is 25 Dhs for children and 50 Dhs for adults. More details at the February (extra) meeting, or by email.



Gyr and proud falconer
Photograph by Marijcke Jongbloed

The InterEmirates Weekend, held by ENHG Al Ain 25 - 27 February

Sign up session/Dinner Tickets:

IEW participants need to sign up for the activities they would like to join. Sign up sheets will be displayed during sign up sessions at the Intercontinental Hotel (exact location within the hotel to be advised). These sessions will be:

Thursday 4pm – 10pm Friday 7am-12pm Friday 5pm -7.00pm
In order to attend the dinner, those that have pre-registered need to pay for and collect their dinner tickets before the dinner. Tickets can be purchased at the same place and time as the activity sign up sessions.

Oman Insurance:

To take your vehicle over the border into Buraimi, you need to have Oman insurance (Buraimi insurance is not Oman insurance). There have been numerous vehicle insurance checks of late by the Omani authorities. To cross the border at Hili, you will need your passport with a valid UAE residency visa (a valid tourist visa is acceptable for certain nationalities only). You do not need an exit stamp or visa – please tell the border guards you are going to the Buraimi Hotel.

Our Next Speaker

Drew Gardner has a BSc in Zoology from Edinburgh University (1st class honours), and a PhD from Aberdeen University. His thesis was on the evolutionary ecology of day geckos in the Seychelles, but he is fascinated by all creatures. He worked for twelve years at Sultan Qaboos University in Oman, researching reptiles and mountain ecology, and named three new species of gecko during this time. He has now been at Zayed University for seven years. Drew has now completed over fifty environmental consultancy ecology surveys in Oman and the UAE, and published about forty research papers and book chapters on conservation, lizards, snakes, fish, insects, birds and juniper woodlands. If you want to know about the behavioural genetics of fruit flies, breeding habits of Trinidad petrels or geckos in French Polynesia, ask Drew. And he's bats about bats.



Email your field reports and news to pvana@emirates.net.ae (Arial 10 justified). Please send your photographs as separate jpg files, or deliver them to Anne Millen for scanning.

Backyard Butterfly Research

Khalid Rafeek, now resident in Abu Dhabi, has written to share with us his lesson in how to turn misfortune into opportunity. On a recent vacation visit to his native Kerala, Khalid suffered a bout of chickenpox and was restricted to his family home in Trivandrum district. There, however, he had already been engaged in regular observations of oakblue butterflies.



Pupa of *Arhopala amantes*

In particular, he had been observing the western centaur oakblue *Nilasera pseudocentaurus*, whose food plant, a species of parasitic Loranthus, is kept on the premises. On this vacation as well, Khalid managed to visit those plants and found a fresh pupa there.



The developing pupa

He followed the colour transformation closely, but unfortunately he was forced to miss the final emergence. That proved to be unfortunate for the butterfly, too, since it did not emerge properly and as a result, it became a handicapped specimen.



Newly emerged (but deformed) *Arhopala amantes*

More surprisingly, however, Khalid felt certain that the specimen was not the western centaur oakblue, as expected, and has been identified by a friend and expert as the large oakblue *Arhopala amantes*, a species which is uncommon in Kerala and represents a new life record for Khalid.



Wing of the large oakblue

That might sound like enough to be satisfied with, but Khalid sees it as a curtain raiser for an upcoming trip to Brunei, where he plans to visit soon, and where a wealth of Oakblue species are found. Report by Gary Feulner, photographs by Khalid Rafeek

Up Donkey Fox Wadi

Thirty-eight DNHG members including eight children joined the expedition towards the mountainous region of Hatta to visit Donkey Fox Wadi in late November 2009.

As we turned off the main road, we saw plenty of donkeys - a majestic procession of donkeys went belting across the dusty wadi bed as if lightning had struck their tails.



Densely packed fossil gastropods
Photograph Ziad

At 'Gastropod Gulch', as Mike called it, we observed the densely clustered fossils from the Cretaceous period which included many rudists and gastropods.



A large rudist to left
Photograph Lamjed El-Kefi

We made a final stop before reaching the campsite to view the calcite formations. We also took the opportunity to clean up the area; two large black bin bags of rubbish were collected!



Calcareous pools along the lower part of the wadi
Photograph by Lamjed El-Kefi



The group explore the pools
Photograph by Lamjed El-Kefi

We had a memorable evening around the camp fire singing along to tunes played on the guitar, in the hope of seeing some foxes later. (We had a cunning plan.)



Warming up around the campfire ...
Photograph by Lamjed El-Kefi



... while the children had their own fire
Photograph by Lamjed El-Kefi

The following morning, a prompt start sent us walking right past the spot where the fresh chicken pieces had been laid out the night before. Not a scrap remained! They had fed and fled without a sighting this time.



Questions in the wadi
Photograph by Ziad Makhoul

We had a wonderful hike through, up and around the labyrinth of tracks and did eventually end up back at the cars once again. Thank you to the organisers for a great trip! *Report by Juliette Winser and photographs by Lamjed El-Kefi and Ziad Makhoul*



Some of the happy hikers
Photograph by Ziad Makhoul

It's a ... It's a ... It's Batman!

When Professor Drew Gardner replayed his bat recording, converted from an ultrasonic frequency to something humanly audible, he most definitely did not hear "I vant to suck your blood". Last week found him on Sir Bani Yas Island, bat detector at the ready, on the trail of the seldom seen and seldom, if ever, heard, Sind serotine bat (*Eptesicus nasutus*), one of eight bat species known in the UAE. Probing the darkened sky for

its secrets, his detector did register something, but something a little more familiar than anticipated. The call's sound and appearance, graphed later with his BatSound software, was reminiscent of an old friend, the Kuhl's pipistrelle (*Pipistrellus kuhlii*), perhaps the most common bat in the country.



Drew emerging from a hole near Abu Dhabi airport
Photograph by Mark Beech

And maybe it was the Kuhl's, except that the calls weren't exactly like his other pipistrelle recordings, some of which were made as the species hunted over the ghaf trees along Abu Dhabi's 19th Street median, not far from his office of nine years at Zayed University.

"They are close to Kuhl's pipistrelle, but the Sind serotine looks almost identical, (other than an extra tooth), and I have no idea what its call is like," said Dr Gardner. "I managed to get a few photos of the bats in flight, but not good enough for a certain identification."

Despite the ambiguity, the 53-year-old professor of natural sciences and chairman of the Abu Dhabi branch of the Emirates Natural History Group remains enthusiastic about his part-time bat project. The goal is to catalogue the calls of all the local species, creating a data-bank of sounds and sonograms that will help researchers link what they pick up on their bat detectors with what is flying overhead or flitting about the rocks.

To date he has recorded just three UAE species: the naked-bellied tomb bat (*Taphozous nudiventris*), the Muscat mouse-tailed bat (*Rhinopoma muscatellum*), and the



Dubai Natural History Group Recorders

Reptiles - Dr Reza Khan
res 344 8283
off 344 0462
fax (off) 349 9437

Archaeology - David Palmer
050-7387703
office direct line: 04-2072636
dpalmer@ud.ac.ae

Birds - David Bradford
davebradford9@hotmail.com

Astronomy - Lamjed El-Kefi
res: 06-5247 958
off: 06-5583 003
email: lankefi@emirates.net.ae

Marine Life - Lamjed El-Kefi

Geology - Gary Feulner
res 306 5570
fax 330 3550

Insects – Gary Feulner

Fossils - Valerie Chalmers
res 349 4816,
fax 340 0990
email: valeriechalmers@hotmail.com

Plants – Valerie Chalmers

Seashells - Recorder needed!

The recorders are not necessarily scientific experts in their designated fields. In fact, most are not. However, they are interested and knowledgeable amateurs - please contact them if you have any interesting reports or queries.

The intention is that information will be channelled through to the *Gazelle* editor, so new information can be shared with all our readers.



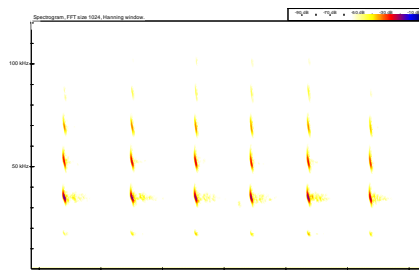
pipistrelle. These happen to be our most common species, so there is still plenty of work to do.



Muscat mouse-tailed bat
(*Rhinopoma muscatellum*)
Photograph by Drew Gardner

All insect-eating bats use echolocation to pinpoint their prey, sending out sound frequencies usually in the range of 25 to 100 kilohertz, although some species can hear ultrasound up to 200kHz, says Dr Gardner. By comparison, a healthy young adult will be lucky to hear between 40 hertz and 17kHz. Regular conversations tend to occur around 1kHz. Bats do make audible sounds, perhaps when jostling about their roosts or readying to fly, but when they are on the hunt, they're using ultrasound.

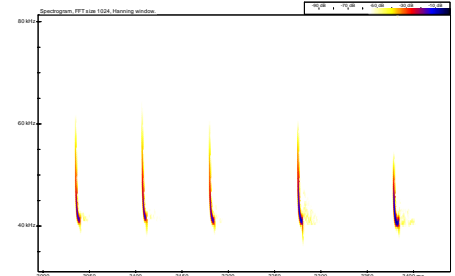
Bat Spectrograms



This is the typical Kuhl's pipistrelle echolocation FM-CF (Frequency Modulated – Constant Frequency) call, with the 'hockey stick' shaped pulses with the loudest frequency centred on 40kHz, taken flying over the trees planted in the central reservation on 19th street in Abu Dhabi, 25 March 2008.

And this is a Muscat mouse tailed (*Rhinopoma muscatellum*) bat echolocation call in a cave on the western flanks of Jebel Hafeet ...

with the loudest part of the call at the second harmonic at 35 kHz, and a series of harmonics centred on 17, 35, 53, 70 and 86 kHz.



“What they are doing,” says Dr Gardner, “is producing these calls, at say 40 kHz or something, that then get reflected off flying insects, rocks or trees or whatever, and the echoes come back and they pick those up. By analysing time and loudness and the quality, they get a lot of information; they can also analyse Doppler shifts; they can also analyse Doppler shifts. If a bat is stationary making a call and it's bouncing off a wall, the sound is going to go there, the echo is going to come back, and it's going to be at the same frequency. But if there is a relative movement, say the bat is flying towards the wall, then the frequency that comes back will be changed. It will be Doppler-shifted. So by analysing the frequency of echoes, flying bats can track a flying moth, for example.”



Naked-bellied tomb bat
(*Taphozous nudiventris*)
Photograph by Drew Gardner

Some bats, like the UAE's trident leaf-nosed bat (*Asellia tridens*), have echolocation abilities so sophisticated they can detect wires thinner than a strand of hair stretched in a laboratory maze. Our



Persian leaf-nosed bat (*Triaenops persicus*) sports similar nasal accoutrements, adaptations that help both species make the most of their echolocation calls.

"It's pretty amazing," says Dr Gardner. "Their brain has to take all of this information and build a sort of sound picture, just like we do with the light information that is coming back into our eyes – our brain builds that into something which we can see – well, the bat brain does that with sound as well. It's building a sound picture, a moving sound picture of its surroundings. It's quite difficult really for us to get our heads around somehow. Isn't it?"



Muscat mouse-tailed bat at Jebel Hafeet (*Rhinopoma muscatellum*)
Photograph by Drew Gardner

And while their echolocation skills are astonishing, billions of times more sophisticated than anything humans have come up with (according to Bat Conservation International), their aerial abilities – as the only mammal with truly powered flight – mark another claim to fame. "They are very efficient flyers," says Dr Gardner, "in some ways, almost more efficient than birds. A bat has much more control over its wing, over the shape of the wing, the size. It has a double membrane with these long fingers going through it which have muscles attached, so they can really change the flight characteristics of the wing very, very effectively."

There are still other things, many, many more attributes to do with their physiology, morphology and ecology that make the bat a particularly fascinating creature for study. Dr Brock Fenton, a Canadian bat researcher with more than 40 years of experience and more than 200

scientific papers to his credit, says that "in some ways, bats are just a magic well, full of all sorts of intriguing biology. Every time you turn around there is something else of interest and excitement on the horizon."

Dr Gardner agrees, citing a 2005 discovery that a free-living bat had somehow managed to live 41 years in the wild. "It's amazing what they can do. How a small mammal with a high metabolic rate can live 41 years goes completely against the grain of what you are taught in comparative animal physiology and zoology courses. It is just bizarre. I mean, most small mammals, like shrews and such, live a couple of years or something."

But, despite an explosion in bat research elsewhere in the world, even the basic natural history of most of the UAE bats remains shrouded in mystery. Gary Feulner, one of the country's top naturalists, and Dr Gardner's counterpart with the Dubai Natural History Group, sums up the present state of knowledge fairly succinctly: "Good luck finding much to say about individual bat species."



Egyptian fruit bat
Photograph Drew Gardner

Dr Gardner agrees that the situation here, with a few exceptions, is "very, very poor. We just don't know anything really about their status, and about any trends or changes in their populations, or what effects insecticide spraying might be having on them. We just don't have any of that information. We don't know

how long they live, when their breeding seasons are. We don't even know where they roost. Basically, no one has done any real ecological or behavioral studies on them. A few of the species are better known I think. The Egyptian fruit bat [*Rousettus aegypticus*] is probably reasonably well-known, there have been studies on that elsewhere, and Kuhl's pipistrelle, because it is found in Europe and Turkey, has been quite well-studied, but in other places, not in southeast Arabia."

Dr Fenton is one of the out-of-country researchers who has taken one of our bats under his wing, though not within our borders, and not without some difficulty. He refers to Hemprich's long-eared bat (*Otonycteris hemprichii*) as one of his favourite species.



Otonycteris hemprichii
Photograph Brock Fenton

"For years I had wanted to see these bats and work with them. In the early 1980s, I tried to negotiate going to Tashkent along the Silk Road, but the Soviets would not give me a visa. Since then, I have had several opportunities to work with the bats. Radio tracking indicated that they roost in crevices and holes in rock faces and may cover at least 10 km in search of prey."

The availability and abundance of roosting sites, such as those Dr Fenton mentions, are absolutely critical for the bats of the UAE. Typical sites here, says Dr Gardner, might include caves, holes, aflaj, and undisturbed buildings such as old forts and watchtowers. "The problem in the UAE is there are not that many, and they tend to get knocked down or restored or whatever." Holes sometimes



	name	tel home	tel office	fax
Chairman	Gary Feulner messages: 306 5300	306 5570	330 3600	330 3550
Vice Chairman	Valerie Chalmers email: valeriechalmers@gmail.com	394 8872	050-4558498	
Treasurer	Louisa Akerina email: Louisa.akerina@gmail.com		050-241 5045	
Membership Secretary	Anindita Radhakrishna email: anin@emirates.net.ae	282 3952	050-656 9165	
Speaker Co-ordinators	Martina Fella & Michelle Sinclair email: martina_fella@hotmail.com			
Fieldtrip Co-ordinator	Pradeep Radhakrishna email: wgarnet@emirates.net.ae	282 3952	050-450 8496	
Fieldtrip Co-ordinator	Jenny Hill email: jennyhill76@hotmail.com		050-8861508	
Fieldtrip Co-ordinator	Sandhya Prakash email: sandy_pi@yahoo.com	050-5512481		348 2868
Newsletter Editor	Anne Millen email: pvana@emirates.net.ae	394 7076	no calls please	394 7075
Publisher	Peter van Amsterdam email: pvana@emirates.net.ae	394 7076	335 5495	394 7075
Librarian / Book Sales	Mairead Porter email: portermme@hotmail.com	055 656 1949		
Postmaster	Sandi Ellis email: peterjon@emirates.net.ae	050-644 2682		
Chief Engineer	Ajmal Hasan email: ajmal_hasan@hotmail.com		06-5043523	06-5611789

sealed for the safety of goats or children might also spell a quick end to a thriving bat colony, though a grate through which the bats could pass would be a more ecologically sensitive solution.

Each of the Emirates Natural History Groups (www.enhg.org) usually includes a yearly trip to a known bat roost, though never in the early summer when nursing mothers and babies might be present, and always with strict limits placed on numbers to ensure the bats are not overly disturbed. Dr Gardner often leads an autumn sunset trip to a particularly interesting rock formation where hundreds of the large, strong-flying naked-bellied tomb bats pour out of the crevices over a period of minutes, not in a stream, but from various spots along the garr. For a particularly atmospheric and subterranean adventure, Brien Holmes, chairman of the Al Ain Natural History Group, leads the odd trip through an ancient 100m long and up to 15m deep falaj system, perhaps 4500 years old, yet still in use, near an oasis community at the foot of the Hajar moun-

tains. The tunnel system, with its calf-deep water is completely dark and quite narrow in sections, but access shafts bored for light and ventilation offer some respite from the blackness, and the chance to view the several dozen mouse-tailed bats, along with the geckos and spiders that have also made it their home.



*Egyptian fruit bat sleeping
Photograph by Drew Gardner*

"The way bats have been portrayed in the movies," says Genevieve O'Farrell, 35, once a bat

ecologist, and now an environmental consultant in Abu Dhabi, "Has made them a misunderstood and feared animal, a reputation they don't deserve. Bats avoid contact with humans, and if they accidentally come into contact with them are far more scared of us than we are of them." Possibly with Ms O'Farrell's help, Dr Gardner is optimistic the knowledge base and appreciation for the bats of the UAE will improve in time - maybe a long time, but certainly time enough for him to connect with the Sind serotone. If he hasn't already. *Thanks to Tom Duralia for his article for The National, to Drew Gardner for echolocation graphs, and to Drew, Brock Fenton and the internet for photographs.*

* * *

Geoff Sanderson sent the Editor a most interesting link to a video of dolphins feeding using a 'mud ring' technique. Members may be interested to view it at <http://www.youtube.com/watch?v=pQ50PYMXDCQ>

Dubai Natural History Group Programme

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

- | | |
|---------|--|
| Feb 21 | Miles Barton, BBC Natural History Unit – David Attenborough's "Life in Cold Blood" |
| Mar 7 | Dr. Drew Gardner – Bats |
| April 4 | Dr. Susanne Hofstra – Ancient Mesopotamian & Mediterranean Scripts |
| May 2 | Ada Natoli – Conservation Genetics: Dolphins in the Mediterranean |

Field Trips (Members only, please.)

- | | |
|-----------|------------------------------------|
| Feb 25-27 | InterEmirates Weekend, ENHG Al Ain |
| Mar 5 | Geology trip |
| Mar 6 | Saif al Darwish quarry, Sij |
| Mar 27 | Temple walk in Bur Dubai |
| TBA | Birds of prey show |

Further field trips, details or changes may be announced or confirmed by e-mail circular.