

focus



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Emirates Natural History Group

Patron: H.E. Sheikh Nahayan bin Mubarak Al Nahayan

EDITORIAL

Welcome to the final issue of Focus before the summer recess. As you will see, it is filled with interesting natural history! Following on from Dick Hornby's entomological observations at the Cultural Foundation reported in the April Focus, Keith Taylor's locust saga shows just how chance observations can, with some detective work, unravel a fascinating story. Thanks again to Keith for all his work on editing Focus, and we look forward to more bumper issues next season! Focus is, of course, dependent on your observations, articles and photos. The long list of the contributors for the year, printed on page 9 of this issue, shows just how involved our membership is. Well done all. Incidentally, the 2007 new-look Tribulus is at the printers and will be available shortly, both on the ENHG website and as paper copy. Although we take a break from formal activities until September, do continue to visit the outdoors. The temperatures are still very bearable in the evenings and early mornings, and Nature is still out there!

Hope you all have a great summer!

Drew Gardner

Wildlife at the Workplace: Locusts!

The space-filling teaser run in April 2008 Focus—the captioned photo of a black-and-yellow locust discovered at a workplace near Shahama in late April (re-printed directly below)—has generated a lively correspondence over the past month. The results of that correspondence are presented here, demonstrating that a chance impulse to pocket a creature that has hopped into the office one day, in order to take it home and photograph it, even though this may not produce the highest-quality photographic results, can nevertheless lead to quite an intriguing process of discovery. —Ed.



In Zayed Military City, near Shahama, 20 April, 2008: Juv. 'hopper' stage locust, 5th instar—prior to adult stage; quite likely the same species as the one on the right, but ID not confirmed. See article that follows.

Photo: Keith Taylor

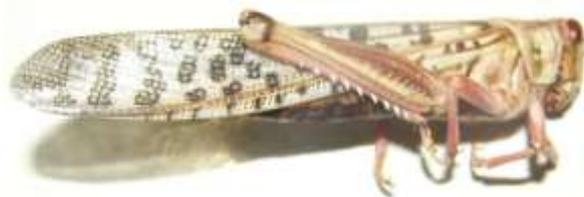
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FRONT COVER PICTURE

Photograph: Socotra Sunbird

Photographer: Hanne and Jens Eriksen



In Zayed Military City, near Shahama, 23 April: Adult locust, probably a Desert Locust, *Schistocerca gregaria*, but ID not confirmed. Photo: Keith Taylor

Let's begin our enquiry with reports of recent locust observations in the UAE, starting with the bands the above two specimens travelled with. On 20 April, the calm of an ordinary work week at the English Language Section of the Air Force Air Defence Institute was broken when a colleague reported an influx of yellow locusts in the students' outdoor smoking area. Some 30 to 50 still wingless 'hopper' locusts had clustered up against the walls of this eastward-facing covered-garden alcove, and many of them appeared to be dying. We wondered if this was due to pesticide, or just some sort of natural occurrence. A couple of them even strayed indoors, and one hopped right up to my workstation, where it promptly found itself scooped into an empty sandwich bag, and then later in the day posed unwillingly for its photograph in my bathtub at home. [See mug shot on the left!] These locusts appeared to be moving together in a small group, but moving erratically—hopping to a dead-end.

Then, just three days later, on 23 April, we encountered a similar number of winged brown locusts (see specimen pictured on the page above) in the exact same location, at about the same time of day—late morning. But this time, we heard many of them thumping on the roof of our office as they flew and hopped over. And after work on the drive out (basically westward, towards Shahama and the coast) we drove through small clouds of them, apparently headed the same general direction we were.

DNHG Chairman Gary Feulner was the first to respond to the bit in April Focus; he reported that yellow locusts had been seen on the beach in Dubai in April, but he personally had never seen that bright yellow color on a locust before. In reply to my enquiry, DNHG newsletter editor Anne Millen then sent along the following snippet, along with these three photos, printed in the April issue of *The Gazelle* as “On the Beach...”

“Helga and Willy Meyer report finding this very yellow locust dead on the beach opposite the Town Centre.



Two photos: Helga Meyer

They enquired whether Gary Feulner knew about these locusts, and he did not. Have any of our members seen such a locust in the UAE (or elsewhere)?

And on the subject of ‘beach locusts’, Jenny Hill and Colin found a live one on the coral beach (below) during the February shelling trip to the east coast. It looked more like the usual suspect, and is shown here for comparison.”



Photo: Jenny Hill

The yellow locust found in Dubai doesn’t have the bright yellow and black markings of the one pictured on the

preceding page, and it appears to have fully developed wings, unlike the one above. A poser for the entomologists among us: Are these two ‘Dubai beach locusts’ possibly different stages of the same species, or different species?

Our occasional correspondent, Abu Dhabi Ladies Chairman Kay Bunney (a regular diarist) wrote in next, saying that she and her husband had driven into a ‘flock’ of locusts near Shahama, on the road to Dubai on April 27th around 4pm. Kay Bunney reported,

“They were flying towards the coast in a substantial, but not unending swarm – possibly we drove for 10 meters through the swarm? The impression was of ‘bulk’ rather than colour – it was like a brownish blanket approaching us. I am sure we would have noticed if they were the black and yellow which you describe.”

I had a pure “Doh!” moment later on when I took a good look at my black and yellow locust and realized that of course they didn’t have wings, so they couldn’t have been seen flying across the road, could they?

My next correspondent, ENHG member Ben Boardman, wrote that a colleague of his had seen a dark brown “cloud” of locusts (perhaps a few hundred) flying across the highway near Shahama, headed towards the coast, while she was driving to Dubai near the end of April [quite possibly on the same day as Kay and Andrew Bunney].

Of course, it occurred to me that these were of the same group of brown locusts as those we spotted some kilometres inland of Shahama, apparently heading for the coast, four days previously. But without specimens, we have no way of knowing for sure.

Now, for those who’ve read this far but may find it too tedious to carry on much further, here’s a preview of the basic facts about locusts the ensuing correspondence and Internet research have revealed to date:

- Both the above Shahama specimens are locusts; neither, despite my initial casual misidentification, should be classified as a grasshopper.
- Locust species are found in several different genera, which also contain non-locust grasshopper species.
- Locusts can be distinguished from grasshoppers based on behavioral and physiological factors associated with a transition to a ‘gregarious phase’.
- Locusts in solitary and gregarious phases were thought for many years to be of different species.
- Phase change occurs over multiple generations.
- The gregarious phase is almost always darker.
- Environmental conditions cause body color variations.
- Juvenile locusts develop from nymph to hopper (with developing wing-buds), through several instars (stages), becoming progressively more adult-like.
- Not all locusts swarm (mass in huge numbers).

For references and elaborations of these facts, read on!

On the subject of locusts' distinctive ability to change phases, Ben Boardman, who works for the environmental consulting firm ERM, relayed these aptly instructive words from a colleague of his, Donald Afan:

"Locusts are able to change their behaviour, physiology, colour and shape in response to a change in numbers. When they occur small in number, locusts behave as individuals, while at high numbers, or when they cluster into dense groups, they behave as a single mass. These are the two different states of locusts called solitary phase (green molt) and gregarious phase (brown molt). Behavioural changes can take place rapidly especially when being touched by other individuals, especially on the outer surfaces of the hind femora (thighs), resulting in locusts being attracted rather than repelled by others that result in grouping or swarming of individuals. Studies revealed that one of the reasons gregarious phase occurs is when food sources in a specific area becomes scarce and [locusts] aggregate in the remaining food sources [this causes] individuals to rub against each other more frequently, causing physiological responses that result in physical changes. [One additional point]: A shift from solitary to gregarious, or vice versa, does not take place in one generation, but takes several generations."¹

This confirmed the information on solitary and gregarious phases in juv. desert locusts I'd gleaned from the article titled *An Insect's Alter Ego*, from the NASA Earth Observatory webpage, retrieved 14-05-2008 from <http://earthobservatory.nasa.gov/Study/Locusts/locusts3.html> (listed in April Focus, in the p8 websites list, where only the most thorough Focus reader would find it!):

Solitary



Gregarious



(Photograph courtesy Compton Tucker, NASA GSFC)

The article from this Earth Observatory site makes the following distinction between juveniles and adults:

"Solitary locusts are distinct from gregarious locusts in their coloration, shape, scent, and behavior. The most dramatic color changes occur among juveniles (these

pictures). In mature adults, the color change is normally from brown to yellow."

In an email message, Gary Feulner questioned whether a simple 'green versus brown' distinction was applicable. A separate note from Mr. Afan clarified that both juveniles and adults could exhibit various body colors (including, in the migratory locust *Locusta migratoria*, green, yellow, brown, reddish and black depending on the habitat background color and humidity) but that the gregarious phase will almost always be darker in coloration.

Gary continued with the following comments about color and other factors in species identification in locusts, specifically in reference to my black-and-yellow one and my tentative identification as *S. gregaria*:

"In general, color is not a robust criterion for identification of grasshoppers/locusts – not least because they can change color with age and environment. However, if (1) the color is highly distinctive (like bright yellow) AND (2) you know that there are NO other species or forms that can have that color, then color is an excellent guide. Do you have these criteria for the bright yellow juvenile?"

"Grasshopper/locust identification is relatively difficult. See for example Mike Gillett's article on Al-Ain area species in *Tribulus* (v.10.2). I would not presume to distinguish many of them. There are, for example, something like 8 species of "towerhead" grasshoppers, not simply "the Towerhead Grasshopper." Moreover, I don't know what the truly diagnostic features are, versus those that are more variable. [Note: I relied on Mike's *Tribulus* article for the speculative ID of *C. tatarica*, which Mike did not find to be common. Mike's coverage, however, was very strong for the Al-Ain, Buraimi and Mahdhah area but much spottier elsewhere.]

"Popov and others have published relatively comprehensively on Arabian grasshoppers/locusts in *Journal of Oman Studies* and in *Fauna of Saudi Arabia*. I have never studied these papers because they are very long and technical (including lots of anatomical terms I don't recognize) and because the accompanying photos do not really seem to permit easy distinction.

"It appears there are more than one species that can swarm and cause problems as 'locusts.' If so, this may lead to confusion if you read taxonomic distinctions into vernacular accounts."

As to its color markings, my juvenile locust seems distinct from the one pictured above. Perhaps a closer match: this photo from the Live Foods catalogue, retrieved 1 June, 2008 from <http://www.livefoods.co.uk>:



Its caption on the website reads simply, "Out of Stock"!

When I sent my juvenile and adult locust photos to Donald Afan of ERM, he replied as follows:

"I think the photos represent that of a hopper stage and an adult. Using the description from the Locust Manual produced by Anti-Locust Research Center, London, the individual you collected is in the hopper stage and must be in the fourth or even fifth instar because of the conspicuous yellow and black coloration. To be certain, the length of the wing buds has to be compared with the length of the pronotum [the upper surface of the first segment of the thorax, to which the first set of legs is attached]. The fourth instar have relatively shorter wing buds than the pronotum, while the fifth would have wing buds longer than the pronotum (it is not clear from the photo whether the specimen have shorter or longer wing buds than pronotum). The adult still has pinkish color in the limbs and in the dorsum, and this made me think the specimen is in the final stage of transitioning from the immature adult (or fledgling stage) to the adult phase.

"I think both specimens are of the same species, and after comparing them with photos and description of other species of locusts occurring in the region, I am so inclined to believe it is that of the Desert Locust (*Schistocerca gregaria*). Without biometric information and actual visual observation and comparisons with type specimens, though, it is at best preliminary."

My own web search has turned up the following photo of an adult *S. gregaria*, which to my untutored eye looks remarkably like the adult specimen I collected (shown on p. 2 of this issue), inclining me to accept Mr. Afan's preliminary identification.



This image is from an article by Dr. Tom Mattheson of the University of Leicester, reporting the gist of his studies of the mechanisms of phase change in locusts, retrieved 8 June 2008 from

<http://www.le.ac.uk/neurosciences/matheson.html>.

Having settled the species identification issue as well as is possible at the moment, I then returned to my question about the stage of my supposed juvenile *S. gregaria*. I then sent Mr. Afan a blurred image I wasn't proud of (taken as the subject hopped about), hoping it might contain some visual information he could use, and lo and behold, it did! Here's the photo, with his reply:

"In the latest photo you sent, it does appear the wing buds (with red line) are already longer than the pronotum (blue line); this makes the individual already a fifth instar."



Juvenile locust shown to be 5th instar

Photo: Keith Taylor

Assuming that my two specimens are of the same species then, I then asked whether there was any possible immediate family relationship between them. Here is Donald Afan's response:

"It's a bit tough to tell whether the transitioning immature adult is from the same batch as the hopper. The life duration for each instar, and for the stages for that matter, can only be approximated and may vary from year to year according to the weather. One data I know from eastern Ethiopia puts the duration of the fifth hopper instar to be 12 days, and the immature adult has about 45 days before it becomes a mature adult (this stage lasts 30 days – putting the whole life duration for locust adults to be 75 days. Again, this is what was observed in eastern Ethiopia). Without any means of knowing when the hopper started to become a fifth instar, it is quite impossible to tell whether they are from the same group. But I am not saying it is not possible; for all we know they are from the same brood."

Mr. Afan responded to my observation of the erratic, disorganized-seeming behavior of the juvenile locusts I observed with the following comments:

"Regarding your other observation, I have read in an article from an online science magazine (Goudarzi 2006) that the density of individuals dictate whether they behave as a cohesive unit and follow the same direction or that of a chaotic or erratic flying pattern (perhaps like the one you observed). Buhl in his paper published in *Science* refer to this as the 'tipping point' in the number of individuals or a critical density that the Desert locusts have to reach to go 'marching in a swarm' and becoming an orderly, collective plague. In that study, they have found out that (in the laboratory setting) a locust group has to reach at least 30 individuals aggregating for them to 'march on' and act as a unit, while lower than that number, the individuals though aggregating will not move in unison. In this line, your observation suggests that *in situ*, it would take more than 100 individuals for them to move in unison as the ones you saw numbering about 100 appear not to act in unison. This makes sense as in locust plagues experienced in history puts the number of locusts during a particular swarm in the order of several millions of individuals. According to FAO, locust swarms can vary from less than one square kilometre to several hundred square kilometres and there can be at least 40 million and sometimes as many

as 80 million locust adults in each square kilometre of swarm."

On the subject of swarms, Dr. Brigitte Howarth, Al Ain NHG member and professor at Zayed University, wrote in the following: "Locust swarms do occur here, and we have had relatively high numbers of locusts over the past two years, but not quite swarm levels."

In conclusion, my enquiries into those two locusts I pocketed at my workplace turned up fairly likely identifications for both of them, a much closer relationship between the two than I had imagined, reports of possibly related sightings in the region, and a slew of eye-opening information about the life-cycles and adaptive strategies of these fascinating creatures.

I invite anyone to respond to any of the statements made here, and also to share any further sightings of locusts in the region. We will be happy to include your comments and/or photos in another issue of Focus.

As a closing aside, I find there is an interesting historical perspective to the subject of locusts here. As every reader of *Arabian Sands* will remember, a job studying locust swarms was what brought explorer Wilfred Thesiger to the Arabian Peninsula in the first place.

Reference from Mr. Afan (See p. 4 above):

1. (TANAKA 2006. *Corazonin and locust phase polyphenism*. Appl. Entomol. Zool. 41 (2): 179–193.)

Additional Reference:

For further info. on the distinctions between locusts and grasshoppers: Australian Dept. of Agriculture, Fisheries & Forestry website: <http://www.daff.gov.au/animal-plant-health/locusts/about/id-guide/wingless-winged>.

Keith Taylor

Locusts in November

Here's an account of locust sightings last autumn, and more of Gary Feulner's comments on locusts. Reprinted with the author's permission, from the newsletter of the Dubai NHG, The Gazelle, January 2008 issue. –Ed.

Sightings of large locusts were reported in November 2007 at locations ranging from the RAK desert to the edge of the Jebel Akhdar, and several points in between – seemingly somewhat more common than normal. All of those reported recently were single individuals; there was no indication of the higher densities that are thought to trigger mass migrations. (The difference between 'locust' and 'grasshopper' is one of behavior and physiology, not one of taxonomy, but not all species are known to swarm.)

In the UAE, the most common large locust is *Anacridium melanorhodon arabafrum*, a relative of the Egyptian Tree Locust *A. aegyptium*. It does not swarm but can nevertheless be a pest of date palms and other trees. The most serious swarming species in the UAE and Oman is the Desert Locust *Schistocerca gregaria*, which has been known to swarm from central Oman, especially after favorable rains.

A photo of one of the recent sightings from the Mahdhah area (see photo) suggests that it may be none of the above, but rather *Cyrtacanthacris tatarica*, a

Paleotropical species seldom recorded in the UAE and northern Oman. If so, it is worth noting that an identical animal was photographed in the UAE (Wadi Asfani) last spring. Interested readers can find more information about UAE grasshoppers in Prof. Mike Gillett's paper in *Tribulus*, vol. 10.2 (2000), now available on the internet at: www.enhg.org.



Mahdhah area, Nov. 2007 *Cyrtacanthacris tatarica*(?)

Report and Photo by Gary Feulner

Sightings from Hither and Yon



Here's one more wildlife sighting from the Wadi Jazira Trip, 25-04-08: Arabian Red Fox, *Vulpes, vulpes Arabica*
Photo: Richard Palmer



Here's a second fox photo taken at Wadi Jazeera three weeks later, 17-05-08. It may be the same one, although the white tail tip can't be made out on the first one. Drew says this one acted quite domesticated. Perhaps it's a WJ 'camp follower'.
Photo: Drew Gardner



Abu Dhabi Golf Course Lake, Feb. 2007: Western Reef Heron in Grey Phase, *Egretta gularis*.

Photo: Ben Boardman



Bab al Shams, Dubai, and May, 2008: Oleander Hawk-moth, *Daphnis nerii*. It develops from a plain green caterpillar that feeds on oleander, of all things!

Photo: Andrew Bunney



Dukhan, Qatar, April 2007: Striped Hawk-moth Caterpillar, *Hyles livornica*. The caterpillar of this hawk-moth is quite distinctive. Photo: Ben Boardman

NB: Ben Boardman has sent in many more photos--from Dukhan & Liwa. Look for them in Sept2008 Focus. --Ed.

Bahrani Island Camping Trip



Bahrani Island: Sand Gazelles Photo: Jonathan Ing

Three boatloads of nearly 30 adults and kids left on Friday afternoon 9 May for an overnight trip of camping, swimming and enjoyment by the beach on Bahrani Island, 45 minutes by boat from the Intercontinental Hotel marina. Unfortunately, the island has now been overrun by day picnickers every 10 metres, all blaring loud music, with more than 30 wave-skis cruising the beach like motorcycle gangs out of the 1950's, representing a real danger to swimmers with their antics. And this is not to mention the 50+ party animals who played loud music until 7am the next morning, just 25 metres away from our campsite among the trees. However, the pleasant ambience returned after 7am, and in the quiet we saw more than 10 gazelles, including several young ones, and plenty of rabbits and Indian Rollers swooping about the trees. Sadly, next time I recommend we use a different campsite further down the island or else find another island.

Andrew Bean

NB: Finding another island may be necessary, for a few years, at least, as according to a report sourced 23 May from QSWeek.com,

"Abu Dhabi is preparing a master plan for a multi-billion-dollar development on Bahrani island to the southwest of Abu Dhabi island. The low-density development will include homes, schools, hotels and a golf course. The design aims to limit the impact of the project on the local environment by capping the height of buildings to three storeys and denying private cars access to the island."

The low-environmental-impact plans are nice to hear about, but in the short term it's possible this whole island will be a construction zone. --Ed.

Sharjah Museums & Snorkelling Trip

Three carfuls of people set out from Abu Dhabi on 30th May 2008 for this ENHG trip led by Gordon & Gillian Kirkwood. The itinerary for 30th May was a visit to the Arabian Wildlife Centre and Natural History Museum in Sharjah. While waiting for the 2pm opening we visited the Sharjah Monument, where we found a large dead scorpion.



The trippers were so absorbed by the animals on display that it took three hours to pass through the wildlife centre, leaving only time for a short 'taster' visit to the natural history museum, which houses many wonderful exhibits, including the newly opened botanical section, which was great fun for adults and children alike.

After the museums, we proceeded in convoy to the East Coast of the Emirates, stopping first for dinner at the Taj Khor Fakkan Indian restaurant and then to the nearby Abu Dhabi Sub-Aqua Club (ADSAC) villa, which was to be our accommodation for the night.

All were amazed at the amount of stuff brought by Andrew to the villa; it seems you can take the man out of the country, but you can't take the country out of the man. Once we had convinced Andrew that we were in civilization and that camping gear wasn't needed, we all settled down for the night.

The plans for snorkelling were changed over dinner by mutual agreement from a beach trip to using the ADSAC dive-boat. So the next morning Gordon & Gillian launched the ADSAC boat; we all climbed aboard and then proceeded north to our first snorkelling spot at Dibba Rock, where Feng looked after the boat while the others snorkelled.



Feng on board

At Dibba rock three sharks were seen, as well as numerous other fish. After Dibba we moved south to Snoopy Island where we moored at the Sandy Beach hotel. Here there were Sand Dollars on the seabed below our boat. A large cushion starfish was found, and

one of Andrew's daughters, Imogen, had a close encounter and a long swim with a friendly turtle.



Imogen and Mara with cushion starfish



Imogen swimming with turtle

After Snoopy we moved to the Pinnacles nearby, where we saw nudibranches, which are very rare to see while snorkelling.



Nudibranches

Finally, we headed home by boat to Khor Fakkan. After getting the boat out of the water and washing it (and ourselves) down at the villa, we headed back to Abu Dhabi via the Kalba tunnels. We stopped at Meleiha fort on the way to add a bit of archaeology to what had already proved to be a full and very interesting weekend.



Andrew and new member Samer at Meleiha Fort

All the people on the trip thoroughly enjoyed it and were happy to get back to Abu Dhabi for a well earned rest after a very busy couple of days.

Gordon & Gillian Kirkwood

All photographs by the authors

Acknowledgements

The current Focus Editor would like to thank everyone listed below, all of whom assisted him in the publication of the newsletter in the 2007-2008 season by submitting photographs and/or text, some multiple times, or by giving permission to reprint their work published elsewhere. He would also like to acknowledge the editing work and assistance of former Focus Editor Atie Vogler on the September and October issues as well as the uncredited assistance and contributions by Secretary Jennie Mueller, particularly on the informational bulletins from the Committee regarding the 2008 IEW. The size of this list demonstrates the collaborative volunteer spirit that this club thrives on. Your contributions are welcome in the coming season as well! -Ed.

Contributors to Focus during the 2007-2008 Season:

ENHG: Andrew Bean, Linda Betz, Ben Boardman, Mary Boyd, Michael Creamer, Hanne & Jens Eriksen, Allestree Fisher, Drew Gardner, Karen Hooper, Dick Hornby, Jonathan Ing, Chris Jones, Gillian Kirkwood, Gordon Kirkwood, Patricia MacLachlan, Molly McQuarrie, Cyrus Modavi, Richard Palmer, Roy Richards, Mai Yoke Taylor, Peter Vogler, Meg Wallace

Dubai NHG: Valerie Chalmers, Gary Feulner, Jan Fisher, Jenny Hill, Helga & Willy Meyer, Anne Millen, Andrew Twyman

Al Ain NHG: Geraldine Kershaw, Beverley Merrick, Bob Reimer

Keyboard Pals from outside the Natural History Groups: Donald Afan, Andrew Bunney, Kay Bunney, Karl Cundiff

Book for Donation to Schools

Copies of the book, *Jebel Hafit – A Natural History*, published by the ENHG, are available as donations to schools, colleges, and universities in the UAE. Please provide any committee member with contact information for any educational institutions you would like to furnish with a copy of this book.

ITEMS ON SALE

AT THE ENHG STALL

- The Emirates – A Natural History, 350 dhs
The first complete referencing guide to the wildlife of the UAE. 580 colour photos.
- Jebel Hafit – A Natural History, 100 dhs
An attractive, encyclopaedic presentation of the natural resources of a local landmark.
- Breeding Birds of UAE, by Simon Aspinall, 50 dhs
- Abu Dhabi Bird checklist 10 dhs
(Free if you spend over 100Dhs!)
- Emirates Bird Report, 50 dhs
- Common Birds in Oman, 100 dhs
A beginner's field guide—can be helpful in identifying birds in the UAE as well.
- Bird watching guide to Oman, 2nd edition, 100 dhs. *Guide to bird watching spots in Oman.*
- The Birds of Al Jabal Al Akhdar, 50 dhs
- 2008 bird calendar, 30 dhs
A must for yourself ... and a perfect gift.
- Falconry, 60 dhs
- Wild about Mammals, by Marijcke Jongbloed, 40Dhs. *Guide to mammals of the UAE.*
- Snakes of Arabia, 50 dhs
- Pests, 35 dhs
Find out what's in and around your home.
- Reef Fishes of the UAE, 50 dhs
- Snorkeling and Diving in Oman, 50 dhs
- Comprehensive Guide to the Flora of the UAE, 100 dhs
- Plant Checklist, by Marijcke Jongbloed, 25 dhs.
Know your local wild plants.
- Feast of Dates, 100 dhs
- UAE in Focus, 100 dhs
- Sir Bani Yas, 100 dhs
- Musandam, 100 dhs
- Sulphur, camels, and gunpowder, 90 dhs
- On-Road in the UAE, 50 dhs
- Children's books: Yaw the Wildcat; Hayat the Leopard, 15 dhs

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Lectures

14th May
Mangrove Ecosystem
& Urban Development
in the UAE

Dr. Tarek Yousef

21st May
Geckos of SE Arabia

Drew Gardner

3rd June
*There was no lecture,
due to the closure of
the Cultural Foundation.*

10th June 7:30 PM
(Oryx Hotel, Top Fl.)

This last meeting of the season is a social event – Not a lecture! We'll gather to chat about this season's highlights and our hopes for the next one.

Next Season:

2nd Sept. 8:00 PM
An Overview of the Natural History of the UAE

Drew Gardner

Field Trips

9th – 10th May
Bahraini Island Family
Camping, Snorkelling
Trip

**Andrew Bean /
Michael Creamer**

30th – 31st May
Sharjah Museums &
Snorkelling Trip

**Gillian & Gordon
Kirkwood**

Tentative Activities for Sept. & Oct.

(Most dates not yet confirmed)

- Lecture: Birds of Socotra by Hanne & Jens Eriksen
- Lecture: Marine life of the UAE & Oman by Gordon Kirkwood
- Lecture: Museums of Sharjah, by Museum Dir.
- Hotel StayTrip: Sharjah Museums
- Eid Holiday Trip: Musandam mountain camping/walking + all-day snorkelling at Khasab
- Oct. Lecture: Sabkha, by Christian Strohmer
- Oct. ½ -day Trip: Al Ain Night Zoo

Updates: <http://uk.groups.yahoo.com/group/AUENHG>

Websites of General Interest

Website of Natural History Group of Al Ain, featuring archives of Tribulus and all three NHGs' newsletters: <http://www.enhg.org>

Website of UAE Bird Recorder Tommy Pedersen: <http://www.tommypedersen.com>

Website of the Emirates Environmental Group: www.eeg-uae.org

Wildlife Middle East News: <http://www.wmenews.com>

Roy Richards' Photo Galleries: <http://www.pbase.com/chirri2000/mountains>

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Newsletter Details

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Yahoo Groups website

<http://uk.groups.yahoo.com/group/AUHENHG/>