

Wildlife Middle East



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NEWS

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What's new in the literature

Wildlife Middle East News is published quarterly. It contains papers, reports, letters and announcements submitted by veterinarians, biologists, conservationists, educators, and other animal care professionals working with captive and free-living wildlife in the Middle East region. Contributions are not refereed, although every effort is made to ensure the information contained within the newsletter is correct, the editors cannot be held responsible for the accuracy of contributions. Opinions expressed within are those of the individual and are not necessarily shared by the editors. Guidelines for authors can be downloaded from www.wmenews.com



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EDITORIAL

"The man needs to deceive himself: firstly, it saves a species that has lost its ability to survive, on the other hand, it accelerates the destruction of the environment that allowed him to survive." (Soul Mountain, 2000) This timeless wisdom from Gao Xingjian makes us question our efforts to save the planet.

Welcome to Volume 6 Issue 4 of Wildlife Middle East News. Perhaps a little belatedly, we wish health and happiness to all our readers throughout the World. This issue sees a variety of contributions on topics detailing works being completed from Iraq, Oman and the UAE.

What is our position on environmental protection? As scientists, are we listened to? Where does our power lie? Can we wake up the moribund government environmental agencies that do not know where their environmental duty lies?

In answer to some of these questions there have been urgent calls for biodiversity surveys, protective measures and education programs echoing around the Middle-East. In one of the articles in this edition, Warren Aston takes us to Dhofar, Oman on a journey in Khor Kharfot, describing the unique microclimate there, as well as the rich fauna and flora which has enabled this area to be given formal protected status as a "Nature Reserve". The author warns us on the impact of development upon this fragile environment and requests more surveys in the region. To quote Warren directly:

This most fertile of Arabian environments remains poorly documented. Truly comprehensive biological surveys of many parts of Oman, indeed much of the Arabian Peninsula, are still in the early stages. One assessment in 2000 still largely reflects the situation in 2012 (VICTOR 2000); another recent study noted that most valley forest sites in southwest Arabia had not been surveyed for over 15 years (HALL et al. 2009). However, efforts are currently underway across a variety of disciplines to more completely survey Arabia's biodiversity (see, for example, HALL & MILLER 2011).

These sentiments were discussed in great detail at the 14th Conservation Workshop for the Biodiversity of Arabia held at the Breeding Centre for Endangered Arabian Wildlife in Sharjah, UAE during February of this year. The concept of Bioregional Planning was looked at in previous workshops, and one of the actions from these was for the Environment Agency in Abu Dhabi to produce a regional biodiversity assessment plan.

Thirty six priority areas for conservation were identified. During the 14th Workshop, participants in a series of working group sessions reviewed and ranked these priority areas, identifying key sites for focused action, including a number of potential Transboundary Conservation Areas. Running in tandem with this was a Regional Red List assessment of the breeding birds of Arabia.

James Burton from the Earthwatch institute is updating the conservation community on their efforts to assess Arabian Leopard and Thar populations in Oman. Survey efforts have also been very rewarding in Iraq and Hana Raza from Nature Iraq shares with us the interesting finding of their wild goat survey in the Peramagroon and Qara Daghs mountains, as well as their collateral discoveries of the presence of Persian leopards, least weasel and Eurasian lynx in the region. Studies such as these are crucial to not only inform international conservation bodies on the

current status of rare animals and plants, but also to provide the necessary scientific data to establish conservation and education programs which are so important today.

Researchers from the UAE University in Al Ain (UAE) share with us their very interesting findings on breeding habitat and performance, population threat and long-term demographic studies' objectives of a little-studied seabird the Socotra cormorant (*Phalacrocorax nigrogularis*). It is hoped that the data collected during this study and any subsequent studies will be used to its full extent to ensure proper conservation measures of this species endemic to the Arabian Gulf and Gulf of Oman.

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WILDLIFE MIDDLE EAST NEWS OBJECTIVES

- Raising awareness of environmental and conservation issues affecting wildlife in the Middle East.
- Distributing information to enable better management healthcare and welfare of wildlife.
- Providing a central contact point for practical advice and information on wildlife management in the region.

ARABIA'S HIDDEN VALLEY

A unique habitat in Dhofar captures Arabia's past

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Keywords: Oman, Dhofar, Khor Kharfot, Unique Microclimate, Conservation

INTRODUCTION

A secluded valley on the southern coast of Dhofar in Oman is a unique microcosm of a distant era in Arabia's past. It is the last vestige in Oman of the subtropical deciduous forests that flourished in parts of Arabia anciently. Fed by monsoonal run-off from the Qamar mountains that have isolated it, Khor Kharfot protects an extensive range of fauna and flora. Some extant species, such as the Arabian Leopard (*Panthera pardus nimr*), are critically-endangered. However, other species are known of only anecdotally as no thorough survey in any field has yet been made. The opportunity to do so, and to perhaps implement protective strategies, is fast vanishing as this once pristine site is now under severe environmental stress.

After sailing along the eastern coast of Arabia on the survey ship *Palinurus* in 1824, the British geographer Andrew Crichton was unimpressed, writing that the coast was "a wall of naked rocks as dismal and barren as can well be conceived" (FOSTER 1844). These words were thought accurate enough as a general description of the eastern Arabian coastline to be published quite recently (PHILLIPS 1966). Other travelers, before and long after Crichton, left no mention of exceptions to this uninviting perception. It included the Qamar coast, a twenty mile stretch of abrupt limestone mountains pushed up eons ago when Arabia separated from the African continent. These mountains constitute the westernmost coast of the Sultanate of Oman.

What lay hidden from the view of all those passing ships still surprises the visitor today, for reaching the sea in the midst of those mountains is a valley almost defiantly lush with greenery, Khor Kharfot. Its name encapsulates its two main features: the Arabic Khor refers to a sea inlet; while Kharfot is an expression in the pre-Arabic Mahri tongue, meaning that "abundance" has arrived following the annual monsoon rains.

A UNIQUE ENVIRONMENT

It is small wonder that the outside world was slow to recognize that such an anomaly was preserved on the Arabian coast; after all, even people in the region were scarcely aware of it until recent decades. Without road access and hemmed in by forbidding terrain, Kharfot is unpopulated and has had no inhabitants in living memory. The ocean once extended inland perhaps a kilometer here, creating a sheltered inlet. Now, in common with the other inlets in southern Oman, a sandbar stretches across the mouth of the bay, closing it from the sea. At Kharfot, the inlet has been replaced by an extensive freshwater lagoon.

Kharfot marks the end of a major wadi leading from the interior desert, Wadi Sayq ("River Valley") and the much shorter (12 km) Wadi Kharfot (EL-BAZ 2004), but this fact is hidden by the oblique angle at which the two wadis arrive at the coast. The high beach obscures the lagoon and most of the vegetation and trees from passing ships. In fact, viewed from the sea, Kharfot appears rather unremarkable.

Each May to September the Indian Ocean monsoon rains touch land only in southern Oman, bringing constant rain and mist. Forced higher by the mountains, the clouds release their moisture quickly along a narrow band of coast, leaving the interior deserts dry. Until recent years substantial water arrived at Kharfot through the sinuous Wadi Sayq, the main drainage of the Qamar ranges, as it descends some 38 km from the interior plateau. The water reaching the inlet accumulates in the lagoon, but it also feeds two large permanent springs.

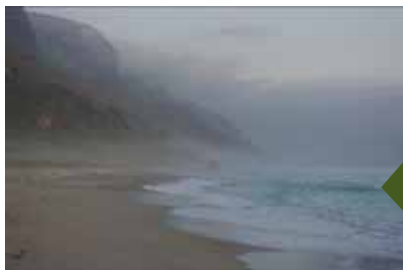


Fig.1. A rare splash of green on the Arabian coast, Khor Kharfot was once an inlet open to the Indian Ocean. In recent centuries a high sand bank has formed across the bay, visible in this view looking west from the nearby mountains.



Fig.2. The dark green base of Kharfot today lies below sea-level. This view looking north-east from the surrounding hills shows the approximate contours of the original sea inlet. Today it is a year-round freshwater lagoon, a unique eco-system that has remained pristine until now.



Fig.3. Wadi Sayq ("River Valley") winds its way through more than twenty miles of the Qamar Mountains before arriving at the coast at Khor Kharfot. The deeply scoured base of the wadi is testament to the annual floodwater that runs through to Kharfot, just out of sight in the distance to the right.

Fig.4. Kharfot is one of only two wadis in Oman that receive three months of steady rain every year from the Indian Ocean monsoon. In this view mists and clouds arrive at Kharfot where they are immediately forced higher by the terrain and release their water.

ARABIA'S HIDDEN VALLEY Continued

Biodiversity at Kharfot

The abundant water results in an unusual micro-environment (JOURNAL OF OMAN STUDIES 1977, 1980). A spectrum of luxuriant vegetation lining the sides of the bay includes large trees, notably Tamarind (*Tamarindus indica*), Sycamore Fig (*Ficus sycamorus*) and various Acacia species. On the higher terrain inland, Frankincense and Myrrh trees are a living reminder that Arabia's greatest commercial activity before the discovery of oil, incense production, began in this area. Both gums are still harvested by local families and sold locally. In addition to figs, wild passion-fruit and other edible species on offer, clusters of date palms stand close to the beach. Some 800 other plant species are believed to grow in the region, pollinated by wild honey-bees, providing an impressive range of possible resources.

Wildlife here, as any visitor can attest, is prolific. Whale, dolphin and whale-shark species thrive in the almost-untapped waters and the area's beaches have recently been declared a protected area for two turtle species known to nest there. Ashore, indications of other rare animals such as the hyena and wolf have often been noted by local villagers. The Rock Hyrax and a variety of porcupine, fox, snakes and lizards are readily seen. Most significantly, the numerous caves and gullies are home to a handful of the Arabian Leopard (*Panthera pardus nimr*), a sub-species now listed as Critically Endangered (SPALTON et al. 2006). It is estimated that about 50 leopards are left in all of Dhofar.



Fig.8. The warm Indian Ocean attracts a huge variety of fish.

Abundant bird-life, both resident and migrating species, has attracted a trickle of ornithologists; at least one species never seen before in Arabia, the brilliantly coloured Malachite Kingfisher (*Alcedo cristata*), was first recorded at Kharfot in September 2000 (BIRDS OMAN 2000).

Occasional human presence

Visitors today also see the more familiar shapes of cattle and camels, brought down from the mountain villages above to graze. Herders and local fishermen, who occasionally visit for easy catches of fish, lobster and sardine in the untapped waters of the bay, are normally the only human presence in this pristine ecosystem.

There are abundant signs, however, that people have lived here intermittently. Among the numerous ruins overlooking the bay, Paolo Costa of the University of Bologna, one of the few archaeologists to have visited the site, has traced at least four periods of settlement. They show waves of human activity dating from the distant Neolithic, thousands of years ago, to after the arrival of Islam in the seventh century. The outline of a tiny mosque sits, oriented toward Mecca, not far from older, more enigmatic structures (COSTA 1994). To better understand these other ruins more research will be necessary, but their presence assures us that Kharfot's marine and land-based resources can support a human population.

Fig.5. Illustrative of the ancient forest remnant surviving at Kharfot is this mature Tamarind tree *Tamarindus indica* growing near the beach.



Fig.6. Long a culturally-significant staple in the region, figs grow wild at Kharfot.



Fig.7. The large freshwater lagoon is fed by two year-round springs and is the basis for the remarkable range of fauna and flora at Khor Kharfot.



Fig.9. A cluster of date palms growing near the beach.

ARABIA'S HIDDEN VALLEY Continued

Dr Costa points out that despite its many attractive features, people seem to have not remained long at Kharfot because of the difficulty in accessing it, other than entering via the long Wadi Sayq from the desert, or perhaps by sea. Then too, the four months of rain and high winds each year would discourage long-term settlement. A leading authority on the ancient incense trade, Nigel Groom of London, has suggested that the bay should be considered a possibility for the site of "Moscha," an important trading port spoken of in early classical writings (GROOM 1995). For the time being Groom's idea remains speculative, but certainly all the features needed for a small port exist here, perhaps one where ships collected incense and re-supplied with fresh water, fruit, honey and meat.

21st century challenges

Kharfot's unique concentration of fauna and flora led to it being designated in 1987 as a "Site of Special Value" by the government of Oman's Planning Committee for Development and Environment in the Southern Region, in 1990 becoming a "Nature Reserve" within the larger Jabal al-Qamar Scenic Reserve. This action gave it formal protected status. On November 4th, 1991 Kharfot was chosen for inspection by HRH The Duke of Edinburgh, Prince Philip, along with Omani officials, in his role of International President of the Worldwide Fund for Nature. Such steps and local recognition of the turtle nesting on its beaches have been important in protecting the bay.



Fig. 12. An ancient circle of stones on the very edge of an eroding cliff becomes a potent reminder of the urgent need for research and conservation in this unique valley.

But this most fertile of Arabian environments remains poorly documented. Truly comprehensive biological surveys of many parts of Oman, indeed much of the Arabian Peninsula, are still in the early stages. One assessment in 2000 still largely reflects the situation in 2012 (VICTOR 2000); another recent study noted that most valley forest sites in southwest Arabia had not been surveyed for over 15 years (HALL et al. 2009). However, efforts are currently underway across a variety of disciplines to more completely survey Arabia's biodiversity (see, for example, HALL & MILLER 2011). Their geographical isolation has ensured that the Qamar ranges and the adjoining Mahra province in Yemen, still remain possibly the least understood parts of Arabia.

Over just the past decade, however, the growing awareness of southern Dhofar's attractions has seen a spurt of development. Local people have begun seeing concrete benefits from the increased attention. A magnificent new road along the coast now links the area with Yemen. Visiting geologists have found indications of iron deposits that may offer commercial possibilities. There is also growing interest from domestic, regional and specialized international tourist operators. Like other countries in the region, Oman is keen to develop responsible cultural and adventure-based tourism against the day when oil reserves dwindle. Places that preserve the past naturally, as Kharfot does, will be of particular interest to conservation-minded visitors wanting to see a unique place, one at odds with the popular stereotypes of Arabia.

As so often happens, however, the impact of development upon a fragile environment is already evident. Most damaging to Kharfot's environs is a water-pumping station in Wadi Sayq that supplies the villages in the surrounding mountain. The diversion of thousands of litres of water every hour, around the clock, from reaching Kharfot is having a serious impact, one most evident in the steady contraction of the freshwater lagoon in the centre of the inlet. In just a short time we can expect to see the impact on the flora, especially the larger trees species, and then, inevitably, upon the fauna of an ecosystem that is still poorly understood.

Fig. 10. The first report in the Arabian Peninsula of the Malachite Kingfisher *Alcedo cristata* came from Kharfot in September 2000.



Fig. 11. Late afternoon sunshine highlights a complex of large ruins on the east side of the bay.

With increased safeguards in place we can hope that Kharfot's relic fauna and flora populations may still be able to reverse their decline. For a little longer this impressively fertile valley is a reminder that there are still hidden corners of this world that capture the distant past.

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ON CONSERVING THE WILD GOAT *Capra aegagrus* IN PERAMAGROON AND QARA DAGH MOUNTAINS, IRAQ CONSERVATION LEADERSHIP PROGRAMME

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Keywords: Wild goats, *Capra aegagrus*, Persian leopard, conservation leadership programme CLP, Nature Iraq, IUCN red list

INTRODUCTION

In search of wild goat *Capra aegagrus*, the Nature Iraq CLP team started working on Peramagroon Mountain and in the Barzan area. The presence of these animals had been confirmed at Barzan, but was less certain on Peramagroon.

The team began their summer work on Peramagroon Mountain from 10 June to 23 June, 2011. Peramagroon is the highest peak in the Sulaimani governorate, with an elevation of 2615 meters and a total area of 10,028 hectares. Its climate is harsh and variable during the summer: 45°C at the lower elevations during the day and below 0° C at night at the peak. Due to ongoing security concerns, the team elected to replace Barzan with Qara Dagħ and began survey work from September 18 to October 1, 2011. Qara Dagħ is an area of oak forest composed of eight peaks and nine valleys, the highest peak being about 1,800 meters with a total area of 31,105 hectares. Temperatures at Qara Dagħ in the summer range from 45° C during the day to 5° C at night.

RESULTS & DISCUSSION

The Nature Iraq CLP team observed wild goats in both designated areas and found these animals in unexpected numbers. Working from Nature Iraq's threat assessments for these areas and having confirmed the presence of the goats, the team will work to protect these animals in areas where hunting pressure is very high. In addition, the team hopes to increase international knowledge about the status of these animals in Iraq. According to the IUCN Red List, the presence of wild goats in Iraq is uncertain in the wild. Further work on goat populations in Iraq could increase international pressure to protect these animals.

According to IUCN Red List, the presence of Persian leopard (*Panthera pardus saxicolor*) in Iraq is unconfirmed, but during the CLP survey work, the team also captured the first photographic record of Persian leopard in one of the mountains of Kurdistan-Northern Iraq. This is the first confirmation of the present status of these animals in the region. Two leopards were reportedly killed in Kurdistan, one by local hunters and one by a mine, and it was thought by many that they had been extirpated from the region. In addition and as part of the CLP project, Nature Iraq CLP team with our trainer Amir Hossein Khaleghi, a mammal specialist from the Iranian conservation organization, Plan for the Land, were able to observe and photograph the least weasel *Mustela nivalis* for the first time, making this the first record of the species confirmed for Kurdistan, northern Iraq.

Another exciting find was the observation of the Eurasian lynx (*Lynx lynx*) in Barzan area. The likelihood of the presence of the Eurasian Lynx was noted by Hatt (1959) as one specimen in the British Museum from Zakho of Kurdistan but a local from Barzan was able to photograph this species, making this the first photographic confirmation on the present status of the Eurasian Lynx in Kurdistan, Iraq.



Fig 2. Persian leopard *Panthera pardus saxicolor* (Nature Iraq)

CONCLUSION

The main goal of the Nature Iraq's Conservation Leadership Programme is to preserve wild goats *Capra aegagrus* in both designated areas and the surrounding areas of Kurdistan, northern Iraq, through education and advocacy based on the results of field surveys. Following this the team were scheduled in February 2012 to commence activities in awareness raising amongst stakeholders. This included highlighting the conservation status of wild

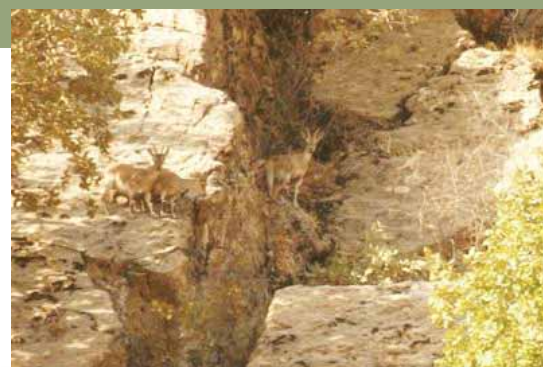


Fig 1. Wild goat *Capra aegagrus* in Qara Dagħ Area (Hana Raza)

goats and how to protect the species, the threats they face and the goals of the project. Together with distributing these leaflets and holding educational talks, workshops at different local schools were held. Forestry Police and other local stakeholders near the designated areas were also included in these awareness campaigns. The envisaged future direction the Conservation Leadership Programme will take includes, more intense field research to determine the status and distribution of the wild goat in Kurdistan, northern Iraq, strengthening the relationship with the Forestry Police Departments in the region, secure financial support for further public awareness campaigns, and periodical evaluation of advocacy and awareness raising campaigns as well as encouraging and involving new conservationists in the project.



Fig 3. Least weasel *Mustela nivalis* (Amir H. Khaleghi)



Fig 4. Eurasian lynx *Lynx lynx* (Mohammed Sadiq)

ACKNOWLEDGEMENT

Special thanks go to the Conservation Leadership Programme (CLP) for supporting this project, the Iraq CLP team (Korsh Ararat, Nabeel Abdulhasan, Mariwan Qair and Laith Ali) for their great deal of dedication and hard work to accomplish the goals of the project, and James Wudel for editing.

BREEDING BIOLOGY, THREATS AND CONSERVATION OF THE SOCOTRA CORMORANT (*PHALACROCORAX NIGROGULARIS*) AT SINIYA ISLAND, UNITED ARAB EMIRATES

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Keywords: Socotra Cormorant, *Phalacrocorax nigrogularis*, Banding, Breeding performance, Vulnerable

INTRODUCTION

The Socotra Cormorant (*Phalacrocorax nigrogularis*) is a little-studied seabird species endemic to the Arabian Gulf and Gulf of Oman regions. Currently, approximately 38-39,000 pairs (34% of the global breeding population) breed on islands in the UAE (Jennings 2010). We initiated a long-term study of the Socotra Cormorants on Siniya Island, Umm Al Quwain in 2011. This is the largest known breeding colony in UAE with approximately 15,500 pairs estimated in 1995 (Jennings 2010).

Breeding Performance

Breeding performance, namely hatching success (proportion of eggs that hatched successfully), fledging success (proportion of chicks that fledged successfully) and breeding success (number of chicks fledged per pair) was measured during the 2011 breeding season. Field work was initiated in September 2011 when birds had already laid eggs. Clutch size varied between one to three eggs (mean SE) although larger clutches ranging from five to 11 eggs were occasionally recorded (Muzaffar et al. 2012). Hatching success was 58.7%, fledging success was 65.6% and about 1.7 chicks fledged per pair. Chicks were altricial and grew the first coat of down within one week. Chicks began creching within two weeks of hatching. Creches became larger with the progressing season and numbered in the thousands late in the season (November to early December). Cannibalism was documented during this time when chicks were increasingly left unattended by their parents. Old juveniles were seen to opportunistically feed on young, late chicks (Gubiani et al. 2012). Cannibalism has been reported anecdotally in Socotra cormorants (Jennings 2010) and we reported a very high incidence of this behaviour at Siniya Island (Gubiani et al. 2012). Unlike what has been speculated in Newspaper articles (Anonymous, 2012), cannibalism is not a result of food shortages. Gulls (*Laridae*), for example, are notorious for cannibalising on chicks from neighbouring nests, and the behaviour is a manifestation of intense territoriality that occurs early in the breeding season in many gull species. The causes of this behaviour in Socotra cormorants remain unknown.

Breeding Habitat

We documented Socotra cormorants nesting under *Prosopis juliflora* trees planted on Siniya Island. Breeding performance was higher under the shade of trees suggesting that this tree was advantageous to the species on this island (Muzaffar et al. 2012). However, we do not advocate planting of any non-native species because of other potential consequences they may have on the native vegetation and fauna.

Feral Cat and Red Fox predation

Predation by feral cats and red foxes (*Vulpes vulpes*) was documented and their impacts estimated based on transect samples. Approximately 2000 birds were killed per season by foxes and feral cats, constituting a major threat to this population. Population viability models indicate that fox or cat predation at much lower levels could cause population collapse within a few decades. Feral cats



Fig. 3 Banded bird observed at Siniya Island(Khalifa Al Dhaheri)

should be controlled on the island and we recommend that the impact of foxes should be studied more carefully.

Diet, Fisheries and Fishing line entrapment

Preliminary data suggests that flying fish (>90% in 2011) was the primary food brought to the colony to feed the chicks. Fish abundance determines breeding success in many seabirds and the 2011 data shows flexible feeding patterns. This is also inconsistent with the idea that Socotra Cormorants compete with fisheries in these waters. We intend to pursue this study over the coming years to determine diet and foraging patterns in much greater detail. Many Socotra cormorants (adults and juveniles) were found dead on Siniya Island due to fishing line entrapment (Fig. 1). We were able to rescue and release one adult individual which had a fishing hook imbedded in its left tarsus. Many Socotra cormorants as well as other seabirds escape after being trapped in fishing gear with part of the gear (nylon filament, hooks, weights, etc.) still attached to them. Many perish in the water while others return to the colony to get entangled in scrub vegetation before dying. Better estimation of the extent of deaths arising from fishing line entanglement is needed.

Long-term demographic studies

We banded 12 adults and 100 chicks in 2011 with black on white bands with alpha numeral codes (Fig. 2). In 2012 we banded an additional 10 adult birds. The objective of this exercise is to determine inter-year survival in adults, colony fidelity, juvenile survival and dispersal. We intend to continue this work in years to come so that we can estimate demographic parameters, which in turn will improve our understanding of population dynamics of the species (Fig. 3). A parallel banding operation has been carried out by Dr. Reza Khan, Dubai Zoo where 50 captive-bred Socotra Cormorants were released in Ras Al Khor (Haniff, 2012). These bands are black on white numbers (Fig. 4). Observers, nature enthusiasts and bird watchers are encouraged to report band numbers to Dr. Sabir Bin Muzaffar (Department of Biology, UAE University, Al Ain PO Box 15551, UAE, Email: s_muzaffar@uaeu.ac.ae) and to Dr. Reza Khan (Public Parks & Horticulture Dept., Dubei Municipality, PO Box 67 Dubai, drrezakhan@gmail.com).



Fig. 1 Fishing line entrapment (R. Gubiani)



Fig. 2 Banded Bird at Siniya Island (R. Gubiani)

References will be online at www.wmenews.com

NEW NETWORK: BIODIVERSITY CONSERVATION IN THE ARABIAN PENINSULA

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Online network, collaboration, communication, data, group

INTRODUCTION

The annual Conservation Workshop for the Biodiversity of Arabia was held between the 3-6th February at the Breeding Centre for Endangered Arabian Wildlife in Sharjah. During the last session of the meeting there was a request to find a way to allow participants and the greater scientific and conservation community to continue discussions and interacting beyond the workshop itself. This included a desire to explore ways to facilitate the sharing of data.

THE BIODIVERSITY_CONSERVATION_ARABIAN_PENINSULA ONLINE GROUP

(http://tech.groups.yahoo.com/group/Biodiversity_Conservation_Arabian_Peninsula) has been created to address an identified weakness in the communication resources currently available to those with a professional interest in conserving biodiversity in the Gulf. It is an online tool that connects professionals who are actively involved in researching and managing the region's terrestrial biota. Members include (but are not restricted to) regional and international scientists, conservation NGO representatives, officials and researchers from government and educational institutions, as well as environmental authorities.

Members of this group will be able to communicate more widely on the topic of terrestrial biodiversity of the Arabian Peninsula, promoting greater inter and intra-regional collaborations. It will allow members to easily share knowledge (including relevant publications), ideas, data and news. It is also a forum for promoting upcoming events that may be of interest to members including: international meetings and symposia; research funding opportunities; announcements of job vacancies; and announcements of interesting courses and workshops. Messages with commercial business activities or profit-making ventures, political nature, personal and commentary discussions and other messages are not appropriate.

This tool has the potential to be an invaluable resource for all. However, for the group to succeed it needs more members, and to thrive members need to actively participate and take advantage of what the tool has to offer. Once you have joined you have the means of contacting every other member of the group at your fingertips. Additionally, each member can manage his/her account so that unwanted or too frequent emails aren't received.

Files can also be uploaded and several documents are already available, including the Arabian Oryx Regional Conservation Strategy and Action Plan (2010), Strategy for the Conservation of Leopard in the Arabian Peninsula (no date) and Wildlife Middle East Publication author guide/layout instructions.

Links to relevant websites can also be uploaded. For example, there are links to Breeding Centre for Endangered Arabian Wildlife, Al Wabra Wildlife Preservation and Wildlife Middle East News, amongst others.

Photos can be made available for members viewing. Currently there are photos of the recent biodiversity workshop's Kalba Fieldtrip. It would be great if more photos from the workshop were uploaded!

The site has many other features that make this platform excellent for groups, including a tool that allows you to add a 'join to the group' button to your webpage that will promote the site and extend its reach.

It will, with your co-operation, facilitate greater communication and collaboration and I encourage you to join. I also encourage you to promote this group to other parties who may be interested in joining. All feedback is welcome.

I am the group's creator and will act as moderator while I have the capacity to do so (and thus have a little crown next to my name :)). However, if anybody wishes to share responsibility or take on the role I would be happy to relinquish my crown.

If you would like further information please contact me via email at sarahamay@gmail.com.

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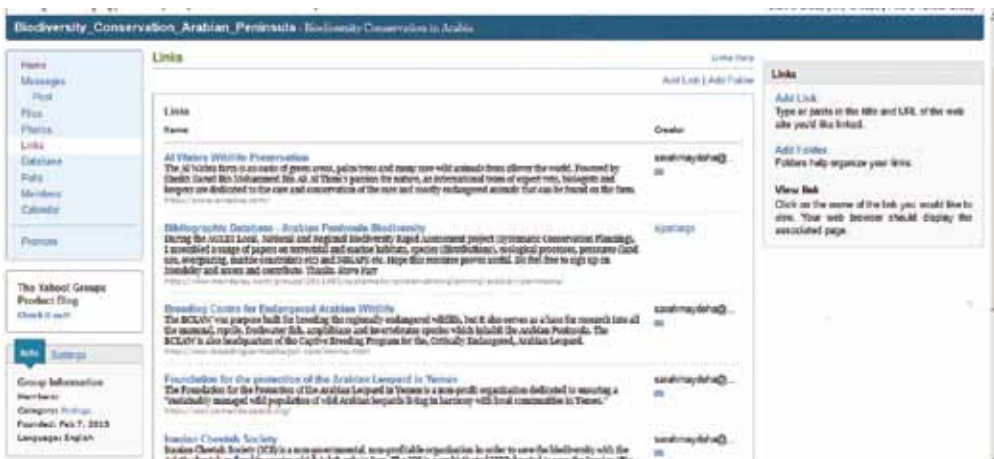
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* An equivalent network exists for the marine environment (Middle Eastern Marine Science Network) and after some discussion with the administrator of this network it was decided that a separate group for terrestrial species would be better than trying to combine the two - it avoids members confusion and minimises the frustration of receiving emails that are not relevant to the member. The more specific the network the better its functionality.



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AN INCREASING FOCUS ON FIELD RESEARCH, ENVIRONMENTAL EDUCATION, AND CONSERVATION IN THE SULTANATE OF OMAN

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Field research, Oman, environmental conservation

Introduction:

The National Field Research Centre for Environmental Conservation (NFRCEC) and the Earthwatch Institute are running an ambitious programme operating at a national level within the Sultanate of Oman, encouraging and increasing environmental field research and education amongst Omani citizens. This collaboration of NFRCEC and Earthwatch is leading four environmental field research projects focussing on critically threatened species and habitats in different parts of the country, and working directly with the Omani Ministry of Education, influencing environmental education at a national level. This programme of work is funded by the Diwan of Royal Court for a six year period. In the coming years this partnership will engage a growing variety of participants to contribute to field research. This relatively new field of 'citizen science' has proved very successful in many countries and we are hopeful this will be the case in Oman.

FIELD RESEARCH PROJECTS

Arabian leopard research project

The illusive Arabian Leopard (*Panthera pardus nimr*) is found in the Jebel Samhan Reserve and across the Dhofar area of southern Oman, as well as elsewhere in the region. The project is conducting extensive camera-trapping, genetics, and occupancy studies, which are contributing to understanding the distribution and number of individuals in this population of these impressive carnivores. It is planned that the three datasets, camera-trapping, genetic, and occupancy will be analysed together to ensure the most informative results are produced. This project is in collaboration with the Office of Conservation of the Environment and the Ministry of Environment and Climate Affairs. Socio-economic and attitudinal surveys have been undertaken with local villagers, constituting the first work of this type in the area, and the results of these will be essential for planning and management of the local reserve. Preliminary results show that all the communities involved can be grouped into three broad clusters according to their location and resource use. Field-based training teams have been run at the project site for local rangers from the Ministry of Environment and Climate Affairs, allowing them to gain greater knowledge about the leopard and its conservation.

Arabian tahr research project

In Wadi Sareen Nature Reserve, researchers working with the Wadi Sareen Nature Reserve management authority, the Diwan Office for Conservation of the Environment are developing an Arabian tahr (*Arabitragus jayakari*) monitoring system using cameras and ranger patrols. Methods to

Fig 1. Arabian Leopard on Jebel Samhan (Hadi & Khalid Hikmani)



Fig 2. Female Tahr with Kid Wadi Sareen (Steve Ross)

estimate tahr population size are also in development and safe physical trapping of Arabian tahr has been initiated in order to understand more about the ecology and requirements of this species. The project is contributing species data to the management and monitoring systems for the reserve. At the Oman-wide scale surveys of the tahr have been initiated to understand the status and distribution of the species. Altogether this will provide a much clearer picture of the ecology and future conservation of this iconic and threatened species. Educational materials have also been commissioned, linking the science of this important project to critical areas of the Omani National Curriculum.

Future projects

Two further initiatives are in the scoping stage. It is hoped that these will focus on important habitats in Oman and also community resource use. We hope that these will be developed with a number of important Omani research, education and conservation partners.

BUILDING A CADRE OF DEVELOPMENT SPECIALISTS AND EDUCATORS IN OMAN

The National Field Research Centre for Environmental Conservation and Earthwatch are going to enhance the National Curriculum on environmental topics with the Ministry of Education, by providing relevant research findings from the different projects. Also preliminary activities have begun in engaging with schools local to the research projects, such as conducting teacher field experiences and developing environmental teaching materials.

In the future there will be opportunities for academic training and also capacity development for protected area management practitioners, as well as expanding the citizen science aspects of the research. We look forward to updating the conservation community in the region as these projects achieve further successes.

14TH CONSERVATION WORKSHOP FOR THE BIODIVERSITY OF ARABIA: BIOREGIONAL AND SPECIES CONSERVATION PLANNING & REGIONAL RED LISTING OF THE BREEDING BIRDS

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Biodiversity conservation, Red List, Protected Area planning, breeding birds, Arabian Peninsula, Bioregional planning

The 14th Annual Conservation Workshop for the Biodiversity of Arabia was held at the Breeding Centre for Endangered Arabian Wildlife (BCEAW) in Sharjah, UAE, from 3 to 6 February 2013. This regional forum hosted by the Environment and Protected Areas Authority (EPAA) of the Government of Sharjah, under the patronage of His Highness Sheikh Dr Sultan bin Mohammed al Qassimi, member of the Supreme Council and Ruler of Sharjah, brought together 120 participants representing 16 countries.

The 2013 workshop had two parallel themes. The protected areas and planning theme looked at Bioregional Planning and Strategic Planning for Species Conservation, while a species assessment theme conducted a formal regional Red List assessment for the breeding birds of Arabia; in collaboration with BirdLife International.



Figure 1. 2013 Participants. Copyright BCEAW.

The topic of Bioregional Planning had been introduced at previous Sharjah workshops in 2010, and in 2011, at which time the Environment Agency – Abu Dhabi accepted a mandate to produce a regional biodiversity assessment under the Abu Dhabi Global Environmental Data Initiative (AGEDI). In a series of meetings, workshops, and with extensive data sharing from across the region, the AGEDI team was able to complete the first detailed systematic assessment for the entire Arabian Peninsula. This assessment enabled the development of a comprehensive habitat map for the Peninsula and the identification of 36 priority areas for conservation. As part of the 14th Sharjah Workshop, participants in a series of working group sessions reviewed and ranked these priority areas, identifying key sites for focused action, including a number of potential Transboundary Conservation Areas.

The Species Conservation Planning component used the framework provided by the IUCN Species Survival Commission to examine the key elements of Regional Species Conservation Plans and how these may be translated into National Species Action Plans. Delegates reviewed the status of species planning in their countries, then, with reference to the Regional Plans for the Arabian leopard (*Panthera pardus nimr*) and the Arabian oryx (*Oryx leucoryx*) drafted examples of objectives, targets, and actions that could be applied at a national level, and then assessed the constraints and limitations in drafting such national plans. A final session considered possible candidate species or groups of species or the development of Regional/national plans.

The species focused theme of the workshop entailed a regional Red List assessment of all the breeding birds of Arabia, including the island of Socotra. More than 360 species were assessed,



Figure 2. Dr David Mallon leading one of the working groups carrying out regional red list assessments of the breeding birds of Arabia.



Figure 3. Sean Walls from Biotrack instructing participants in the use of VHF telemetry. Copyright BCEAW.

including all those that are endemic and near-endemic to Arabia, as well as the more widespread species.

First introduced in 2012, the Workshop also included a technical component, with a day and half of hands-on exercises, regional case studies, and equipment assessments relating to the selection and application of VHF, GPS, PTT and geolocator tags for wildlife tracking.

Camera trapping confirms the persistence of Arabian Gazelles, *Gazella arabica*, in the Asir Mountains, Saudi Arabia

Zoology in the Middle East 57, 2012: 03–10.

Ahmed Boug, M. Zafar-ul Islam, Abdullah Al Shehry, Torsten Wronski

Abstract. Arabian Gazelles, *Gazella arabica*, are increasingly threatened by hunting and habitat destruction, and since 2001 no confirmed observations have been reported from the Asir Mountains, a previously known area of occurrence. This study presents camera trapping images of Arabian Gazelles captured in Wadi Tarj, and confirms the persistence of this species in the proposed protected area for the first time since 1997. Images were analysed regarding habitat, time of day, group composition and activity of captured individuals. Moreover, the photographs were used to determine the species/subspecies of the gazelles encountered and are viewed in the light of the disputed taxonomy of Mountain/Arabian Gazelles.

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