FALCO

The Newsletter of the Middle East Falcon Research Group
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MEFRG Objectives:

To provide:

A central body for the co-ordination of research activities related to falcons and falconry.
A common forum for the exchange of information and for promoting collaborative research programmes.

To promote:

Research on health and disease in falcons, falcon moulting in the Middle East, falcon nutrition, domestic breeding.
Field studies on falcon migration, taxonomy, morphometrics, reproductive biology and behaviour.
Improved management conditions for captive falcons through educational awareness programmes.
Greater understanding of falconry as a part of Arab cultural heritage.

To hold:

International workshops and conferences on veterinary aspects, falcon biology topics, falconry and conservation issues.

To publish:

Papers on aspects of falcon conservation, falcons and falconry.
A biannual newsletter/journal containing contributions on medical, biological and conservation topics of common interest, new developments and recent medical advances.

Membership:

Membership is open to any veterinary surgeon, biologist, conservationist or falconer working in the Middle East or any other person interested and contributing in the fields of medical, biological and conservation aspects of falcons and falconry worldwide.

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Previous issues of **FALCO** as well as instructions for authors can be downloaded from:

http://www.falcons.co.uk/default.asp?id=131

also see new Saker Conservation information portal:

www.savethesaker.com

Clutch of Saker eggs in an old Imperial Eagle nest, Kazakhstarn

Falco is published biannually and contains papers, reports, letters and announcements submitted by Middle East Falcon Research Group Members. Contributions are not refereed, although every effort is made to ensure information contained within FALCO is correct, the editors cannot be held responsible for the accuracy of contributions. Opinions expressed within are those of the individual authors and are not necessarily shared by the editors.

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Editorial

We congratulate the Breeding Centre for Endangered Arabian Wildlife in Sharjah for organising another successful regional conservation workshop, which included a session on Small Birds of Prey and Owls in February 2006. The Small Birds of Prey and Owls group examined species of raptors and owls which were not considered by the working group on Large Raptors held in Sharjah in 2005 (see current ***Falco***), notably birds of prey in the genera *Elanus, Milvus, Melierax, Micronisus, Accipiter, Buteo*, *Pandion and Falco* (not hunting falcons). ***Falco*** will publish a summary of the 2006 session in a future issue. For those interested in viewing the deliberations of the 2006 Sharjah meeting, Howard King has ably incorporated the final report by Michael Jennings and Tanya Sadler at http://www.hawar-islands.com/blog/con_stub.php. Perhaps the most important result of the discussions by this group was the realization that there is a significant error in the published information on the world population of the Sooty falcon (*Falco concolor*). The **IUCN Red List of Threatened Birds** (www.redlist.org) states that the world population of this species is 100,000 individuals, with the Arabian population regarded as the largest population, and estimated to make up half of the total global population. From discussions at the Sharjah meeting the total Arabian population was considered to be less than 500 breeding pairs, thus the generally quoted global population may be exaggerated by a factor of forty. The Environment Agency of Abu Dhabi (EAD) has now started a survey programme on the species under Dr. Salim Jaoud. Clearly, this is a species that requires urgent investigation and this kind of surprising finding demonstrates the importance of holding regional workshops.

It is probable that avian influenza (AI) will continue to be a major issue to affect falconry in the Middle East in the 2007-2008 season. In the UAE the Ministry of Animal Wealth states that falcons coming into the country require a certificate stating that they have been tested for AI and are clear and that once they arrive they must be taken to a ministry approved quarantine facility and kept for 4 days, where they will be retested for AI. It is positive that the UAE authorities, especially the Environment Agency of Abu Dhabi, have introduced measures to reduce the chances of AI being introduced into the country. Within the region it is still puzzling to note that despite confirmation of the strain from a German reference laboratory and reports in newspapers (Emirates Today, Sunday 29th January 2006) that the authorities in Saudi Arabia have still not reported the cases of H5N1 influenza in falcons (see ***Falco*** 27) to the Office International des Epizooties.

Following meetings hosted in Abu Dhabi by the Environment Agency (formerly ERWDA) of UNESCO officials and delegates from the International Association of Falconry in 2005, and at the UNESCO Secretariat in Paris in March 2006, the UAE has decided to make the first submission to UNESCO to have Arab falconry recognised as part of the World's Intangible Cultural Heritage. So far, 52 countries have signed the new Convention and more will follow in the next year or so. At the first Meeting of the Parties, UAE made a strong showing and was successfully voted on to the 18-strong Inter-Governmental Committee (IGC). This IGC now has to determine exactly what criteria will define 'Intangible Cultural Heritage'. Part of the submission entails preparing an Action Plan to preserve the cultural heritage and to establish the future of falconry on a sustainable basis. From the conservation viewpoint this is extremely important because the Environment Agency (EA) and the Abu Dhabi Cultural Foundation will be creating a 5-year rolling Action Plan that covers all elements of conservation of natural resources to do with falconry. While the EA already has well-established research and management programmes on wild houbara and falcons and their breeding in captivity, future steps include establishing managed hunting areas within UAE itself. There are several spin-offs from this: by reserving some areas for hunting, all other wildlife will benefit. Some of the areas may be linked to totally protected areas as well. One of the main quarries will be the Desert Hare, which can be managed economically as a sustainable resource, both by re-stocking and by habitat management. This should enable fathers and sons to be out in the desert together hawking hares in the traditional manner and taking an interest in the desert as a living and valuable resource. Unless the younger generation grows up with an understanding and appreciation of natural resources there will be no pressure to retain them.

We thank Jevgeni Shergalin (International Wildlife Consultants Ltd) for identifying interesting material for inclusion in this issue. We welcome Dr Jaime Samour and his team back to Abu Dhabi. As the most scientifically productive falcon veterinarian in the region, the UAE is fortunate once again to have his expertise close at hand and ***Falco*** looks forward to publishing more of his work. ***Falco*** is also pleased to announce the creation of ***Wildlife Middle East - News***. This is a new bilingual regional newsletter focusing on zoo and wildlife issues in the Middle East. Anyone who is interested in subscribing to or finding out more about ***Wildlife Middle East - News*** can contact the editors at editors@wmenews.com or see the website at www.wmenews.com.

Acknowledgements
Front cover photo: Recently fledged Saker by Istvan Balasz (China 2006); Back cover photo: Adult male Saker by Gombobaatar Sundev (Mongolia 2005).

Observations on breeding Peregrine Falcons (*Falco peregrinus*) in the Meghri District of Armenia

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Summary

I provide the first documentary evidence of Peregrine Falcons (*Falco peregrinus brookei*) breeding in the Meghri District of Armenia. Peregrines bred in niches on cliffs, sometimes utilising the old nests of other species. Egg laying began in March with the young hatching by mid-April and fledging in the last third of May. We provide information on our observations of nestling feeding rates, prey species killed and adult behaviour during the nesting period.

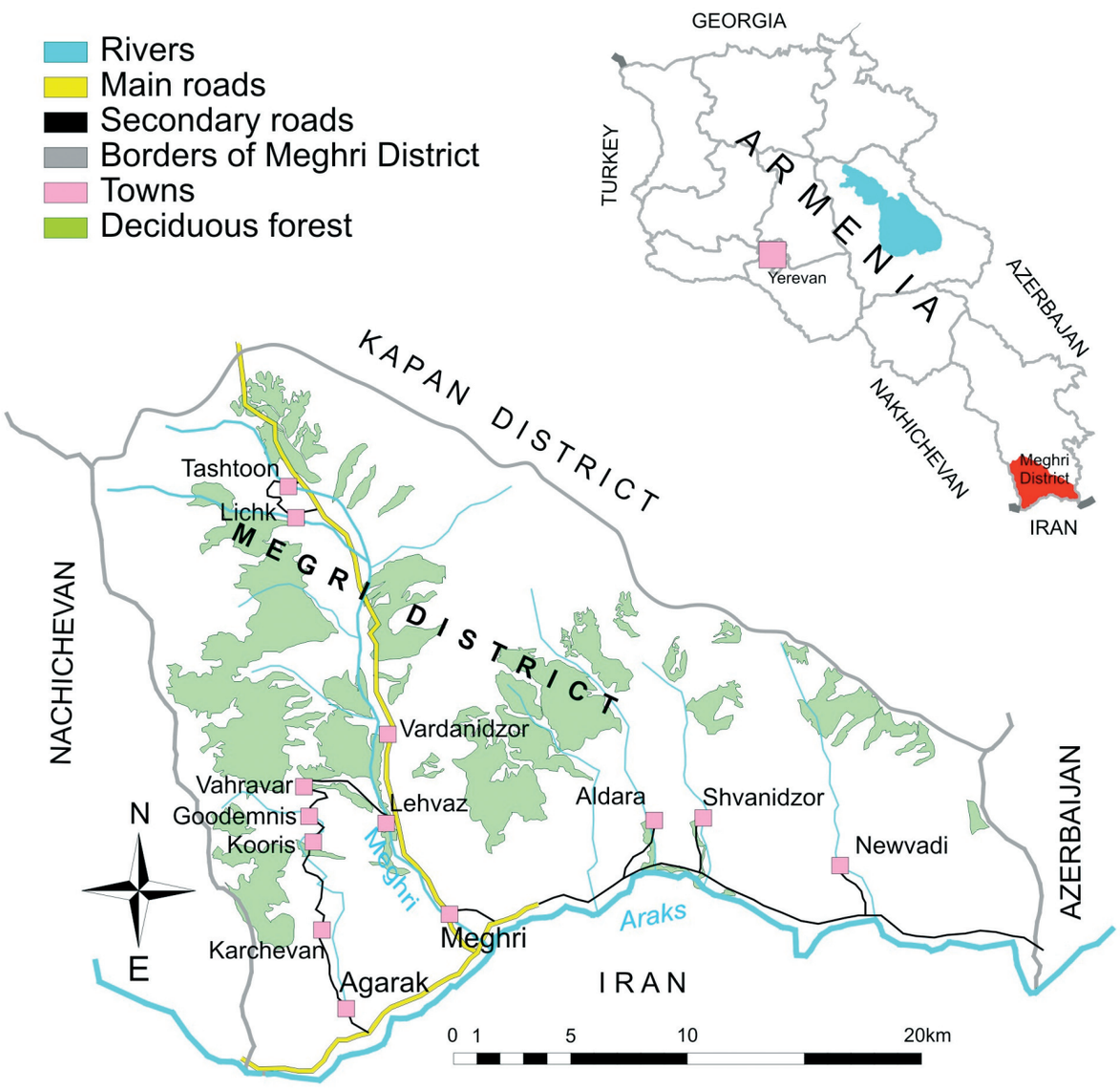
Introduction

The Peregrine Falcons found in the Caucasus belong to the race *brookei*, and they represent a rare and little studied component of the Armenian fauna (Adamian and Klem, 1999). The Peregrine Falcon is listed in the Red Data Book on the fauna of Armenia (1987) and is a resident species throughout the year; however there is very little data on the species in Armenia and the Peregrine Falcon has not previously been recorded from the Meghri District of the country.

Study Area and Methods

Armenia is located at the junction of the biogeographic zone of the Caucasus and the Iranian and Mediterranean zones, and exhibits both a great range of altitudinal variation (from 375 m to 409 5m peak of Mt. Aragets) and a diversity of climatic zones. The Armenian landscape can be categorised into 6 types: desert, semi-

Figure 1. The Meghri District of Armenia



desert, steppe, forest, sub-alpine and alpine lands. The Meghri District is situated in the Siunik Region in the extreme southeast of Armenia (Figure 1). In the north and west, the border of Meghri passes through the watersheds of the Megrinskiy and Zangezurskiy mountain ridges and to the south it runs along the Araks River adjoining neighbouring Iran. The Meghri District is topographically distinct from other neighbouring districts in the Siunik Region, in that it is hilly with numerous rocky outcrops and much of the landscape can be classified as semi-desert.

I undertook observations during seven expeditions to the Meghri District over the period 1996-98 and 2000-2002.

Results and Discussion

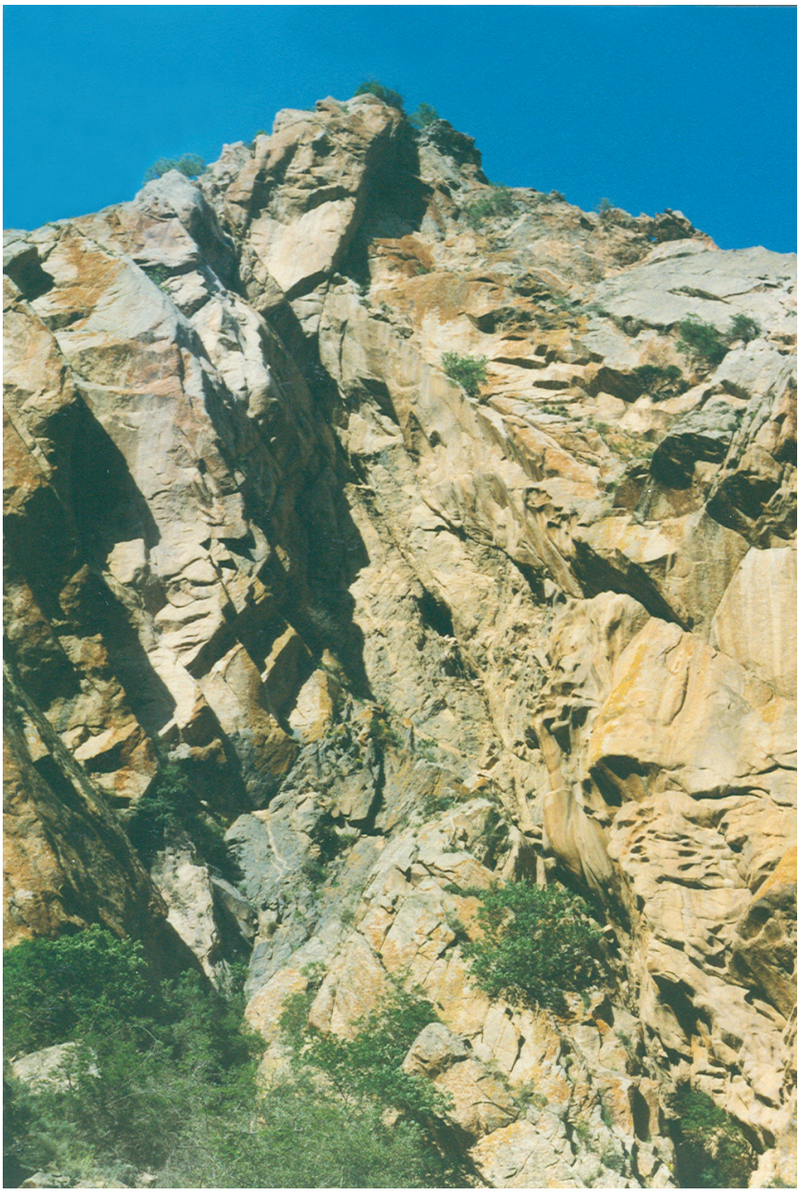
In the Meghri District the Peregrine Falcon breeds on rock faces in various landscape types, though the species does show a preference for open habitats: semi-desert and thin juniper forest. Based on our observations, we estimate that there are 7 to 9 pairs of Peregrine Falcons breeding in the Meghri District and they are more abundant here than in other districts of Armenia primarily because of the availability of suitable nesting cliffs and rich food base. It is notable that in other parts of Armenia, Peregrine Falcons have been recorded nesting in trees (Dal, 1954; Geilikman, 1987; Adamian & Klem, 1999) but in the Meghri District they nest exclusively in cliffs.

Figure 2. Peregrine breeding habitat near Agarak

In total I located six nesting sites. Two nests, within one breeding range, were situated in the vicinity of Agarak (Figure 2) and the other nests were found near Lehvaz, Meghri, Aldara and Shvanidzor. I also located two more pairs that were probably breeding on cliffs near of Karchevan and Nyuvadi settlements. The nests that I found were all situated in rock niches at heights of 20 to 100 m on steep or near vertical slopes, with an aspect facing east, north or west. The nearest neighbour distances between the seven pairs ranged from to 3.2-8.1 km, with an average of 5.86±0.62 km.

In 1998, the Agarak pair moved about 1 km from their nesting site of the previous year probably because in that year a Griffon Vulture (*Gyps fulvus*) nested less than 40 m away from their eyrie. Five nests were located in rock niches with a height of 0.9 to 1.2 m, a width of 0.5 to 1 m and a depth of 1.0 to 2.0 m, whilst another was located on a sheltered cliff ledge. In some of the nesting niches there were the stick remains of old nests built by other species; one eyrie near Agarak was situated in the old nest of a Griffon Vulture.

From our observations it appears that Peregrine Falcons in the Meghri District begin egg laying in March. We observed Peregrines sitting on clutches until the 13th April, and both sexes take part in incubation though the female undertakes the greater part. The male brought food for the incubating female one or two times a day. The female leaves the nest to collect the prey brought by her mate and to feed herself, and whilst she is so preoccupied the male sits on the eggs. Normally, when the female is incubating and the male is not hunting, he stands sentinel near the eyrie, though they normally only attack other passing raptors, such as Short-toed Eagles (*Circaetus gallicus*), Griffon Vultures and Golden Eagles (*Aquila chrysaetos*) when they encroach with 60 to 70 m of the nest. It appears that adult Peregrines are more aggressive towards other raptors flying close their nest when they have older nestlings. I twice observed different pairs attack Golden Eagles flying about 500 m away from nests with older nestlings.



Peregrine nesting cliff in Meghri District of Armenia

On the 2nd May 1997, we estimated age of a brood to be 15-16 days old, the chicks were covered with white down through which about 20 mm of feather growth had appeared from the wings, tail and back coverts. The colours of the feathers at this stage are ochreous-chocolate with light ochreous-russet panels, whilst the colour of the bill, cere and feet is light bluish-grey. At the age of about 30 days the general colour of the upper side is ochreous-chocolate with light ochreous-russet feather panels, and the underside is roseous-ochreous with dark brown streaks. The 'moustaches' of dark chocolate-brown colour are expressed very well at this age and there is still a large amount of visible down on all the upper parts of the nestlings.

During our observations we only saw the female feed the chicks and the role of the male was to provide food for the female, which she in turn then fed to the chicks. During the day we saw food brought to the nest 2-3 times for a brood of three and 3-4 for a brood of 4; one average it appears that each chick got fed about one food item per day. The main food items were Jays (*Garrulus glandarius*) and to a lesser extent Crows (*Corvus corone*), Magpies (*Pica pica*), Rock Doves (*Columba livia*) and Blackbirds (*Turdus merula*) and occasionally Cuckoos (*Cuculus canorus*) and Chukar (*Alectoris chukar*). Our observations suggest that most prey was taken within 1.5 km of the nest, though we did see males on hunting flights travel up to 4 or 5 km away from the nest, whilst the females sometimes hunted in the immediate vicinity of the nest site.

The young Peregrine Falcons eave the nest in the last ten days of May; in 1997 the first fledgling was recorded on the 23rd May and in 1998 on the 20th May. The whole brood normally leave the nest within 2-4 days of one another, indicating a degree of synchrony in their development. Once fledged, the brood stays near the nesting site and initially the young birds are poor flyers and seldom take to the air but by early June the fledglings can normally fly quite well. In early June the female appears to train the young to hunt by passing food to them in flight and forcing the fledglings to pursue her in order to get fed. We recorded broods with the adults at the nesting area until at least the end of July, so juvenile dispersal from the natal area occurs at a date later than this.

Acknowledgements

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Occurrence of wintering Sakers in Kyrgyzstan

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Summary

In November-December 2005 I undertook a trip to Kyrgyzstan to record the presence of Saker Falcons during winter. I searched several potentially suitable regions giving equal coverage effort between survey areas. In addition I undertook line transect surveys and also searched areas reportedly ocupied by Saker Falcons by locals. In the Lake Issyk-Kul area, where there is a vast area of apparently suitable terrain, I recorded good numbers of several raptors but saw no Saker Falcons. Following-up on local information I narrowed my search to an area of *ca.* 100 km^2 and recorded the presence of five Saker Falcons, four of which (two pairs) were in the vicinity of breeding sites. In this paper I discuss how food supply could potentially contribute to the scarcity of the species in Kyrgystan during winter.

Introduction

Saker Falcons are known to breed and occur on migration in Kyrgyzstan but there is limited information on the occurrence of the species in winter. The aim of this survey was to record the occurance of Saker Falcons in winter.

Figure 1. Foothill belt on the southern shore of Lake Issyk-Kul: breeding and hunting habitat for Kyrgyz Sakers.

Kyrgyzstan is a small country in the middle of Central Asia with majestic mountain ranges covering approximately 90% of the country's surface area. Kyrgyzstan's location in the depth of Eurasian continent, lies in a zone of deserts though the mountain massifs affect the general circulation of atmosphere and serve as natural borders of climate division. The valley-foothill belt is characterized by hot summers, moderately cool winters and deficiency of precipitation, whereas the mid-altitude belt has hot summers and moderately cold and snowy winters. This affects of course the vegetation and birdlife. Steppic vegetation predominates in the Tien-Shan and Alai-Shan ranges of Kyrgyzstan, with the following subtypes distributed across the low and mid altitudinal zones of the mountains: desert steppe, savanna steppe and meadow steppes. These habitats are the foremost Saker breeding habitats in Kyrgyzstan.

Lake Issyk-Kul is situated in eastern Kyrgyzstan *ca.* 1,600 m above sea level with a relatively mild climate and, due to thermal ground water, it is the largest non-freezing lake in Central Asia being *ca.*500 kilometres in circumference. The lake is a favoured wintering place for waterfowl and is recognised as being of international importance as 30,000-50,000 waterfowl congregate here each winter and it is also an important staging place for waterfowl during migration. The richness of birds at the lake and the surrounding landscape attracts great numbers of birds of prey, something every visiting ornithologist cannot fail to notice. Due to the relief of the surrounding landscape the level of precipitation varies markedly from the east to the west of the lake, with western Issyk-Kul being drier with up to 900 mm per annum compared to just 144 mm in the east. Consequently, the degree of snow cover is determined by the level of precipitation, together with the length of the cold period, peculiarities of background radiation and wind redistribution; snow cover increases to the east being, on average 20 cm deep in the east of Issyk-Kul basin. Steady snow cover is formed in high-altitude belts, whereas in the foothill-belt of southern Issyk-Kul it comes and goes a few times of year.

In the breeding season Kyrgyz Sakers inhabit a wide range of habitats, occupying natural nesting sites on rock faces or less frequently in trees. The latter are mainly situated in high, forested areas (as in the eastern part of the country) but others are recorded in central Kyrgyzstan e.g., at Son Kul Lake in a tundra-like landscape. Sakers are nowhere common in Kyrgyzstan, but a very questionable estimate is *ca*. 50 breeding pairs. The Saker is included in the Red Data Book of Kyrgyzstan as a rare and threatened species, which has suffered directly through the widespread practice of shooting raptors and indirectly from environment pollution, especially through the use of DDT, which was widely applied over many years in the Issyk-Kul basin.

Methods

I searched for wintering Sakers in the steppic foothill plains of the Issyk-Kul basin from 29th November to the 10th December. I selected survey areas that would potentially maximise the chances of encountering wintering Saker Falcons by combining knowledge about levels of winter snow cover and the species requirements. Potentially suitable areas for Sakers were identified from a map of the area and through contact with local people. The selected survey routes were constrained by accessibility too. The aim of my survey did not require counts birds, instead I merely needed to specify where birds do and do not occur, so I choose a simple Look-See method of survey. Once suitable areas were identified a programme of site visits were arranged at the appropriate time and using appropriate methodology to count any birds present, given equal coverage effort to obtain accurate results. At some places I made some line transects which are commonly used to access non-breeding raptor populations over extensive areas. In general, these surveys rely on cars for transport and roads to provide the transect routes. The method involves driving slowly and counting all birds that the observer detects within a specified distance.

Results

I found no evidence of Sakers during my transect surveys but there were good numbers of other raptor species (Table 1). The most common species seen were Common Kestrels and Common Buzzards.

Bearded Vulture *Gypaetus barbatus*	2
Himalyan Griffon Vulture *Gyps himalayensis*	1
Golden Eagle *Aquila chryseatos*	5
White-tailed Eagle *Haliaeetus albicilla*	8
Black Kite *Milvus migrans*	4
Hen Harrier *Circus cyaneus*	5
Long-legged Buzzard *Buteo rufinus*	13
Common Buzzard *Buteo buteo*	28
Upland Buzzard *Buteo hemilasius*	10
Sparrowhawk *Accipiter nisus*	2
Common Kestrel *Falco tinnunculus*	36
Merlin *Falco columbarius*	2

Table 1. Counts of raptors seen during surveys

Following the transect survey I decided to search areas according to information from local Kyrgyz people. After two weeks we had narrowed the search to include an area of about 100 square kilometres and estimated the presence of five Sakers. These comprised two pairs, which were found in the vicinity of two known breeding sites that had been occupied the previous spring and a singleton that was not seen in a known breding area in the Karakol region.

Figure 2. Breeding and wintering habitat for Saker Falcons in the Barskaun Gorge.

Discussion

From observations in this study it seems likely that the Saker Falcons wintering in Kyrgyzstan are local breeding birds, thus the Illegal trapping of Saker

Figure 3. Flocks of Domestic Pigeons can attract hunting Saker Falcons in winter.

Falcons at breeding and wintering sites is a threat to the Kyrgyz population. This is a serious problem and law enforcement is difficult. In the village where I had my base, one of my local contacts, a falconer, bought a Saker that had been recently caught *ca.* 70 km away. The reported price paid for this bird was *ca*. US$80. I was told that the reason for this low price was that the presence of avian flu in Central Asia had reduced the price of wild-caught falcons because fewer falcon dealers were now interested in buying these falcons. It was remarkable for me to experience the local Kyrgyz interest in this illegal trade and no doubt some of the people I spoke with were involved in illegal trapping. When asked about Saker Falcons they knew exactly what I was looking for but they quickly realised that my focus was not on buying falcons but to study the wild birds. I received valuable information about breeding places and Saker habitats from these locals and it is clear many have a keen interest in birds of prey, so there is a little hope for future conservation.

The absence of any Saker Falcon sightings during the transect surveys indicates that the species is not generally abundant in the Lake Issyk Kul region during winter, possibly because there is little food available. I saw no evidence of a wintering population of Sakers preying on the abundant duck population on Lake Issyk Kul. During my surveys I only saw Tolai Hare *Lepus tolai* and few species of mice as the majority of other small mammals were hibernating or hiding in grass-lined nests feeding on food stored during the autumn. So, if there is a general lack of mammal prey it seems likely that avian prey is important for Sakers during wintertime. I have no direct observation of winter prey but I was told about an *Italgir* (Kyrgyz name for Saker) that preyed on domestic chickens. My local informants described how two Sakers usually sat for hours at nearby sandstone cliffs watching the chickens' movements. I was also told by locals that in one village an escaped, or rather released, Saker preyed on pigeons. According to the story, this bird was released from captivity last summer because the owner didn't know to feed his falcon properly. As it had almost starved to death he released it but apparently it didn't possess the right skills for hunting and periodically it was found exhausted by villagers and given food. However, it apparently it became more skilled at hunting by autumn and preyed on a big flock pigeons (Figure 3). These anecdotes suggest that Sakers may hunt birds around villages in autumn and winter.

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Notes from the field in 2006

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Introduction

The Environment Agency of Abu Dhabi has continued to fund research on wild Saker Falcon populations in 2006 with projects being carried out in several regions across the extensive Eurasian breeding range of the species. What follows is a brief resume of the work that has been undertaken this season on a country-by-country basis. Much of the data has only just been collated and has yet to be analysed, whilst at the time of writing radio-tracking studies are still underway.

Mongolia

Research in Mongolia is undertaken in collaboration with Dr. Gombobaatar Sundev of the National University of Mongolia. The university field team included Prof. Sumiya and students from the Faculty of Biology: Odkhuu, Zaya (both post-graduate masters students), Tulga and Amraa (both under-graduate students). This year research was again based in one large study area in the central Mongolian steppe.

Work continued on the use of artificial nesting sites by Sakers. The artificial nest platforms have now been in place for four breeding seasons but unfortunately the Brant's Voles in the area were poisoned with Bromodialone prior to the 2003 breeding season. Consequently the small mammal population of the area was decimated and has yet to recover. The artificial platforms provide a substrate for 'founder species' such as Upland Buzzard and Raven to build nests, which can then be usurped by Saker Falcons. In 2006, the number of breeding Sakers using the artificial platforms dropped to a single pair, whilst the number of Upland Buzzards has crashed from 29 breeding pairs to 3 over the four years of study. In contrast the number of breeding Ravens has remained relatively constant. Despite the fact that the Brandt's Vole densities have been consistently low over the study period the level of artificial platform occupancy suggests that there is a strong relationship between vole density and the number of breeding pairs of Upland Buzzards. Whether the breeding Saker Falcons exhibit such a strong relationship is not so clear from the small number of pairs that have occupied the platforms over the study period; there are other factors that could have influenced the number of Sakers breeding at the artificial platforms such as nest availability and the use of alternative sites on a nearby electricity line.

Figure 1. Young Saker Falcons at a nest on an artificial platform.

Upland Buzzards are specialist predators that feed to a large extent on small mammals such as Brandt's Voles, whereas Saker Falcons can exploit a wider range of prey species from mammals to birds and Ravens are true generalists. In autumn 2003 we established a new grid of 99 artificial nests that did not require a founder nest to be built before they were suitable for occupancy by Sakers. At these artificial nests 19 were occupied by Upland Buzzards that built nests, 2 were occupied by Sakers and 7 were occupied by Ravens that built nests; the number of pairs that actually laid eggs was 7, 2 and 5 respectively. The breeding rate of Upland Buzzards shows the classic response to food supply of a vole specialist feeder such that only a small proportion of birds that formed pairs and built nests actually attempted to breed. The 99 artificial nests cover an area of 324 km^2 and could easily accommodate more than two breeding pairs of Saker Falcons. Clearly, some factor other than nest site availability limited the level of occupancy at these artificial nests and the most likely explanation is that food supply was the limiting factor. Across the extensive plains of the Mongolian steppe it is likely that many, if not most, areas it is food supply that will limit Saker Falcon breeding densities at a low level and the provision of artificial nest sites is unlikely to increase these densities significantly.

We still do not know how the breeding population of Saker Falcons responds to changes in Brandt's Vole numbers. Intuitively we predict that an increase in prey biomass will result in an increase in the breeding population in our artificial nest area. Unfortunately, the factors that regulate population explosions in the

Brandt's Vole are poorly understood and population peaks do not always have a regular cyclic pattern. Low density populations can persist from 3 to 16 years between peaks thus it may be a long time before we can see if an increase in the Brandt's Vole population leads to a significant increase in breeding Sakers in our artificial nest areas. To obtain a greater understanding of the influence of vole numbers on Saker Falcon breeding densities it may be necessary to establish several artificial nest areas across the plains. In order for this approach to be successful we need to identify areas of steppe with varying densities of Brandt's Voles.

In 2006 we undertook a survey of electricity power lines in our study area to obtain a greater understanding of the use of power poles and pylons as nesting and perching sites for raptors. We surveyed electricity transmission and distribution lines recording the position of nests and perch sites on the poles and pylons. In a 49 km stretch of transmission line there were 8 Raven nests and 4 Upland Buzzard nests, 6 of which were occupied by Sakers. In a 48 km stretch of distribution line there were 8 Raven nests, 1 of which was occupied by a Saker.

Figure 2. Nest of Raven built in a dangerous position on an electricity distribution line. Note trailing wires from nest structure.

Particular designs of poles and pylons were preferred as nesting sites; along the transmission line metal pylons were used as nest sites significantly more frequently than concrete poles and along the distribution line wooden 'A' type tensioning poles were preferred to single wooden poles. The number of both metal pylons and 'A' type wooden poles was much lower than the concrete and single wooden poles along the power lines, with the former only present at direction changes in the transmission line and the latter at *ca*. 3 km intervals along the distribution lines. Consequently, there is scope for increasing the availability of potential Saker Falcon nesting sites by providing artificial nests on concrete and single wooden poles.

A problem with raptor nests on electricity pylons and poles in Mongolia is that the debris (including wire) that is often used in nest construction can come into contact with the electricity cables causing a disruption in power supply. Consequently, power line companies employ line workers to remove raptor nests from the transmission lines, resulting in the destruction of many nests. We are now developing proposals for the electricity company to fit 'nest excluders' and artificial nest sites on poles and pylons to reduce the need for clearance and destruction of raptor nests. Furthermore, power lines can have a detrimental impact on raptors and other large birds through electrocution and collision with the aerial cables. A survey of the power lines in our study area revealed that raptor mortality was generally low from April to August. Problems caused by electrocution of perching birds were mainly confined to individual poles with a poor configuration of insulators. These 'killer poles' can be identified and we intend to inform the power companies of ways in which they can improve the safety of these poles to reduce raptor mortality.

Figure 3. Three Upland Buzzards electrocuted at poorly designed junction point along a distribution line.

Our study area includes two mountain blocks where raptors occupy natural nest sites on cliffs, slopes and trees. We surveyed these areas for breeding raptors

(i.e., Cinereous Vultures, Golden Eagles, Steppe Eagles, Upland Buzzards, Saker Falcons and Ravens). The aim of this survey was to understand how the dispersion of breeding Saker Falcons was influenced by other species in a raptor assemblage. The number and distribution of Saker Falcon nests will be influenced by food supply, nest site availability and competition between conspecifics and other raptor species. The presence of breeding Golden Eagles could potentially exclude smaller raptors such as Saker Falcons from otherwise suitable nesting sites. Furthermore, Saker Falcons in Mongolia usually require an old nest of another species for breeding, thus the dispersion of suitable stick nests across the hill ranges largely determines the potential nesting sites available for Saker Falcons. In the two hill blocks we found 5 and 11 occupied territories but only 1 and 6 pairs subsequently attempted to breed respectively. The low breeding rate exhibited in both mountain blocks was probably due to a poor food supply, though in the latter hill range Sousliks were sighted more frequently than in the former.

Breeding success was monitored at all nest sites in our study area and Saker Falcon whole nest failures were attributed to (i) deliberate removal by power line workers, (ii) predation and (iii) desertion. In addition to quantifying hatching and fledging success we also measured post fledging survival (until late August) by tracking fledglings that were individually marked with wing tags and radio transmitters. In conjunction with our nest monitoring visits we collected prey remains and pellets in order to quantify the breeding season diet across our study area. Furthermore, we collected data on breeding success and diet of other raptors breeding in our study area to examine the extent of dietary overlap within the breeding raptor community.

Figure 4. PhD student, Mark Etheridge radio-tracking young Sakers to assess post-fledging survival.

We continued our satellite tracking studies of Saker Falcons in Mongolia by fitting four transmitters to nestlings all of which fledged successfully and are still providing location data at the time of writing. It is hoped that these fledglings will provide information on post-fledging dispersal and juvenile migration. All nestlings were fitted with microchips, which will enable any birds subsequently trapped and taken to the Arabian Peninsula for falconry to be identified at Falcon Hospitals.

This year we have also been taking biological samples from nestlings to measure the incidence of disease in the Saker Falcon population of the Mongolian steppes. This involved the collection of cloacal swab samples, which will be analysed for the presence of avian influenza by scientists at the University of Alaska Fairbanks, and blood smears for serological tests to reveal exposure to a range of pathogens by veterinarians in the United Arab Emirates. Further co-operation with academic institutions has been achieved by the initiation of a PhD research project at the University of Aberystwyth.

Kazakhstan

In Kazakhstan we have been working with Dr. Anatoliy Levin of the Institute of Zoology and Evgeny Bragin of the Naursum Nature Reserve.

Figure 5. Survey of power lines in the Betpaqdala desert (A. Levin).

Dr. Levin along with Sergei Shmygalev, conducted surveys of Saker Falcons in the southern mountains of Tarbagatei ridge along with Sergey Kulagin an ornithologist from neighbouring Kyrgyzstan in order to train him in Saker Falcon survey techniques.

In the eastern Betpaqdala desert a survey was undertaken along a 195.7 km stretch of electricity power line where the nests of 8 Brown-necked Raven, 55 Long-legged Buzzard, 2 Imperial Eagle and 21 Saker Falcons were located. In this area the most of the electricity poles were of the metal pylon type and thus each one provided a suitable substrate for raptors to build their nests. The high frequency of stick nests along these pylons meant that Sakers had an abundance of potential nesting sites to choose from.

In the forest steppe of north-east Kazakhstan, Dr. Levin undertook a survey of the forest edge for a second year, finding a total of 18 tree-nests with evidence of Saker occupation; at least 10 of these had active eyries. In this habitat Sakers typically occupy Imperial Eagle nests in old-growth trees at the forest edge and in many areas there were no vacant eagle nests available for Sakers. We found eagle nesting trees that had been cut down because the timber from the old-growth pines is highly sought after. One of these sites had been occupied by a Saker in 2005 but the territory was now deserted as there was no suitable nest available. More worryingly was the evidence we found of nest sites being marked, presumably by criminals intent on stealing chicks. We even found an artificial nest at one marked site indicating that this activity is well established and organized.

Figure 6. Saker Falcon nest site (in old Imperial Eagle nest in pine tree on left) that had been marked by stripping branches from a neighbouring tree (right).

Further surveys were undertaken in the Tarbagatei Mountains in the east and at the Naurzum Nature Reserve in the north-west of Kazakhstan. The object of these surveys was to identify a study area for annual monitoring of breeding success and adult turnover.

China

In China we are working with Prof. Ma Ming of the Xinjiang Institute of Ecology & Geography (XIEG), Chinese Academy of Sciences. This year the Chinese team included Tian Leilei, Mei Yu and Chen Ying undergraduate students from the XIEG, Shihezi University and Fujian Forestry University respectively.

For a second successive year fieldwork was undertaken in the eastern Junggar Basin. This research involved a survey of all large raptor species to obtain information on the factors affecting breeding dispersal in the region. In total nine occupied Saker nests were found in the same 6500 km^2 study area where we had located only six nests in the previous year. Of the six breeding pairs located in 2005, two reused the same nest in 2006, three used different sites within the same putative breeding range and one breeding range was deserted. There were a further four breeding ranges occupied by Sakers in 2006 that were not occupied in 2005. Young were fledged from six eyries, with brood sizes ranging from 2 to 5 chicks. Of the three nests that failed, one clutch of eggs was abandoned, one brood of small chicks was blown from the nest cavity and a third brood were probably taken by locals. In addition to these Saker Falcon nests, a possible mixed-pairing of Saker and Barbary Falcon was recorded (see report elsewhere in this issue).

Figure 7. Young Saker Falcons at a nest in the Junggar Basin, NW China (I. Balasz).

An attempt was made to survey the Chinese sector of the Tarbagatei Mountains but we were prevented from doing so by the military border patrols. Nevertheless, in one river valley here we found an abundance of raptors associated with a high density population of Sousliks.

These raptors included breeding Saker Falcon, Long-legged Buzzard and Golden Eagle.

South-East Europe
We are working with Dimitar Ragyov of the Bulgarian Academy of Sciences, who this year established a nationwide survey of Bulgaria in conjunction with the Bulgarian Society for the Protection of Birds (see Falco 27). The survey failed to reveal any existing breeding Sakers in the country despite all previously known sites being checked. Other potential areas were also checked but with no positive result. The Saker Falcon is now probably extinct in Bulgaria and conservation efforts must now turn towards restoring the species as a breeding bird in the country.

In addition to conducting survey work in Bulgaria, we have established a web forum for Saker researchers working in the under-recorded regions of South-East Europe. This network includes researchers from several countries including Turkey. It is hoped the network will provide a means by which researchers can obtain research funding and discuss results of their work with colleagues across the region.

We have continued to fund survey work in the Ukraine by Vitaly Vetrov and Yuriy Mylobog. Their surveys of the power lines in southern Ukraine have identified the largest country population of Saker Falcons in Europe with an estimated 250-300 breeding pairs.

Field Assistant Programme
In 2006 we continued our programme of involving field assistants in our research studies. The aims of this programme are to improve the understanding of our EAD funded field studies among a wider network of raptor workers, to assist in the development of research skills of our field teams and to encourage and provide an opportunity for young researchers to work on Saker Falcons. Most field assistants are university graduates looking to obtain field research experience. In Mongolia our field assistants were Shane MacPherson (a graduate of Massey University with radio-tracking experience), Mia Jessen (a veterinary assistant from Dubai) and Olya Milenkaya (a graduate of Warren Wilson College, North Carolina with field research experience). In Kazakhstan our field assistant was Tomas Kunca, a graduate of Salford University with experience of working with raptors. In China our field assistants were Istvan Balasz (a graduate of Debrecen University and a raptor worker from Hungary) and Ivailo Angelov (a graduate from Sofia University and a raptor worker from Bulgaria).

Thanks are due also to Batsaikhan and Zorigkhand, our drivers in Mongolia and Mr. Ren, our driver in China.

Possible mixed pairing between Saker Falcon (*Falco cherrug*) and Barbary Falcon (*Falco pelegrinoides*) in China

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During a field survey for Saker Falcons (*Falco cherrug*) in the eastern Junggar Basin, Xinjiang, China we located a falcon eyrie that appeared to be occupied by a mixed-species pairing of a Saker Falcon and a Barbary Falcon (*Falco pelegrinoides*). The chronological sequence of our observations is set out below.

In the afternoon of 20th April 2006, Ivailo Angelov (AI) and Mei Yu (MY) were searching an area of basaltic hills in the eastern Junggar Basin as part of a survey for Saker Falcons. We found an old nest of Golden Eagle (*Aquila chrysaetos*), which had obviously been successfully used by the eagle the previous year. The nest was on a rock face at the top of a steep sloping hillside. No bird could be seen on the nest from below and there were no large falcons observed near the nest or on the cliffs around. Only a pair of Common Kestrels (*Falco tinnunculus*) was seen flying around, sometimes some tens of meters over the old nest of Golden Eagle. Immediately after the old Golden Eagle nest was found, we climbed to it to check for the previous years prey remains. When climbing we did not constantly look for a bird which could fly away from the nest, because we thought it was empty. On reaching the nest, which was quite easily accessible, we found four "Saker-type" eggs in the nest. They were obviously fresh, being very bright, not dull, indicating that they had not been incubated or incubated for a short time. We did not touch the eggs. We left the nest immediately and waited for about 20 minutes at a distance of *ca*. 400 m, but no birds appeared near the nest in 40 minutes observation.

On the 16th May, IA and Lei Lei (LL) undertook an observation of the nest for 1 hour from *ca*. 14:00. During this time a female Barbary Falcon was stood *ca*. 15 m west from the nest and a male Saker was stood

ca. 75 m to the east. The Barbary Falcon stood on a big ledge in shadow, whilst the Saker was stood in the shade of a 2 m long niche in the rocks. The two birds stayed in their respective positions for one hour without flying or giving any vocal activity. At the beginning of the observation a male Common Kestrel, probably breeding on the same cliff, attacked the Barbary Falcon twice. In comparison with the male Common Kestrel the Barbary Falcon was only about 1.5 times bigger, with this size difference being more noticeable in the width of the breast than in the length of the body.

Description of the Barbary Falcon: grey back and wings, breast and belly cream-coloured with very fine barring on the upper sides of the trousers and left and right side of the belly. Eyebrows and nape rufous, connecting each other. The top of the head was dark brown, moustaches black and very distinctive, sharply contrasting with the white cheek. The legs and cere were bright yellow. Description of the Saker Falcon: brown back and wings, white nape, dark forehead, bright white eyebrows, white breast without any spots, streaked with big brown spots on the trousers and the lower part of the belly.

On the 17th May, IA, LL and Istvan Balasz observed the nest for 4 hours from 11:00. During this period no large falcons were seen. The nest was checked and it was clear that the eggs had been abandoned as they were cold and partly covered with branches from the old eagle nest. Two pairs of Lesser Kestrels and a pair of Common Kestrels were observed at the same cliff.

On the 28th May we visited the nest site in order to weigh and measure the deserted eggs but unfortunately they had been eaten by a predator. There were broken shell fragments in the nest but no evidence of any embryo formation could be seen. The shell colour was still bright suggesting that they hadn't been incubated. Whilst we were in the nest area a single Saker was seen flying high about one km NE from the nest.

At no time during any of the above visits was a pair of Saker Falcons seen at the nesting site. A comparison of size between the Saker and the Barbary Falcon seen at the nest site suggests that the Saker was a male bird and the Barbary Falcon was a female.

Possible scenarios to explain our observations are: (i) there was initially a normal pairing of a male and female Saker Falcon that resulted in the production of a clutch of four eggs but the female Saker subsequently died and was temporarily replaced by a female Barbary Falcon, or (ii) that this was a mixed-species pairing resulting in the production of a clutch of eggs laid by a female Barbary Falcon. In captivity hybrids have been produced through crossing Saker Falcons with Barbary Falcons, both via artificial insemination and copulation, but a recent review of avian hybrids (McCarthy, 2006) did not report any documented cases of hybridisation between Sakers and Barbary Falcons in the wild. In fact, the only reference to hybridisation involving wild Saker Falcons comes from Slovakia where a wild female apparently produced offspring with a Peregrine x Saker hybrid; a further six instances of assumed cross-breeding with hybrids have been claimed in Slovakia (Nagy & Demeter, 2005).

Figure 1. Barbary Falcon photographed in NW China. (Ma Ming)

In places where the breeding ranges of Saker Falcons and Barbary Falcons overlap (i.e., parts of Asia Minor and Central Asia) there are few observers so the chances of a mixed species pairing being detected is low. Nevertheless, it is reasonable to assume that Saker-Barbary Falcon pairings are rare and that behavioural and ecological differences generally prevent the two species forming pair bonds. Our study area in the eastern Junggar Basin lies outside the normal breeding range of the Barbary Falcon in north-west China, thus any female here is less likely to find a mate of its own kind. A lack of available conspecific mates is regarded as one of the prime causes of hybridisation in wild birds (McCarthy, 2006). 'Natural pairings' in captivity show that behavioural barriers to Saker-Barbary Falcon pair formation and copulation can be surmounted. However, in the wild there is a marked dietary difference between Sakers and Barbary Falcons, with the former preying predominantly on mammals and the latter feeding principally on birds. This dietary difference may make mixed-species pairings between the two species difficult to sustain and reduce the likelihood of successful hybridisation.

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An Evaluation of the Endurance Test as an Indication of Respiratory Diseases in Falcons

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Summary

This paper summarises a study performed at the Fahad bin Sultan Falcon Centre (Riyadh, Kingdom of Saudi Arabia) and at the Dubai Falcon Hospital (Dubai, UAE) from September 2003 to November 2004, where 400 hundred respiratory rates at rest (RR) and after the Endurance Test (RE) were measured in falcons undergoing clinical examination. Falcons were grouped according to age (juveniles and adults), training stage (trained and untrained) and health status (clinically normal, respiratory diseases and other diseases) criteria. Resting respiration and RE results were compared between the three health status groups under the same category (age and training stage). When significant differences where detected, pairwise comparisons of these groups were performed. Statistical analysis showed significant differences of RR and RE between the three diagnosis groups in trained and untrained adult falcons. Pairwise comparisons indicated that falcons suffering from respiratory diseases had significantly higher RR and RE than clinically normal falcons.

Introduction

Disorders of the respiratory tract are frequent reasons for falcons to be presented for examination at the falcon hospitals in the Middle East. These include, fungal (e.g. aspergillosis), parasitic infections (e.g. serratospiculiasis), as well as bacterial diseases (e.g. *Pseudomonas* spp.).

Increased respiratory rate of the avian patient at rest and after a controlled endurance exercise (defined as "Endurance Test" in this paper and named in the bibliography as "Stress Test") is considered by some veterinarians to indicate that the respiratory tract is compromised (Lierz 2000, Samour 2000, Anon 2003). A high respiratory rate at rest and/or a respiratory rate that does not decrease to the resting value shortly after the Endurance Test (ET) are generally assumed to be abnormal.

The Endurance Test (ET) is used as part of the routine clinical examination of falcons at some falcon hospitals in the Middle East (Lierz 2000, Samour 2000, Anon 2003). From September 2003 to November 2004, a study was performed at the Fahad bin Sultan Falcon Center (Riyadh, Saudi Arabia) and at the Dubai Falcon Hospital (Dubai, U.A.E) with the objective of assessing the usefulness of a standardized ET in the differential diagnosis of falcons suffering from respiratory diseases. Several factors that were suspected to have an influence on the respiratory rate of birds, such as age or training state, were also evaluated during the study.

Materials and Methods

Four hundred falcons were included in the study. Among these, 231 birds were examined at the Fahad bin Sultan Falcon Center and 169 at the Dubai Falcon Hospital. The species involved included: Saker Falcon *(Falco cherrug)* (201), peregrine falcon *(F. peregrinus)* (53), gyrfalcon *(F. rusticolus)* (27), lanner falcon *(F. biarmicus)* (5), gyrfalcon x peregrine falcon hybrid (83), gyrfalcon x saker falcon hybrid (26), gyrfalcon x red-naped shaheen *(F. pelegrinoides babylonicus)* hybrid (3) and gyrfalcon x lanner falcon hybrid (2).

Figure 1. Ahmed Kutti performing an endurance test on a falcon at Dubai Falcon Hospital

The ET consisted of measuring the respiratory rate per minute at rest and two minutes after a 30 second endurance exercise of each falcon. On arrival at the hospitals, each bird was allowed to rest at room temperature (23° C) for at least 30 minutes. Then, measurement of the resting respiratory rate (RR) per minute of the bird standing on a perch in the clinical examination room at the same temperature was taken.

Afterwards, the endurance exercise was performed with the bird held by the jesses and standing on the left hand of the handler protected with a falconers glove (Figure 1). The hand was moved up and down with slow wide movements in a way that the bird had to flap its wings continuously in order to keep its balance. After 30 seconds the bird was allowed to rest for two minutes, after which a fit bird is considered to be able to recover a normal RR (Samour 2000). Then, the respiratory rate per minute was measured again and this result was considered as the post-Endurance Test respiratory rate (RE; Figure 2).

A complete clinical examination (physical examination, parasitology analysis of faecal samples and saline crop swabs, endoscopic examination of the caudal thoracic airsacs including bacteriology, mycology and cytological analysis of airsacs samples, radiology of the whole body, biochemistry and haematology) was performed for each bird.

Health status, age and training stage were suspected to have a strong influence on the RR and RE results of the falcons and therefore birds were classified as follows (Table 1):

a) According to the results of the health examination: clinically normal falcons,
b) falcons suffering from respiratory diseases of the lower respiratory tract and falcons suffering from other diseases that did not involve the respiratory tract.
c) According to age: juveniles (birds < one year of age) and adults (> one year of age).
d) According to training stage: untrained falcons (falcons coming out of the moulting chambers, under treatment, not flying or unfit for different reasons) and trained birds (falcons being trained, hunting or just recently wild caught).

Statistics were carried out using SPSS 12.0 for Windows. Since the samples were not normally distributed, the Kruskal-Wallis test for non-parametric samples was used to detect significant differences ($P < 0.05$) of RR and RE among groups of juvenile and adult falcons. Pair wise comparisons were carried out using the Mann-Whitney *U* test.

Results and discussion

Due to the presence of outliers in most of the groups, no normal ranges of RR and RE could be concluded after the statistical analysis. Confidence intervals (95%) of the median for the RR (22 to 24 breaths per minute for all ages in general, 22 to 25 for juveniles and 24 to 26 for adults) and RE (32 to 36 breaths per minute for all ages in general, 32 to 44 for juveniles and 37 to 43 for adults) of clinically normal falcons provide an indication of normal ranges. However, these results differ slightly from RR (20 to 25 breaths per minute for all ages in general) and RE (23 to 28 breaths per minute for all ages in general) ranges frequently observed and considered standard in clinically normal falcons at the Fahad bin Sultan Falcon Center (Samour 2005, personal communication).

All groups of falcons in the study presented a median RE value higher than their RR. The fact that this result was observed both in trained and untrained clinically normal birds, could indicate that clinically normal falcons might need a resting period after the ET longer than two minutes to return to their RR. Median values and confidence intervals for the median of RR and RE for all groups are shown in Table 1.

In the adult population, falcons suffering from respiratory tract diseases presented with significantly higher values of RR and RE than the clinically normal falcons in both the trained and the untrained categories, while the falcons affected by other diseases did not show consistent results. Clinically normal untrained adult falcons showed significantly higher values of RR and RE than clinically normal trained adult falcons. This indicates that training had an influence decreasing the RR and RE of adult falcons.

Figure 2. A technician at the Fahad bin Sultan Falcon Center measuring the resting respiration rate in a falcon

In juvenile falcons, RE values in untrained birds affected by respiratory tract diseases were significantly higher than in the untrained clinically normal falcons. In the trained category, no significant differences were detected between clinically normal falcons and falcons affected by respiratory diseases. No significant differences in RR were detected among the juvenile falcons.

When comparing the juvenile and adult population, the untrained clinically normal juveniles presented with lower median RR and RE values than untrained

clinically normal adults. However, significant differences were detected only between the RR. The different values obtained among the adult and juvenile population together with these findings support the effect of age on the RR and RE of clinically normal falcons.

Similar results to the adult population were obtained when age criterion was ignored and falcons were classified according to training stage and health status. When only health status was considered and training stage and age were ignored, the results followed the same pattern. This was assumed to be due to the higher proportion of adult falcons in the study (257 falcons out of 400, almost two thirds of the total population).

Conclusions

The study demonstrates that the ET could provide an indication of respiratory disease in adult falcons, but this test has to be interpreted cautiously in juvenile birds. The lack of significance among the juvenile falcons is thought be due to several factors not analysed in this paper, such as nervous behavior, nutritional condition, weight in relation to size and breed. The effect of these factors on the ET need further study.

Due to the above and other significant differences found in the analysis, age is shown to be the most relevant parameter at the time of performing the ET. Training stage was also proved to be important both for RR and RE mainly in adult falcons.

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Table 1: Number of falcons (N) and values (median[a] and 95% confidence interval for the median[b]) of respiration rate before (RR) and after (RE) the endurance test examination.

		Clinically normal			Respiratory Tract infection[1]			Other Diseases[2]		
Age	**Training stage**	**N**	**RR**	**RE**	**N**	**RR**	**RE**	**N**	**RR**	**RE**
Juveniles	Trained	22	24.00[a] (20.00-25.19)[b]	36.00 (24.00 -38.00)	22	24.00 (24.00 – 28.00)	32.00 (28.00 – 45.95)	18	24.00 (20.00 -28.00)	32.00 (28.00 –35.09)
	Untrained	20	20.00 (18.85 – 28.00)	28.00 (24.00 – 47.67)	51	24.00 (24.00 – 28.00)	48.00 (38.01 – 75.00)	10	24.00 (19.21 -42.48)	36.00 (23.61–121.98)
Adults	Trained	58	23.00 (22.00 – 24.00)	32.50 (30.00 – 36.00)	32	28.00 (26.00 – 29.96)	46.00 (41.00 – 59.91)	34	26.00 (24.00 – 30.00)	42.00 (36.70 – 48.00)
	Untrained	50	26.00 (24.00 – 27.00)	36.00 (33.07 – 42.00)	47	28.00 (26.93 – 32.22)	53.00 (44.78 – 72.00)	36	26.00 (23-00 – 28.00)	43.50 (37.00 – 60.00)

[1] Falcons suffering from **respiratory tract infections** (148 falcons) were classified as follows: Acute (27) and regressed (21) aspergillosis, bacterial airsaculitis (37), mixed fungal and bacterial airsaculitis (4) and Serratospiculiasis (59). [2] Falcons suffering from **other diseases** (102 falcons) were classified as follows: amyloidosis (2), crop trichomoniasis (12), candidiasis (5), intestinal coccidiosis (30) and other parasitosis (cestoda, nematoda and trematoda) affecting the gastrointestinal tract (23), lead toxicosis (6), viscerotropic Newcastle disease (5), bumblefoot (1), foreign bodies and gastrointestinal tract impaction (7), hepatitis (4), splenitis (3), septicemia (3) and other symptomatic undiagnosed diseases (11). Several falcons presented with more than one condition at the same time.

Avian Influenza

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Summary
Avian influenza virus belongs to the Orthomyxoviridae. Only Influenza A is of veterinary importance and is divided into subtypes H1 to H16 and N1 to N9. Subtypes H5, H7 and H9 possess a high pandemic potential. Currently H5N1 poses a severe threat to humans and avian species. All birds are thought to be susceptible, and H7 and H9 have been isolated from a number of bird species in the U.A.E. The virus can cause high mortality in some avian species and no clinical signs in others. There are very good laboratory tools available for the diagnosis of avian influenza. Valuable birds should be vaccinated with a dead H5N2 vaccine.

Etiology
Avian influenza virus (AIV) belongs to the Orthomyxoviridae, which is divided into 3 types: A, B and C. Only Influenza A is of veterinary significance. Influenza viruses have 2 surface antigens that are important for their identification and control. They are haemagglutinin (H) and neuraminidase (N), which divide the influenza viruses into subtypes. To date, 16H (H1 to H16) and 9N (N1 to N9) subtypes have been detected in wild birds and poultry throughout the world. Subtypes H5, H7 and H9 posses a high pandemic potential (Webster and Huke, 2004). The Spanish flu caused by H1N1 killed approximately 50 million people worldwide in 1917/18 (WHO, 1980; Spielmann et al., 2004). Recently, H5N1 has become a major potential threat to both avian and human life. The Office International des Épizooties (OIE) differentiates between highly pathogenic influenza virus (HPAIV), which is a list A disease, and low pathogenic influenza virus (LPAIV).

Host Range
All birds are thought to be susceptible to AIV and the virus has been isolated from a wide variety of wild birds including migratory waterfowl and shore birds such as gulls, terns, turnstones and sandpipers (Promed, 2005). It also affects domestic turkeys and chickens. Emus and geese are also susceptible, whereas ducks and pigeons are more resistant (Munster et al., 2005 in print). Ducks especially may carry the virus around the globe. In the U.A.E., 34 AIV's have been isolated over a 10 year period from a falcon, chickens, houbara bustards, quail, stone curlew and plovers. They belonged to the H7 and H9 subtypes (Table 1). A HPAIV H7N3 was isolated from a Peregrine Falcon (Manvell *et al*., 2000; Wernery and Manvell, 2003).

Table 1. Influenza virus strains isolated from avian species in the United Arab Emirates (U.A.E.)

Avian species	Amount	Strain
Peregrine Falcon	1 1	H7N3 H7N1
Chicken	7	H9N2
Houbara Bustard	3 7	H9N2 H7N1
Quail	7	H9N2
Sudanese Bustard	1	H9N2
White-bellied Bustard	4	H9N2
Stone Curlew	2	H9N2
Blacksmith Plover	1	H9N2
Total	**34**	

The current H5N1 outbreak originated in Asia and the present trail of infection follow the north-south migratory routes of wild birds from Kazakhstan and Russian territories towards Turkey, Romania and Croatia, but this in itself cannot be taken as proof for migratory bird populations spreading the virus (Promed, 2005). Sampling of migratory birds has failed to turn up significant numbers of asymptomatic H5N1 carriers.

Clinical features
The virus may cause high mortality in some avian species and no clinical signs in others. The U.A.E. the HPAIV isolated from a peregrine was harmless for the falcon, but killed chickens within 3 days (Manvell *et al*., 2000). When clinical changes are present they include mild to severe clinical signs, anorexia, depression, decreased egg production, diarrhoea. HPAIV strains like H5N1 damages the endothelia cells resulting in bleeding disorders and fast death (Garrett, 2005). In houbara bustards, the birds developed dyspnoea, lethargy, discharge from eyes and nares, severe tracheitis, pneumonia and prancreatitis (Wernery *et al*., 2004).

Diagnosis
Virus isolation is essential not only to establish the cause of an outbreak, but also to assess the virulence of the causative virus. Specialized laboratories have to assess if the virus isolated is a HPAIV or a LPAIV. The virus is best isolated from cloacal and/or oropharyngeal swabs sent in virus transport medium or from ground tissue specimens and inoculated into allantoic cavity of 10 to 12-day-old embryonated chicken eggs and onto monolayers of CEF-cell cultures. Isolated strains are subjected to haemagglutination inhibition test (HIT), ELISA's and chicken infection experiments. Antigen

capture ELISA tests are also available from different companies and the results are available within 24 to 48 hours, but only indicate a positive or negative result. PCRs are also available. Serology is of less value but HIT or ELISA should be carried out for surveys or after vaccination.

Prevention and Control

AIV is not eradicable and prevention and control are the only realistic goals (Wernery, 2006 in prep.). The following recommendations should be initiated in the Middle East:

- **Monitor movements of poultry between farms and markets.**
- **Monitor birds in live markets and exports/ imports.**
- **Improve biosecurity measures (e.g. prevent contact with wild aquatic birds).**
- **Separate land-based poultry and aquatic avian species in farms and markets.**
- **Close live bird markets and keep all poultry indoors while HPAIV is circulating in the region.**
- **Conduct serological and other epidemiological studies in wild birds to determine whether HPAIV became established in wild population.**
- **Allow controlled effective vaccination in response to virulent outbreaks.**
- **Vaccinate valuable birds like falcons, houbara bustards, psittacines and zoo birds.**

So far, no H5N1 vaccine is available neither for birds nor for humans. However, H5N2 dead AI vaccines are available and should be used. It has been shown that the vaccine produces a good immune response in a number of vaccinated bird species (Oh *et al*., 2005), and ceased mortalities caused by H5N1 in chickens 18 days after a single vaccination (Ellis *et al*., 2004). Birds should be boostered 4 to 6 weeks after the first injection and vaccinated annually. When H5N1 vaccines are available, they should replace the H5N2 vaccines.

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The UAE Falcon Passport

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The Falcon Passport, created in 2002 to comply with requirements of the international convention CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) and to aid in cross-border movements of falconers with their birds, is now in its fourth year of operation. CITES is an international agreement that regulates the international trade of certain species. The UAE is a signatory member of this agreement and must ensure that proper and legal trade regulations are in place within the country.

The CITES Convention works on a system of Appendices to categorize the threat of endangerment by trade to each species. Appendix I includes species threatened with extinction due to trade and these species are subject to very strict regulations in order not to further endanger their survival in the wild. Appendix II includes species which may become threatened with extinction if trade is not subject to regulations. Appendix III includes species which any Party to the Convention identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation.

The UAE created the Falcon Passport in response to the CITES Convention and to keep international trade and falcon transport regulated. The CITES Management Authority in the UAE is the Ministry of Environment & Water (previously the Ministry of Agriculture & Fisheries and the Federal Environment Agency) while the Scientific Authority is the Environment Agency-Abu Dhabi. It is the responsibility of these competent

authorities to ensure that CITES is properly enforced and that Falcon Passports are appropriately received by those who register their falcons under the necessary guidelines.

Since 2002, over 3000 Falcon Passports have been issued. In 2003, the first full year in effect, there were 696 passports issued. This was followed by 891 passports issued in 2004, 1370 in 2005 and 134 passports issued in the first 2 months of 2006. Since each falcon must have its own passport, over 3000 falcons have been legally registered through the UAE to obtain this. Most of these birds have been captive bred Gyr falcons, Saker falcons, Peregrine falcons or hybrids imported from Germany, Canada, United Kingdom or United States of America.

The UAE Management Authority feels that the enforcement and implementation of CITES continues to strengthen. They have also noted that illegal smuggling has decreased due to the eruption of the Avian Influenza.

EWS-WWF continues to have a CITES project in place and is currently working closely with the UAE Management Authority on properly training authorities and customs officials on the implementation and enforcement of CITES in the UAE.

Time to Upgrade the Falcon Passport to include Vaccination Information?

Tom Bailey and Antonio Di Somma

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Another falconry season is upon us. The months of September and October have passed in a flurry of activity by the falcon veterinarians who have been busy conducting pre-purchase examinations for their clients and sponsors throughout the region.

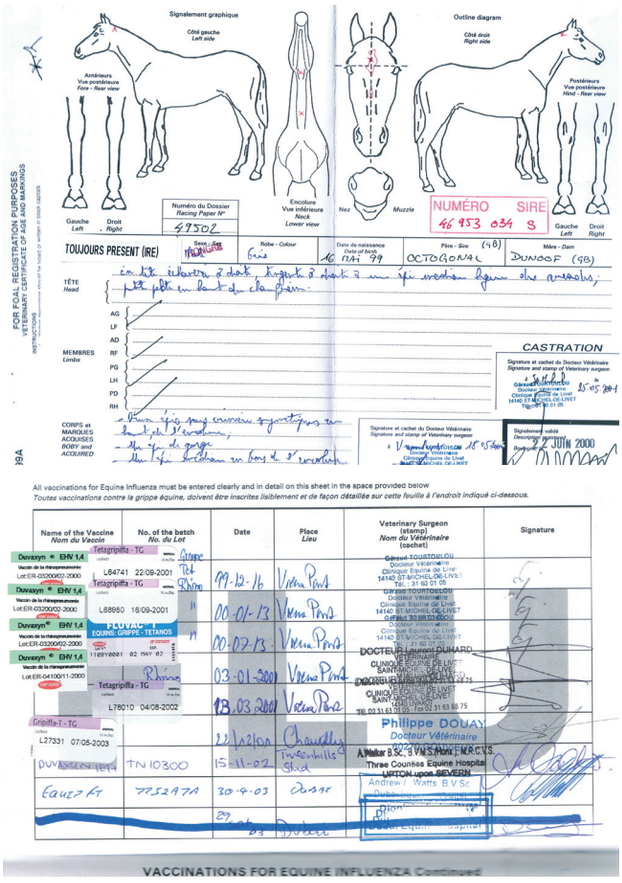
We cannot be the only vets in the Middle East who get presented with birds that have 2 or 3 fresh sutures behind their ribs, indicating that they have had multiple endoscopic examinations in as many days. Some birds seem to go from clinic to clinic, where they are not only endoscoped, but presumably also given vaccination after vaccination. While every falcon hospitals will have it's 'loyal' clients, there are many birds that either because their owners enjoy seeking second and third opinions, or because they are sold or given to new owners, that will end up being registered as a new case by a hospital and subsequently will be vaccinated again and again and again.

There is no doubt that the widespread use of Newcastle disease vaccination has reduced the incidence of this killer disease of falcons in the region over the past decade. However, it is common sense that repeated vaccinations within a short space of time are not only unnecessary, but may even be counterproductive or dangerous to falcons. There is concern in some exotic avian species that amyloidosis can be induced or exacerbated by either the vaccine or the adjuvant. Is it just a coincidence that since the opening of more falcon hospitals in the region over the last 5 years, particularly in the UAE, that amyloidosis appears to have become an 'emerging' disease in falcons?

There may also be statutory reasons why vaccinations should be recorded and perhaps this is an urgent consideration at the current time with the regional concerns over avian influenza. A bird that has been vaccinated with the H5 influenza vaccine will show a positive antibody titre if a blood samples is tested, say at an airport by Ministry of Animal Wealth officials. An official vaccination record that is recognised by the Ministry may be needed to demonstrate that this titre is a result of vaccination seroconversion, rather than exposure to influenza during a hunting trip in Central Asia or Pakistan. It is even possible for laboratory tests to be able to differentiate between antibodies developed against the commercial vaccine strain or to the field strain of the virus.

Perhaps it is time for the existing Falcon Passport to be adapted so that vaccinations given to individual falcons can be recorded? This is standard practice in equine medicine and an example of a 'horse passport' showing the vaccination page is shown in the accompanying figure. Views and opinions from readers of *Falco* on this topic would be welcome for the next issue.

Figure 1.



Normal Haematological Values in Gyrfalcons (*Falco rusticolus*)

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Summary

A haematological study was carried out on 25 clinically normal wild-caught female Gyrfalcons (*Falco rusticolus*) in order to establish normal haematology reference values for this species. The results (see Table 1) are compared with values obtained in captive-bred Gyrfalcons, Saker (*Falco cherrug*) and Peregrine Falcons (*Falco peregrinus*). Emphasis is made on the use of adequate staining techniques for the correct identification of cells in the differential white cell count.

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Table 1. Haematology values of clinically normal adult female Gyrfalcons (*Falco rusticolus*) (Samour et al, 2006).

Assay	**Gyrfalcons** Wild-caught	**Gyrfalcons** Captive-bred (1)
RBC x 10^{12} /l	3.91 ± 0.14* (3.1 - 5.12)	3.23 ± 0.28**
Hb g/dl	18.85 ± 0.23 (16.0 – 21.2)	15 ± 1.33
PCV %	51.36 ± 0.90 (44 – 59)	45 ± 0.04
MCV fl	135.83 ± 3.59 (106.18 – 162.36)	139.32 ± 5.44
MCH pg	49.44 ± 1.32 (39.17 – 59.67)	45.78 ± 1.84
MCHC g/dl	36.41 ± 0.16 (35.47 – 37.84)	-
WBC x 10^9 /l	7.3 ± 0.38 (4.2 – 10.8)	8.71 ± 3.80
Heterophils x 10^9 /l	4.67 ± 0.34 (2.31 – 8.85)	58.53 ± 12.98 %
Lymphocytes x 10^9 /l	1.43 ± 0.10 (0.48 – 2.36)	37.54 ± 12.98 %
Monocytes x 10^9 /l	0.42 ± 0.05 (0.03 – 0.9)	3.72 ± 2.50 %
Eosinophils x 10^9 /l	0.27 ± 0.04 (0.0 - 0.68)	0.20 %
Basophils x 10^9 /l	0.05 ± 0.02 (0.0 – 0.29)	0.00 %
Thrombocytes x 10^9 /l	22.57 ± 1.04 (12.67 – 29. 93)	-
Fibrinogen g/l	3.61 ± 0.21 (1.72 – 5.63)	-
n	25	187

+ Mean ± Standard Error of Mean, (Maximum - Minimum), ** Mean ± Standard Deviation
(1) Wernery et al. (2004).

Letters:

Avian Influenza Vaccination in Falcons

Dear Sir,

We are writing to update you on some observations we have made regarding the use of avian influenza (AI) vaccines in falcons. Falcons are susceptible to AI and highly pathogenic AI serotypes (H5 and H7) which have been isolated in the peregrine falcon (*Falco peregrinus*), saker falcon (*F. cherrug*), common buzzard (*Buteo buteo*) and crested hawk eagle (*Spizaetus nipalensis*) (Magnino *et al.,* 2000; Manvell *et al.,* 2000; Van Borm *et al.,* 2005).

In order to predict the efficacy of the vaccination in falcons, inactivated H5N2 vaccine (Nobilis Influenza H5, Intervet) was given subcutaneously to 30 healthy birds receiving routine examinations at Dubai Falcon Hospital (DFH) from November 2005 to January 2006. The birds included 12 gyr falcons (*F. rusticolus*), 2 peregrine falcons, 1 saker falcon and 15 gyr-hybrids. Falcons <1 kg received 0.5ml vaccine and birds > 1kg received 1ml. A second dose was given in all cases, but most of the falconers did not follow the recommended vaccination protocol and return for the booster after 3-4 weeks. Pre- and post first vaccination titres were investigated in all falcons, but it was possible to check one bird after the booster vaccination. The serological technique used to detect antibody to H5N2 was haemagglutination inhibition (Obon *et al.*, in press). On day zero, 27 birds were negative for AIV antibodies, while 3 falcons, one peregrine and two hybrids, tested positive. These three seropositive birds were excluded from the study (Table 1, P1, H6, H15). A second blood sample was taken the same day the second dose of vaccine was given. No adverse reactions were noted following the use of the vaccine in falcons.

An irregular seroconversion rate was observed (Table 1). Only 15 of 27 birds developed antibodies against avian influenza after the first vaccination. A clue for this lack of uniformity in the results could be that the falcons were vaccinated and sampled to check for humoral response at different time intervals. While some were sampled soon (1-3 weeks after primary vaccination), others were sampled late (up to 14 weeks after primary vaccination). Another explanation for the irregular seroconversion could be that the falcons received other vaccines (for paramyxovirus type 1 and poxvirus). It is possible that these vaccines interfered with the seroconversion to the AI vaccine. We did not have control animals in our field study, so we cannot rule out the possibility that seroconversion may have occurred because of exposure to field virus. Although no H5 cases were reported in the UAE during this time, many of these birds went on hunting trips to countries where H5 has been reported (Saudi Arabia and Pakistan) and the possibility of contact with infected animals cannot be ruled out.

Although the titres recorded in the falcons were intermediate level, we have to consider that these animals had only received one dose of vaccine at that stage and a higher protection could be expected after the booster. In a parallel study on the efficacy of inactivated H5N2 vaccine on different exotic bird species, higher titres of AI antibodies were recorded one month after a booster dose of vaccine (Obon *et al.*, in press). We do not know what titres are protective in falcons, but if we compare our results with poultry (Tian *et al.,* 2005), it appears that there is a good immune response in the seropositive birds. It is known from experimental data in poultry that vaccination protects against clinical signs and mortality, reduces virus shedding and increases resistance to infection (Capua *et al.,* 2004). However, the virus is still able to replicate and shed in clinically healthy vaccinated birds and careful use of vaccines in animals that could be exposed to infected animals is important. It would be interesting to vaccinate and test all birds on a similar schedule because these results show a clear lack of uniformity and it is difficult to draw many conclusions about the efficacy of the vaccine. A more detailed study is needed to understand the efficacy of inactivated AI vaccines in falcons.

Acknowledgments

We thank H.H Sheik Hamdan bin Rashid al Maktoum for his support of the DFH. We also thank Mr.Humaid Obaid al Muhari and the staff of the DFH and the CVRL for their technical support.

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Table 1. Serological response of 30 falcons to vaccination with H5N2 avian influenza vaccine.

Species	Id	Titre day 0	Titre 2nd dose vaccine	Time between vaccines
Hybrid falcons (GxP, GxS)	H1	0	1:64	11 weeks
n=15	H2	0	0	12 weeks
	H3	0	0	2 weeks
	H4	0	1:32	14 weeks
	H5	0	1:32	14 weeks
	H6	1:32	1:256	excluded from study
	H7	0	1:64	5 weeks
	H8	0	0	3 weeks
	H9	0	1:256	10 weeks
	H10	0	0	1 week
	H11	0	1:32	10 weeks
	H12	0	0	3 weeks
	H13	0	0	4 weeks
	H14	0	0	9 weeks
	H15	1:128	1:256	excluded from study
Gyrfalcon (*Falco rusticolus*)	G1	0	1:32	13 weeks
n=12	G2	0	1:16	15 weeks
	G3	0	1:32	14 weeks
	G4	0	0	4 weeks
	G5	0	0	3 weeks
	G6	0	1:64	11 weeks
	G7	0	1:64	8 weeks
	G8	0	0	7 weeks
	G9	0	1:64	6 weeks
	G10	0	0	3 weeks
	G11	0	1:32	9 weeks
	G12	0	1:32	4 weeks
Peregrine Falcon (*Falco peregrinus*)	P1	1:32	1:64	excluded from study
n=2	P2	0	0	3 weeks
Saker Falcon (*Falco cherrug*)	S1	0	1:256	4 weeks
n=1				
TOTAL	**30**			

Photographic Visualization of a Laparoscopy Procedure in a Small Raptor

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Summary

For educational purposes, photographs were taken during a necropsy of a Cooper's Hawk (*Accipiter cooperii*) to visualize the endoscopic procedure for a left laparoscopy. The bird had been humanely euthanized for other medical reasons.

Endoscopy, the direct visualization of organs and body cavities using an endoscope, became popular in avian medicine in the 1960s and 1970s for sex determination (Samour 2000, Hochleithner 1997). Today, endoscopy plays an important role in routine diagnostic procedures in birds and other taxa, especially for fungal respiratory tract infections (Deem 2003). Internal organs and tissues can be examined and sampled if necessary. More and more, endoscopy is becoming popular for minimally invasive surgery in birds, such as vasectomy. While various approaches have been developed and described (Taylor 1994), this report focuses on one of the most common approaches in several avian species, including the *Falconiformes* (Taylor 1994, Kollias 1988).

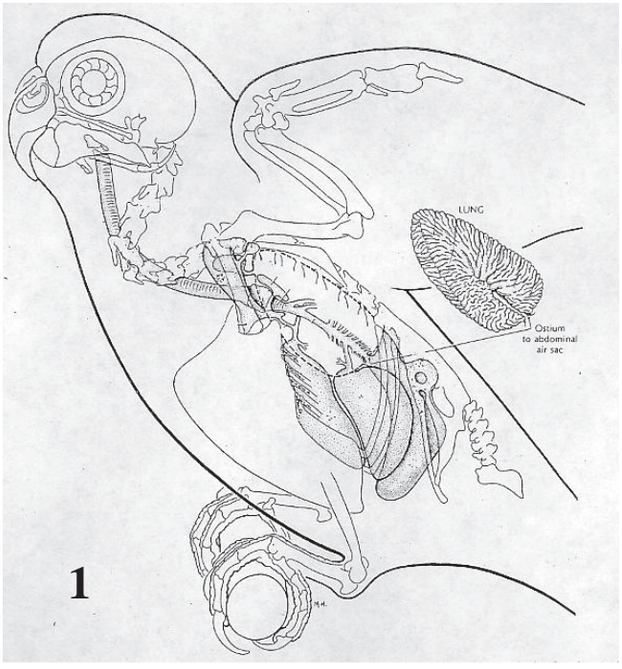
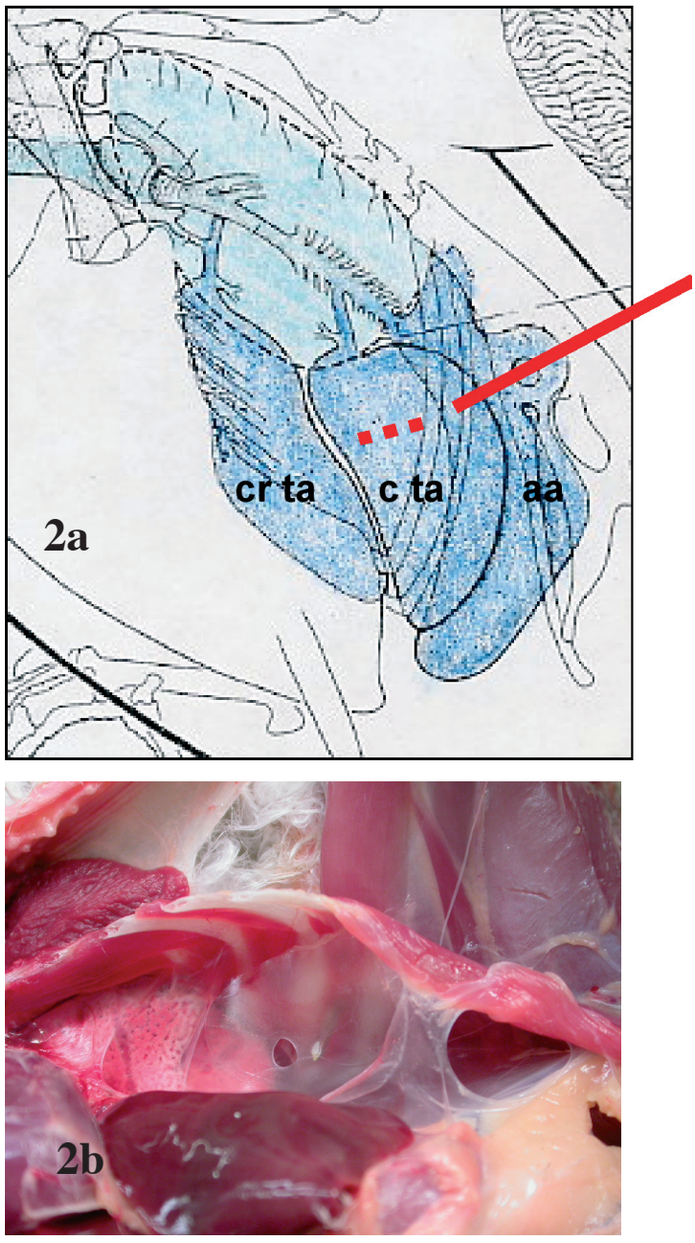


Figure1. The left lateral view of a bird, showing the anatomic respiratory structures in relation to the skeleton. The square focuses on the lungs, the cranial and caudal thoracic and abdominal airsacs (modified image, (Evans 1982). Cr ta= cranial thoracic airsac, c ta= caudal thoracic airsac, aa= abdominal airsac.

The bird is placed in right lateral recumbency with the wings extended dorsally. The endoscope is inserted into the body cavity between the last two ribs, approximately 1 cm ventrally from the cranial edge of the pubis. This way, the endoscope enters into the caudal thoracic airsac (Figures 1, 2a, 2b)



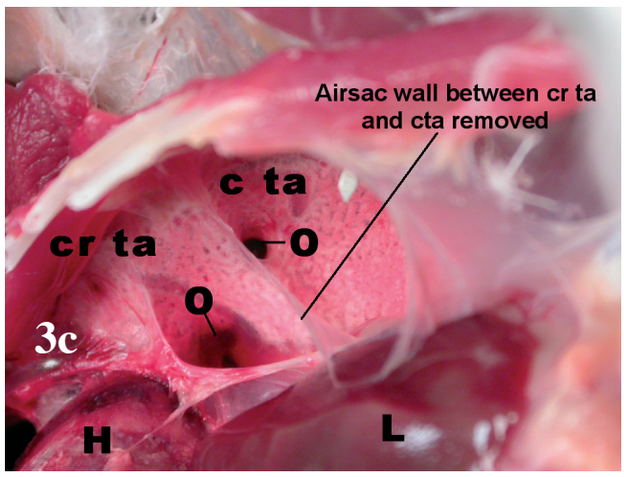
Figures 2. Illustration (2a, modified image, Evans 1982) and photograph (2b) of the site of entry between the last two ribs into the left caudal thoracic airsac. The membrane between cranial and caudal airsac is already accidentally pierced. Cr ta= cranial thoracic airsac, c ta= caudal thoracic airsac, aa= abdominal airsac, H= heart, L= liver.

Especially when using a standard rigid 30° forward oblique endoscope, the technique requires a good imagination to reproduce the actual three- dimensional anatomy from the endoscopic images of only small sectors, and inexperienced clinicians may find it hard to navigate the endoscope to

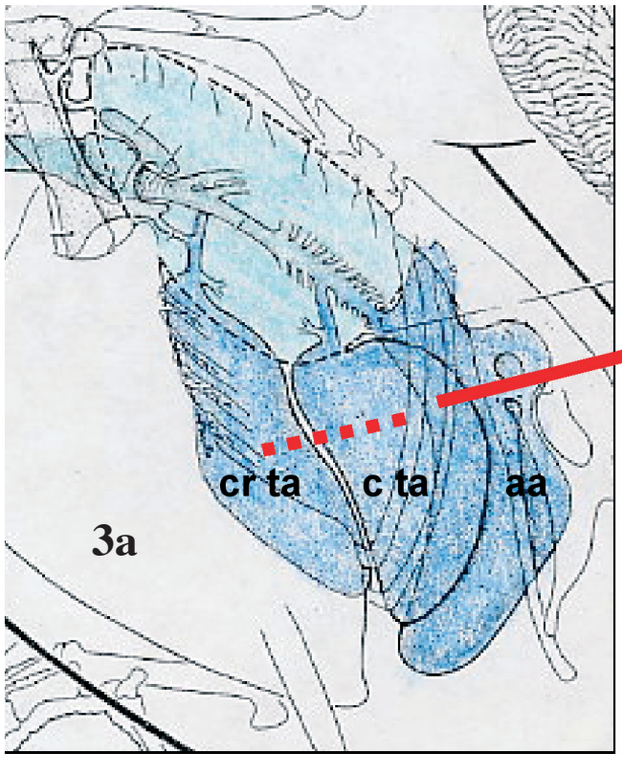
desired locations and examine the organs of concern. For educational purposes, a necropsy was performed in a Cooper's Hawk (*Accipiter cooperii*) to visualize the locations of the endoscope in the bird during laparoscopy.

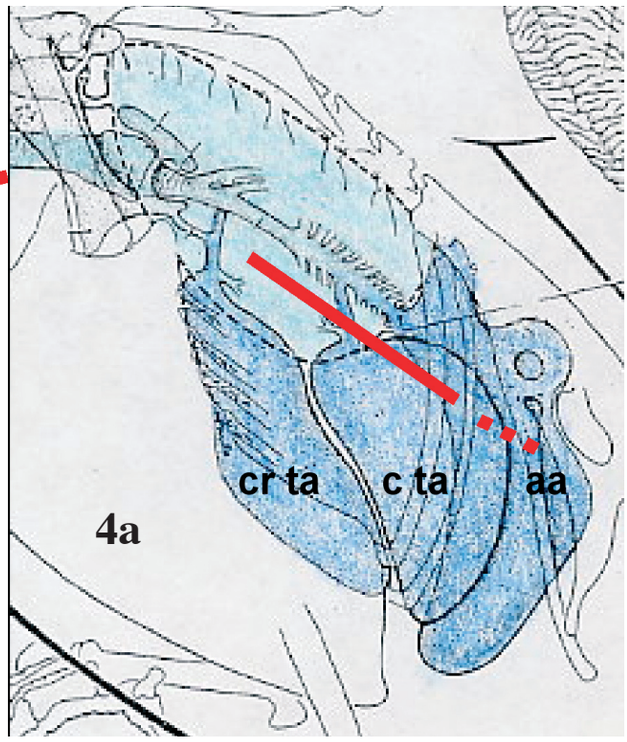
The wild bird had been found and submitted to the Tufts Wildlife Clinic, with a comminuted open fracture of the left humerus which could not be repaired to restore flight. Therefore, the bird was anaesthetized with 3% isoflurane and humanely euthanized by intravenous injection of pentobarbital sodium solution. The photographs were taken two hours after death during necropsy.

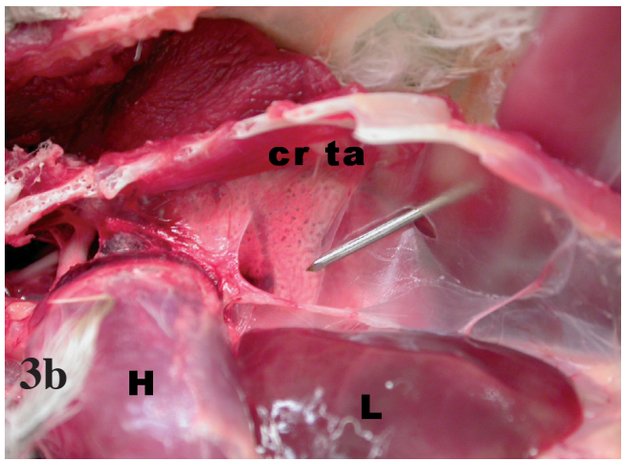
The cadaver has been placed in dorsal position with the sternum and the abdominal body wall removed. Cranial is on the left side and caudal on the right side of the pictures. The endoscope is represented by an orthopaedic wire in the photographs and a red line in the drawings.

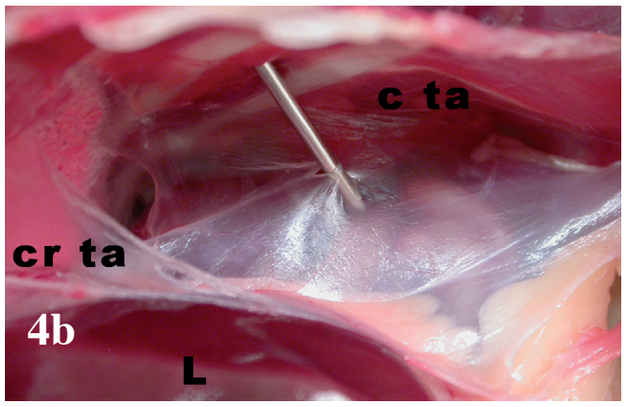


Figures 3. Illustration (3a, modified image, Evans 1982) and photographs (3b, 3c) of the endoscopy of the left cranial thoracic airsac. The endoscope is pushed cranially from the caudal into the cranial thoracic airsac. In 3c, the membrane separating cranial and caudal airsac has been removed and a more cranial view is visualizing the ostia of the airsacs. Cr ta= cranial thoracic airsac, c ta= caudal thoracic airsac, aa= abdominal airsac, H= heart, L= liver, O= ostium.









Figures 4. Illustration (4a, modified image, Evans 1982) and photographs (4b, 4c) of the endoscopic examination of the left abdominal airsac. The endoscope is advanced caudally from the caudal thoracic airsac through the membrane into the abdominal airsac (4b). In 4c, the membrane has been removed and reveals the abdominal organs visible during the endoscopy. Cr ta= cranial thoracic airsac, c ta= caudal thoracic airsac, aa= abdominal airsac, L= liver, V= ventriculus, S= spleen, cK= cranial kidney lobe, A= adrenal gland, G= gonads (here testis), U= ureter, GIT= lower gastrointestinal tract.

Acknowledgements
The author would like to thank the staff of the Tufts Wildlife Clinic for their support.

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Summary of the Vultures and Eagles Group of the Conservation Workshop of the Fauna of Arabia held at Sharjah Desert Wildlife Park, 2005.

Report summarized for *Falco* by Tom Bailey from the final proceedings of the Conservation Workshop of the Fauna of Arabia held at Sharjah Desert Wildlife Park, 2005.

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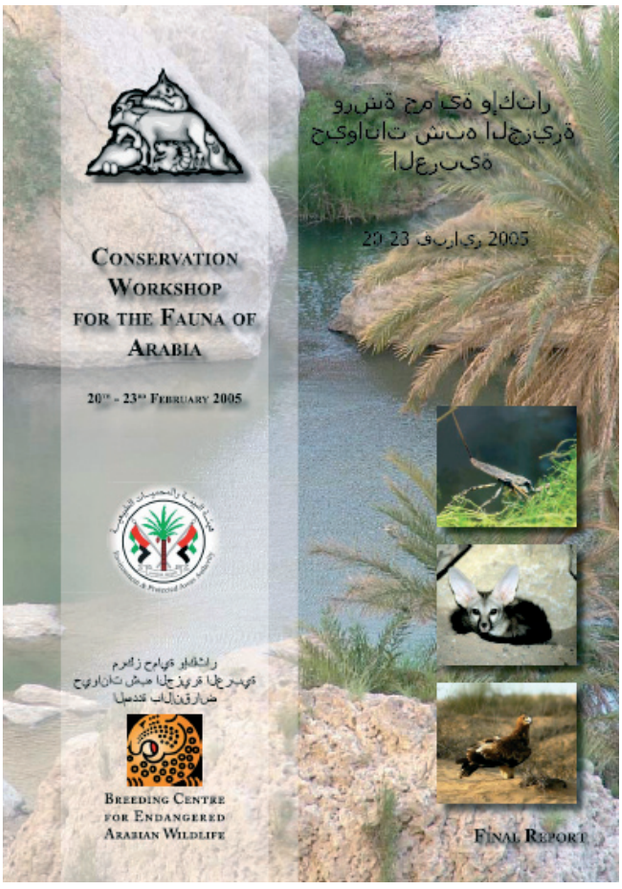
The Vultures and Eagles Group convened for the first time on 20th February 2005 to evaluate the level of knowledge of vulture and eagle species on the Arabian Peninsula and Jordan, and to assign conservation status to those species. The species reviewed in alphabetical order were:

Cinereous Vulture *Aegypius monachus*
Golden Eagle *Aquila chrysaetos*
Spotted Eagle *Aquila clanga*
Imperial Eagle *Aquila heliaca*
Steppe Eagle *Aquila nipalensis*
Lesser Spotted Eagle *Aquila pomerina*
Tawny Eagle *Aquila rapax*
Verreaux's Eagle *Aquila verreauxi*
Short-toed Eagle *Circaetus gallicus*
Bearded Vulture *Gypaetus barbatus*
Griffon Vulture *Gyps fulvus*
White-tailed Eagle *Haliaeetus albicilla*
Pallas's Fish Eagle *Haliaeetus leucoryphus*
Bonelli's Eagle *Hieraaetus fasciatus*
Booted Eagle *Hieraaetus pennatus*
Egyptian Vulture *Neophron percnopterus*
Bateleur *Terathopius ecaudatus*
Lappet-faced Vulture *Torgos tracheliotus*

The participants varied greatly in their individual specialisms. Academics, raptor biologists, general ecologists, field workers, government representatives, ornithologists, professional falconers and captive breeding specialists all gave contributions according to their own expertise. Whilst much valuable data was collected from all participants, it became clear that much of the region is under-studied with regards to raptors and the ecology that relates directly to their survival. Most concrete data came from Saudi Arabia and Jordan, with mostly informal studies, sightings and anecdotal information for most of the rest of the region. Oman was not represented in the meeting and specialists from here would help in completing a more comprehensive conservation profile for the region.

It was concluded that three species, the White -tailed Sea Eagle, Pallas' Fish Eagle and the Booted Eagle would not be included and given local conservation status due to the fact that they are not generally extant within the region. Two species, the Griffon Vulture and

the Bearded Vulture, were listed as critically endangered and were elected as priority species. Five species were listed as endangered, six as vulnerable and two as near threatened. Status assigned was according to IUCN guidelines and was used only on a regional level.



Threats
The most important threats facing most of the raptors in the region include:

- Poisoning - often in the form of carcasses baited for large predators.
- Persecution - shooting through ignorance, trapping and removal of chicks for trade.
- Disturbance - occasionally intentional, but mostly indirect, such as recreational activities, camping, quarrying etc
- Decline in prey species - either by hunting e.g.: Hyrax hunting is affecting Verreaux's eagles, or by eliminating the predators that would normally make carcasses available to scavenging species.
- Livestock competition – tree-nesting species are often in conflict with people using these as fodder. Raptors in general are erroneously thought to be stock thieves and are killed indiscriminately by many farmers.
- Pesticides - secondary/ indirect poisoning due to the use of chemical pesticides.

Unknown threats
Certain migratory species, such as the Steppe Eagle, have shown a marked decline in recent years although no accurate statistics have been published to date. In the case of the Steppe Eagle, the group agreed that factors causing this decline are largely unknown and open to speculation. It was also agreed that the apparent decline of the species is happening at breeding sites rather than on the southern end of their migration where the eagles would widely disperse into Africa and therefore not all face a common threat.

Diclofenac
Diclofenac, an inexpensive anti-inflammatory drug used in livestock, is lethal to certain raptor species and has had near-catastrophic effects on vulture populations in nearby Western Asia. Due to lax laws in the distribution of veterinary drugs throughout the region, the possibility of this substance affecting Arabian vulture species has been identified as a potential threat.

Threats facing the priority species
The two priority species listed as critically endangered face threats common to several of the species assessed. The Griffon Vulture, being a colonial nesting bird, is affected by disturbance near nesting colonies. This has been identified in the form of stone quarrying, development and certain recreational activities. A reduction in carcasses (possibly through a reduction in natural predators), and poisoning were also identified as possible threats. The Bearded Vulture is also threatened by a lack of predator-produced carcasses, with fragmented bone essential to the species for adequate calcium intake, particularly for developing chicks.

Discussion and recommendations
Due to time limitations, no tasks were formulated by the Vultures and Eagles Group. The threats identified for many of the species are common to species discussed by other groups (large carnivores, hyrax, ungulates etc.) in this and previous conservation workshops. It is clear that raptor conservation is integral to the many other classes of wildlife under discussion in the workshop process. It would be very beneficial to merge groups in the future to formulate action plans based on threats facing raptors and all other species vital in food webs and general ecology.

Recommendations listed in the Taxon Data Sheets included research and management for all species assigned with conservation status. Captive breeding was recommended for five of the species. This is a sensitive issue and controversial in the context of conservation, but was agreed upon by the group largely due to the fact that captive stock already exists, and should be made use of for research, educational purposes and maintenance of live genomes.

What's new in the literature

Pathology and tissue distribution of West Nile virus in North American owls (family: *Strigidae*).
Gancz, A.Y., Smith, D.A., Barker, I.K., Lindsay, R. & Hunter, B. *Avian Pathology. 2006: 35; 17-29*.

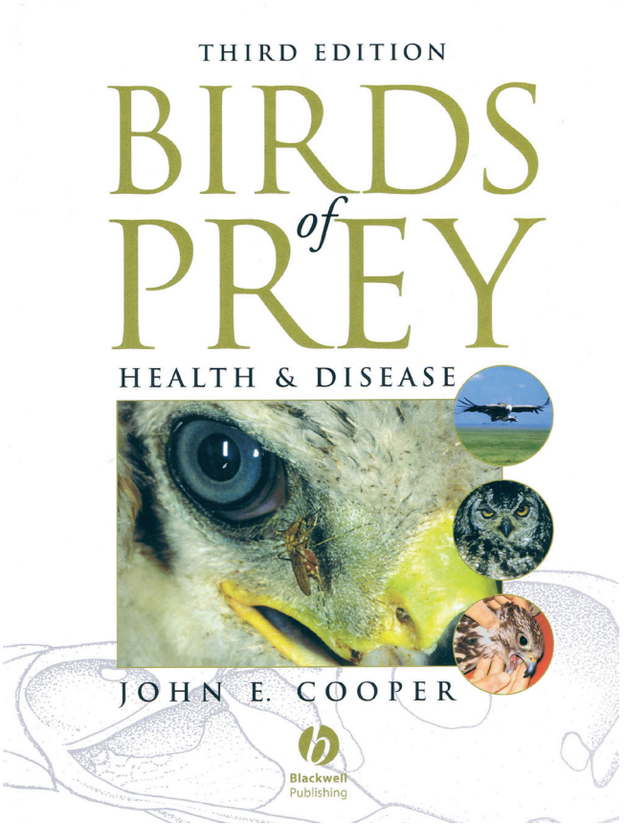
This study describes the macroscopic and microscopic lesions and the viral antigen distribution in 82 owls (Family: *Strigidae*) of 11 North American and one Eurasian species that died following natural West Nile virus infection. The range of lesions seen was greater than that previously reported for owls, and involved more organs. Two patterns of antigen distribution were identified: one that involved the blood and all major organs; and a second where antigen was sparse, localized, and absent from the blood. The first pattern was associated with species of northern natural breeding range, while the second was seen in owls of a more southern distribution and appeared to be associated with a more prolonged course of illness. Further differences in lesion and antigen distribution appeared to be either species related or individual. The findings underline the complexity and variability of West Nile virus pathology within birds of a relatively narrow taxonomic group.

Therapeutic management of Babesia shortii infection in a peregrine falcon (*Falco peregrinus*).
Samour, J.H., Naldo, J.L. & John, S.K. *Journal of Avian Medicine and Surgery. 2005: 19; 294-296.*

An immature female Peregrine Falcon (*Falco peregrinus*) was presented with a history of reduced appetite, gradual weight loss and the passing of metallic green color urates. Survey radiographs revealed a slightly enlarged liver. Blood chemistry analysis showed moderate to severe elevation of CK, AST, ALT and ALKP and hematology analysis showed mild leucocytosis with severe lymphocytosis and mild monocytosis. The erythrocytes showed moderate hypochromasia with mild to moderate poikilocytosis and anisocytosis. Intracytoplasmic parasitic forms were observed in the erythrocytes which were subsequently identified as *B shortii*. It was estimated that the parasite was present in 5.1 % of the erythrocytes examined. The primary treatment consisted on the administration of imidocarb dipropionate at the dose of 5 mg/kq IM given once and repeated one week later. Support therapy was also provided. The falcon was discharged at the request of the owner 10 days after admission. One month after discharge, the falcon was presented for a general check up. At this stage, hematology and blood chemistry values were all within normal range and no trace of parasitic forms could be found in the blood films examined.

Book Review

Third Edition Birds of Prey: Health and Disease. John Cooper. Blackwell Publishing. 2002. 345 pp. £69.50



I enjoyed reading this book for the first time in a tent in the Cholistan desert attending my first houbara bustard hunting party. A bizarre, but strangely appropriate location to read the latest version of a book originally published as *Veterinary Aspects of Captive Birds of Prey* in 1978, which I read in the 1980's when I was a spotty teenager training my first buzzard to annihilate the local moorhen population.

The book is divided into 15 chapters: (1) The History of Raptor Medicine, (2) Nomenclature, (3) Anatomy, (4) Methods of Investigation and Treatment, (5) Non-infectious Diseases, (6) Infectious Diseases, excluding Macroparasites, (7) Parasitic Diseases, (8) Foot Conditions, (9) Neurological Disorders, (10) Nutritional Diseases, (11) Poisoning in Wild Raptors, (12) Anaesthesia and Surgery, (13) Miscellaneous and Emerging Diseases, (14) Diseases in Wild Bird Populations and (15) Discussion and Conclusions. This edition includes contributions from an international team including Paolo Zucca, Oliver Krone, David Peakall and Ian Newton.

What I love about this book is that it escapes from the tendency of so many veterinary texts constipated by an excess of dry science, that while very important, send us nodding off to sleep rather than inspiring us to learn! This is a book written by an author with a great passion for raptor medicine and for the long history of the art and science of falconry. The reader is taken on a historical journey, from the deification of falcons in Egypt 3100 years before Christ to the traditional cures known to the Bedouin of the desert and the treatises of Medieval Kings and falconers. As a lover of quotations and historical snippets I enjoyed Chapter 1, The History of Raptor Medicine, and reading about the significant role played by birds of prey in human culture and tradition. Sometimes we all need a good dose of history to put our self-important-know-it-all-science in perspective and John reminds us though the words of Richard Blome (Gentleman's Recreation, 1686) that: "*Diseases are easier prevented than cured: everyone therefore that intends to keep hawks should be well advised in the first place how to preserve them from sickness and maladies, which is of greater concern than to cure them when distempered*"

Roughly translated this means that breeders and falconers who understand their birds will be blessed with small veterinary bills! Cursed be those with less luck or sensitivity!

The chapters on diseases are thorough and well researched with both historical background and references to recently published research, including many articles published in *Falco*. Chapter 4 is a very thorough introduction to the investigation of disease and the approach to the clinical work-up of a case and the tables summarising sample collection, laboratory techniques and interpretation of blood values are especially clear and helpful. Numerous appendices such as species lists, clinical, post mortem and egg embryo examination, medicines and legal issues are included in the appendices.

Chapters 13 and 14 on Emerging Diseases and Diseases of Wild bird Populations are especially interesting and topical, given the current global concern over the spread of avian influenza and its possible effect on human health and the conservation crisis caused by the die-off of vultures in India. The strength of this book is the ability of the author to speak with authority on a broad range of subjects from the treatment of a case of bumblefoot or effects of parasites on a raptor populations. Consequently, there is something for every raptorphile, be he/she a clinician interested in a health of an individual case or a wildlife veterinarian or field biologist investigating an unexplained mortality event in a free-living raptor population.

While this edition includes 8 pages of colour plates, future editions of this book could consider including more photographs to illustrate chapters, in particular more clinical images, including radiographs and gross lesions in the disease sections, would be helpful for veterinarians making clinical interpretation in a hospital setting. The section on parasitic diseases would benefit from more illustrations of haemoparasites and other parasites. In addition the Tables on normal haematology and blood chemistry reference ranges could benefit from updating with a wider range of species.

The book's greatest value is the holistic approach to looking at birds of prey in health and disease. To anyone with an interest in raptor biology, health and management; breeder, falconer, biologist or veterinarian, this is a book that deserves to be on your desk, being both practically useful and intellectually stimulating.

Reviewed by: Dr Tom Bailey, Dubai Falcon Hospital, PO Box 23919, Dubai, United Arab Emirates. tom.bailey@dfh.ae

News and Announcements

Freed falcons chart way to Central Asia
By Nissar Hoath, Gulf News (7 June 2006)
http://www.ead.ae/en/?T=4&ID=1686

The birds released included 26 Sakers and 34 Peregrines, all fitted with microchips with individual identification numbers, known as passive induced transponder.

Two of the four falcons tagged with satellite transmitters released into the wild in Pakistan's Chitral Valley in May, arrived in Tajikistan and are heading further north to Uzbekistan and China. According to the Environment Agency Abu Dhabi (EAD), which supervised this year's Falcon Release Programme with the support of its Abu Dhabi Falcon Hospital, the birds were among 60 falcons released into the wild in Chitral, near the Afghan border in northern Pakistan, on May 18. One of them was tracked in southeast Tajikistan near China's border, 200km from where they were released, while another was located in northwest Tajikistan near the Uzbek border. Both birds had each stopped once in Afghanistan and Tajikistan. Two others were still around Chitral. The birds released included 26 Sakers and 34 Peregrines, all fitted with microchips with individual identification numbers, known as PIT (passive induced transponder). Each bird also had a numbered ring fitted around its leg. Freed falcons included those confiscated after being smuggled into the UAE. The 12th release was part of the Falcon Release Programme initiated in 1995 by the late Shaikh Zayed Bin Sultan Al Nahyan, and under the directive of President His Highness Shaikh Khalifa Bin Zayed Al Nahyan, and General Shaikh Mohammad Bin Zayed Al Nahyan, Abu Dhabi Crown Prince and Deputy Supreme Commander of the UAE Armed Forces. Shaikh Hamdan Bin Zayed Al Nahyan, Deputy Prime Minister and Chairman of EAD, said: "The release is just one of the many conservation efforts. It is a treasured tradition that will always be treasured."

The UAE Carries Out Bird Flu Drill for Human Infection
June 3rd, 2006 http://www.ead.ae/en/?T=4&ID=1662

A bird flu emergency scenario was reenacted at the Zayed Sports City, Abu Dhabi on June 3, 2006. Military, police and health authorities got into gear to contain and clear the disease in a simulated case of a large-scale human infection. The drill exercise was overseen by H.H Sheikh Hamdan bin Zayed Al Nahyan, UAE Deputy Prime Minister, Chairman of the Environment Agency – Abu Dhabi and Chairman of the National Committee for Emergency Response to Bird Flu.

Avian influenza: Middle East update
From: http://www.promedmail.org ProMED-mail is a program of the International Society for Infectious Diseases
Jordan, Israel and Palestine Authority (30 May 2006): Within one week, Israel and Jordan reported the outbreak of HPAI H5N1 in 18-24 Mar 2006. Outbreaks also started in the Palestine Authority area during the period. Kimron Veterinary Institute, Israel assisted in the diagnosis. The earliest reported case started on 16 Mar [2006] in Israel. Israel had a total of 9 outbreaks, culled poultry in a 3-km radius (1 120 000 birds were culled), and set up a 10-km radius surveillance zone. In Jordan, 50 000 poultry were culled along the border as a precautional measure, and 13 500 birds were also culled within a 3 km radius of the outbreak.

Iran and Iraq (31 May 2006): After cases in wild birds had been reported in mid-February in [2006] Rasht Province, Iran culled all 41 056 backyard and village poultry within a 2-km radius and compensation was given to farmers. In Iraq, outbreaks of avian influenza H5 were reported in backyard poultry (chickens, geese, turkeys and ducks) in 2 villages in Suleimanya on 3 Feb 2006. 4 days later, the disease was also reported in Missan in pigeons, confirmed by HI test.

Afghanistan and Pakistan (29 May 2006): HPAI was reported in Pakistan on 3 Mar and Afghanistan on 20 Mar [2006]. In Pakistan, the 1st case was recognised on 23 Feb 2006 at a breeder farm and a layer farm in Abbottabad and Charsada in North West Frontier Province, and confirmed on 27 Feb 2006. A total of 26 450 poultry were culled. Further outbreaks were confirmed also in Islamabad in April [2006]. In Afghanistan, the 1st case was recognised on 2 Mar 2006 in Jalalabad and confirmed on 15 Mar 2006. As of 5 May [2006], H5N1 has been found in Kabul, Kapisa, Logar, Nangarhar and Parwan Provinces and suspected in Laghman Province. Afghanistan had been importing chicks from Pakistan.

جواز الإمارات العربية المتحدة للصقور

ليسا إس.يري

العضوية:

منسقة تطوير البرامج، الصندوق العالمي للطبيعة (EWS-WWF)، الإمارات العربية المتحدة

إيجاز

إن جواز سفر الصقر، والذي استحدث في عام 2002 التزاما بالميثاق الدولي CITES (ميثاق الاتجار الدولي بأنواع النباتات والحيوانات المهددة بالانقراض) لتسهيل تنقل الصقّارين وطيورهم عبر الحدود، هو الآن في عام تطبيقه الرابع . تم إصدار أكثر من 3000 جواز سفر منذ عام 2002. أصدر في عام 2003، السنة الأولى لتطبيقه، 696 جوازا، وتلا ذلك إصدار 891 في عام 2004، و1370 في عام 2005، و134 في الشهرين الأولين لعام 2006. وحيث أنه يتوجب حصول كل صقر على جواز خاص به، فقد تم تسجيل أكثر من 3000 صقر قانونيا من خلال الإمارات العربية المتحدة للحصول عليه . ومعظم هذه الطيور هي طيور مكثرة في الأسر من صقور السنقر، وصقور الشروقي، وصقور الشاهين، أو سلالات مهجنة مستوردة من ألمانيا وكندا والمملكة المتحدة والولايات المتحدة الأمريكية .

هل حان الوقت لتحديث جوازات سفر الصقر لتتضمن معلومات التطعيم؟

توم بيلي [1] وأنطونيو دي سومّا [1]

[1] مستشفى دبي للصقورص ب . 23919، دبي، الإمارات العربية المتحدة.

إيجاز

لا تتوفر في الوقت الراهن أي وثيقة رسمية مرفقة بجواز سفر الصقر تسجل فيها اللقاحات التي تلقاها الطير.تنتقل الصقور من عيادة لأخرى، تجرى لها فيها فحوصات المنظار الداخلية، ويفترض أنها تتلقى تلقيحا تلو الآخر. يشعر الأطباء البيطريين بأن تكرار اللقاحات خلال فترة قصيرة هو أمر غير ضروري، بل وقد يكون له مردودات مضادة بل وخطرة لدى الصقور. لعله قد آن الأوان لتطوير جوازات سفر الصقور بحيث تسجل فيها اللقاحات التي تعطى لكل صقر!

تطعيم الصقور ضد انفلونزا الطيور

إلينا أوبون [1]، توم بيلي [2] ، أنطونيو دي سومّا [2]، سونيثا جوزيف [3]، أللي فيرني [3]

[1] *P.O.Box 25. 08340- Vilassar de Mar (Barcelona). Spain*
[2] مستشفى دبي للصقور، ص.ب. 23919، دبي، الإمارات العربية المتحدة.
[3] المختبر المركزي للبحث البيطري، ص.ب. 597، دبي، الإمارات العربية المتحدة.

يسرنا أن نكتب لكم لتحديث معلوماتكم ببعض المشاهدات التي أجريناها فيما يتعلق باستخدام لقاح أنفلونزا الطيور (AI) في الصقور. لتقدير فعالية اللقاح في الصقور؛ تم حقن لقاح H5N2 غير منشّط تحت جلد 30 طيرا معافى كانت تتلقى فحوصا روتينية في مستشفى دبي للصقور في الفترة بين نوفمبر *2005* ويناير *2006*. في اليوم رقم صفر، كانت نتائج وجود الأجسام المضادة لأنفلونزا الطيور سلبية في *27* من الطيور، وايجابية لـ *3* منها، وتم استبعاد تلك الطيور الثلاثة ذات الإيجابية المُصلية من الدراسة. رصدت معدلات تحول مُصلية غير ثابتة في الطيور موضع الدراسة، وتطور ظهور الأجسام المضادة لأنفلونزا الطيور في *15* من الطيور الـ *27* بعد تلقي أول لقاح. ورغم أن العيار الحجمي المسجل في الطيور كان من مستوى متوسط، فإنه يجب أن نأخذ بالحسبان أن تلك الحيوانات لم تتلقى سوى جرعة واحدة من اللقاح في هذه المرحلة، وأنه يمكن توقع مستويات حماية أعلى بعد تلقي الجرعة المعزّزة كما يحدث في الأصناف الأخرى. يحتاج الأمر لدراسة أكثر تفصيلية لفهم فعالية لقاحات أنفلونزا الطيور غير المنشّطة لدى الصقور.

إيجاز مجموعة النسور والعقبان في ورشة عمل المحافظة على الحيوان في المنطقة العربية والمنعقدة في محمية الحياة البرية الصحراوية بالشارقة

إيجاز

اجتمعت مجموعة النسور والعقبان لأول مرة في 20 فبراير 2005 في محمية الحياة البرية الصحراوية بالشارقة بغرض تقييم مستوى المعرفة بالنسور والعقبان في الجزيرة العربية والأردن، وتحديد مستوى المحافظة على هاتين الفصيلتين. إن أهم الأخطار التي تواجه معظم الجوارح في المنطقة هي التسمم، والاضطهاد، والإزعاج، وتناقص أصناف الفرائس، ومزاحمة المواشي والحيوانات، والمبيدات الحشرية. وقد تم إدراج فصيلتين هما النسر الأسمر (الأصلع) والنسر أبو ذقن (أبو لحية) كحيوانات مهددة بخطر فائق واختيرتا كفصيلتين عاليتي الأولوية.

تقييم لاختبار التحمّل كدلالة على أمراض التنفس في الصقور

مارتا بريتو [1]، **توم بيلي** [2]، **خايمه سامور** [3]

العضوية :

[1] مركز Cotorredondo Raptor Rehabilitation، Lago de Castiñeiras s/n. 36140 Figueirido. Pontevedra، اسبانيا.

[2] مستشفى دبي للصقورص ب . 23919، دبي، الإمارات العربية المتحدة.

[3] المدير الطبي . مركز فهد بن سلطان للصقورص ب . 55، الرياض 1132، المملكة العربية السعودية.

مختصر

يلخص هذا التقرير دراسة أجريت في مركز فهد بن سلطان للصقور (الرياض ، المملكة العربية السعودية) وفي مستشفى دبي للصقور (الإمارات العربية المتحدة) تمت من سبتمبر 2003 إلى نوفمبر 2004، تم فيها قياس 400 معدلات للتنفس في وضع الراحة (RR) وبعد اختبار التحمّل(RE) في صقور تخضع للفحص السريري وقد جمّعت وفق معايير الأعمار (يافع وبالغ)، ومرحلة التدريب (مدرب وغير مدرب)، والوضع الصحي (طبيعي سريريا وأمراض تنفسية، وأمراض أخرى). قورن التنفس في وضع الراحة وبعد اختبار التحمّل بين المجموعات الصحيّة الثلاثة في نفس الفئة العمر ومرحلة التدريب وعندما لوحظت فروق ملموسة تم إجراء مقارنات زوجية بين تلك المجموعات . وقد أظهرت التحليلات الإحصائية فروقا هامة بين التنفس في وضع الراحة وبعد اختبار التحمّل بين مجموعات العوارض الثلاثة في الصقور البالغة المدربة وغير المدربة .ودلت المقارنات الزوجية على أن الصقور التي تعاني من أمراض تنفسية كان لها معدلات تنفس في وضع الراحة وبعد اختبار التحمّل أعلى من الصقور الصحية سريريا.

إنفلونزا الطيور

يو. ويرنري

العضوية :

المختبر المركزي للبحث البيطري، دبي، الإمارات العربية المتحدة.

مختصر

تنتمي إنفلونزا الطيور إلى عائلة فيروس المسمى Orthomyxoviridae وينصب الإهتمام على الأنفلونزا من النوع أ والذي تقسم إلى الأقسام الفرعية إتش1 (H1)، و إتش 16 (H16) و إن1 (N1) وإن9 (N9) وتتميز الأنواع الفرعية إتش5 (H5 ، و إتش7 (H7 ، و إتش9 (H9) باحتمالية وباء عالية ويمثل النوع إتش5إن1 (H5N1) تهديدا خطرا للبشر وفصائل الطيور.وتعتبر كل أنواع الطيور معرضة للوباء وقد تم عزل إتش7 (H7 ، و إتش9 (H9) في عدد من الطيور في الإمارات العربية المتحدة. ويمكن لهذا الفيروس أن يسبب نسبة وفيات عالية في بعض فصائل الطيور ولكنه لا يظهر في فصائل أخرى . تتوفر أدوات مخبريه جيدة جدا لتشخيص إنفلونزا الطيوريمكن تلقيح الطيور الثمينة بلقاح من إتش5إن2 (H5N2) ميّت .

ملاحظات حول تكاثر صقور الشاهين (*Falco peregrinus*) في مقاطعة مِغري (*Meghri*) بأرمينيا

الدكتورة كارن ي. أغابايان

العضوية :

معهد علم الحيوان، الأكاديمية الأرمنية للعلوم

Paruyr Sevak St. 7, Yerevan 375044, Armenia. Karagab777@yahoo.com

مختصر

أقدّم أول إثبات موثّق لتكاثر صقر الشاهين (*Falco peregrinus*) في مقاطعة مغري بأرمينيا. تكاثرت صقور الشاهين في تجاويف في الصخور وفي بعض الأحيان باستخدام أعشاش قديمة لفصائل أخرى. وقد ابتدأ وضع البيض في شهر مارس (آذار) وتم فقس الصغار في أواسط إبريل وتريّشت في الثلث الأخير من شهر مايو (أيار). ونقدم معلومات عن مشاهداتنا فيما يتعلق بالحضانة، ومعدلات التغذية، وأنواع الفرائس التي قتلت، وتصرفات الطيور البالغة خلال فترة الحضانة في الأعشاش.

Gombobaatar Sundev ©

قضاء صقور الشروقي لفصل الشتاء في قرغيزستان

مايكل اندرسون ورونجستد كيست

تتواجد صقور الشروقي في قرغيزستان كفصائل متكاثرة وكطير عابر مهاجر. ولا تتوفر أي سجلات منشورة عن تمضية صقور الشروقي للشتاء في قرغيزستان. في نهاية نوفمبر 2005 قمت برحلة لتأكيد أو نفي تواجد صقر الشروقي في قرغيزستان خلال فصل الشتاء. قمت بالبحث في عدة مناطق بدت ملائمة بغرض تسجيل وجود صقر الشروقي، مع إعطاء جهد تغطية متساوي للوصول إلى نتائج مقارنة بين المناطق التي جرى مسحها. بالإضافة لذلك قمت بعمليات مسح عرضية خطّية كما بحثت في مناطق أفاد سكانها بتواجد صقور الشروقي فيها. وتم مسح منطقة بحيرة إسّك-كُل – حيث تتوافر مناطق شاسعة من التضاريس الملائمة – لمدة أسبوعين، وهنا استطعنا تسجيل أعداد كبيرة من فصائل الجوارح المختلفة ولكننا لم نرى أثرا لصقور الشروقي. تمكنت أثناء المسح العرضي من مشاهدة صقر شروقي واحد بعيد. استنادا لمعلومات مقدمة من أهل المنطقة، وبعد أسبوعين أمكدنا تضييق بحثنا ليشمل منطقة تقارب 100 كلم مربع واستطعنا تأكيد وجود لخمسة صقور شروقي، كانت جميعها ضمن مجال مواقع التكاثر المعروفة. أوضّح في هذا التقرير كيف يمكن أن يؤدي توفر الغذاء إلى تناقص الفصائل خلال فصل الشتاء.

افتتاحية

نهنئ مركز إكثار الحيوانات المهددة بالانقراض في شبه الجزيرة العربية بالشارقة على تنظيمه مرة أخرى لورشة صون إقليمية ناجحة، والتي ضمت جلسة خاصة بصغار الطيور الجارحة وطائر البوم في فبراير 2006. وقد فحصت مجموعة صغار الطيور الجارحة وطائر البوم فصائل الجوارح والبوم التي لم تتعاطى بها مجموعة عمل الجوارح الكبيرة التي انعقدت في الشارقة في عام 2005 (يرجى مراجعة العدد الحالي من مجلة ***Falco***)، وبصورة خاصة أجناس الطيور الجارحة كالحدأة والباز والعقاب والباشق والصقور الصغيرة والعوسق (*Elanus, Milvus, Melierax, Micronisus, Accipiter, Buteo, Pandion and Falco*) ولا تشمل الصقور الصيّادة. وستنشر مجلة ***Falco*** موجزا لجلسة ***2005*** في عدد قادم. أما بالنسبة للمهتمين بمطالعة مداولات اجتماع الشارقة ***2006***؛ فقد قام السيد هوارد كينج بضم التقرير النهائي الذي أعده مايكل جننجز وتانيا سادلر في موقع http://www.hawar-islands.com/blog/con_stub.php. ولعل أكثر نتائج مناقشات هذه المجموعة أهمية هو إدراك وقوع خطأ هام في المعلومات المنشورة عن التعداد العالمي لصقر الغروب (*Falco concolor*). فقد أشارت القائمة الحمراء عن الطيور المهددة، والصادرة عن لإتحاد الدولي لصون الطبيعة **IUCN** (www.redlist.org)، إلى أن التعداد العالمي لهذه الفصيلة يبلغ 100,000 فردا، وأن تعدادها في المنطقة العربية هو الأكبر حيث يضم أكثر من نصف التعداد العالمي. وقد نتج عن مناقشات اجتماع الشارقة اعتبار أن التعداد العربي هو أقل من 500 زوجا متكاثرة، وعليه فإن التعداد العالمي قد يكون مبالغا فيه بمعدل أربعين مرة. ومن الواضح أن هذه الفصيلة بحاجة لتحقيق عاجل وأن مثل نتائج البحث المفاجئة هذه تظهر أهمية عقد ورش العمل الإقليمية.

يبدو أنه من المحتمل أن تستمر أنفلونزا الطيور (AI) قضية رئيسية تؤثر في الصيد بالصقور في الشرق الأوسط في موسم 2006-2007. أعلنت وزارة الثروة الحيوانية بالإمارات العربية المتحدة وجوب حصول الصقور القادمة على شهادة تفيد بفحصها وخلوها من أنفلونزا الطيور، وأخذها فور وصولها إلى موقع حجر مرخص تبقى فيه لمدة 4 أيام وتخضع لفحص أنفلونزا الطيور. إن قيام سلطات الإمارات العربية المتحدة، وخاصة هيئة البيئة – أبو ظبي، باتخاذ إجراءات تقلل من احتمالات وصول أنفلونزا الطيور إلى الدولة هو أمر ايجابي. من المحيّر، ورغم تأكيد وجود السلالة في المنطقة من مختبر مرجعي ألماني ومن تقارير الصحافة (Emirates Today، الأحد 29 فبراير 2006)، أن السلطات السعودية لم تقدم بعد تقريرا عن حالات أنفلونزا H5N1 في الصقور (يرجى مراجعة العدد 27 لـ ***Falco***) إلى المنظمة العالمية للصحة الحيوانية.

لاحقا للاجتماعات التي عقدت في أبو ظبي باستضافة هيئة البيئة (المعروفة سابقا باسم ERWDA) والتي حضرها مسئولون من اليونسكو ومندوبين من الرابطة العالمية للصقارة في عام 2005، وفي سكرتارية اليونسكو بباريس في مارس 2006، فقد قررت الإمارات العربية المتحدة تقديم طلب إلى اليونسكو لاعتبار الصقارة العربية جزءا من التراث الثقافي غير المادي. وقد وقعت 52 دولة حتى الآن الإعلان وستتلوها دول كثيرة أخرى خلال قرابة العام. وفي الاجتماع الأول للأطراف قدمت دولة الإمارات العربية عرضا قويا ونجحت في اختيارها بالتصويت لعضوية اللجنة الحكومية الدولية (IGC) التي تضم 18 عضوا. وعلى هذه اللجنة الآن تقدير الحيثيات التي تحدد ماهية " التراث الثقافي غير المادي". ويتضمن تقديم الطلب إعداد خطة عمل لصون التراث الثقافي وإنشاء مستقبل للصقارة على أسس مستدامة. وهذا أمر في غاية الأهمية من منظور الصون حيث أن هيئة البيئة والمجمع الثقافي في أبو ظبي ستنشئان خطة قابلة للتنفيح لخمس سنوات تغطي كل عناصر صون الموارد الطبيعية المتعلقة بالصقارة. ورغم أن لهيئة البيئة حاليا برامج جيدة التأسيس للبحث والإدارة في أمور الحبارى والصقور وتكاثرها في الأسر، فإن الخطوات المستقبلية لها تتضمن إنشاء مناطق منظمة للصيد داخل دولة الإمارات العربية نفسها. وسينتج عن ذلك عدة تطورات منفصلة: إذ إنه بتخصيص منطقة محددة للصيد، فإن الفائدة ستعم على الأشكال الأخرى للحياة البرية الأخرى. ويمكن توصيل بعض تلك المناطق أيضا بمناطق محمية بالكامل. وسيكون الأرنب الصحراوي من أهم الفرائس، ويمكن التحكم فيه بشكل اقتصادي كمورد مستدام، وذلك بإكثار العدد وإدارة المواطن. سيتيح ذلك للآباء والأبناء الخروج معا إلى الصحراء وصيد الأرانب باستخدام الصقور بالطرق التقليدية، والاهتمام بالصحراء كمورد حي وثمين. فإنه إذا لم تتربى الأجيال الشابة على فهم وتقدير الموارد الطبيعية فلن يكون هناك أي ضغوط لصونها.

نتقدم بالشكر للسيد يفجني شيرجالين (International Wildlife Consultants Ltd) لتحديده المواضيع الجديرة بالاهتمام لتضمينها في هذا العدد. نرحب بعودة بالدكتور خايمه سامور وفريقه إلى أبو ظبي. بالنظر لكونه أكثر الأطباء البيطريين للصقور في غزارة الإنتاج العلمي، فإن الإمارات تعتبر محظوظة لتوفر معرفته في المنطقة، وتتطلع ***Falco*** قدما لنشر المزيد من أعماله. كما يسر ***Falco*** أن تعلن عن إطلاق مجلة "الحياة البرية في الشرق الأوسط - أخبار". وهي نشرة إخبارية ثنائية اللغة تركز على قضايا حدائق الحيوانات والحياة البرية في الشرق الأوسط. ويرجى من كل من يود الاشتراك بالنشرة أو معرفة المزيد حول "الحياة البرية في الشرق الأوسط - أخبار" الاتصال بالمحررين بالبريد الإلكتروني على عنوان editors@wmenews.com أو زيارة موقع الإنترنت www.wmenews.com.