



FALCO

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Photographs:

Front Cover: Saker Falcon in Central Mongolia
(Photo: Stig Frode Olsen; www.raptorphoto.com)

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Inside Cover: The 'real' Rick Watson speaking at the 'Gyrfalcons and Ptarmigan in a changing world' conference held at Boise State University, Idaho, USA on 1-3 February 2011. In the previous issue of Falco we incorrectly labelled a photograph of Adrian Benedetti, a Panamanian Peregrine Fund assistant, holding a Harpy Eagle – apologies to both Rick and Adrian for the confusion. (Photo: Peregrine Fund; www.peregrinefund.org)

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Editorial

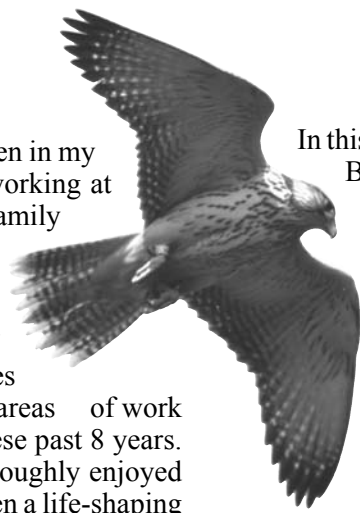
This is my last Editorial for *Falco* written in my capacity as a wildlife and falcon vet working at Dubai Falcon Hospital. In April my family and I move back to the UK to start a new life in Wales and I will start working at International Wildlife Consultants Ltd. I am appreciative of the professional support that colleagues and friends have given to the various areas of work that I have been involved with over these past 8 years. On a personal note my family has thoroughly enjoyed our 8 years of living in Dubai. It has been a life-shaping adventure for us all. Just as we will leave footprints in the desert sands, we will be left with sand between our toes.

On a professional level working at Dubai Falcon Hospital and the Wadi Safa Wildlife Centre has been an amazing experience. Never a dull day with clinical cases from across the animal order, from Sooty Falcons to Sloths and Gyrfalcons to Gazelles. My time in Dubai has shown me the full spectrum of human attitudes to wildlife and falcons; the good, the bad and the ugly. Indeed it was the bad and ugly aspects of the attitudes to wildlife that prompted me to start Wildlife Middle East News (www.wmenews.com) in 1996 with three colleagues in order to promote a better understanding of the problems facing both the wildlife and environment in the region.

There are some wonderful people committed to promoting the awareness and understanding of raptors in the region. Falcon breeders like Zoltan Loentei and his wife Sandra have opened the Dubai Bird of Prey Show, an educational raptor show which makes a positive connection between the urban population of Dubai and raptors. On the wildlife side, working with the enthusiastic team from the Dubai Turtle Rehabilitation Projects has been immensely rewarding. There is little that beats the buzz of releasing rehabilitated wildlife back into their natural habitat. In the case of the turtles, animals that would most certainly have died if they had not been rescued by well-meaning members of the public and have been rehabilitated back to full health and strength.

While wildlife can bring out the best of human nature, it also brings out the worst. This is true in the falconry world, where the lure of easy money encourages the taking and smuggling of wild falcons. There is no doubt that over the past decade attitudes have changed and laws have tightened and captive bred birds have largely replaced wild falcons in the UAE, but there is more work to do. I estimate that about two thirds of falcons used by falconers in the region I am familiar with are captive bred, whilst probably a third of all Gyrfalcons and most Peregrines and Sakers used are wild caught. Clearly, there is still much work to be done to encourage the use of captive-bred birds (especially pure-bred species) and to increase awareness about the potential impacts of unregulated wild take of falcons.

Tom Bailey



In this issue we have an interesting article from István Balázs that reports on the high incidence of unhatched Saker Falcon eggs found in artificial nests in Hungary. This is an issue that requires further study to determine why this occurs. In Hungary, the potential negative effects of nest site supplementation has been highlighted previously (Klein *et al.*, 2007) and this study emphasized the importance of evaluating the costs and benefits of nest site supplementation for species conservation.

In Bulgaria nest site supplementation and reintroduction are two initiatives being developed by different conservation organisations with the same aim of establishing a viable breeding population of Saker Falcons in the country. Persecution by pigeon keepers has the potential to hinder any re-establishment of the Saker and Ragyov *et al.*, report on a survey they have undertaken on the attitudes of pigeon keepers to birds of prey in the Central Balkans.

The Saker in Mongolia is the subject of a conservation effort based on nest site supplementation, which is aimed at mitigating a CITES regulated trade in the species. Nevertheless, harvesting for falconry is not the only way these birds are removed from the population in the country, as electrocution is a severe threat in several areas. The extent of the problem is graphically illustrated in an article that relates to a single visit to just one electricity distribution line running between two villages in Central Mongolia.

Illegal trade in falcons for Arabic falconry continues to be a major conservation issue, especially in Central Asia, where the lack of enforcement of existing laws means that trappers can operate with impunity. It is possible to increase the profile of falcon trapping among those charged with enforcing the laws as an initiative developed through the South East European Saker Network has shown. Unfortunately, the Turkish researchers who worked on this project need to remain anonymous in order to protect their safety. Their article demonstrates how increasing the profile of falcon trapping can lead to better enforcement activities.

The Turkish experience has shown that the "CITES Identification Guide to Falconry Species: Enforcement Edition" produced by Environment Canada is a useful tool for promoting the issue of falcon trapping amongst enforcement agencies and the translation of this document into other languages (especially Arabic and Russian) would be a useful first step in combatting illegal trade.

Reference

Klein, A., Nagy, T., Csörgő, T. and Mátics, R. 2007. Exterior nest-boxes may negatively affect Barn Owl *Tyto alba* survival; an ecological trap. *Bird Conservation International* 17: 263-271.



Hatching success in Saker Falcon nests at artificial and natural sites on trees and electricity pylons in Hungary

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Summary

The primary aim of this investigation was to examine the incidence of unhatched eggs in Saker Falcon clutches at artificial and natural nests situated on trees and electricity pylons in Hungary. Significantly more clutches laid in artificial nest sites contained at least one unhatched egg than those laid in natural nests. The failure of eggs to hatch is likely to be due to infertility and differences in embryo mortality in clutches laid in artificial and natural nests. Potential reasons for this difference in embryo mortality are discussed but further research is required to determine the exact causes.

Introduction

Pylons of high voltage electricity transmission lines have been equipped with artificial nests (platforms) in Hungary as well as in different countries in Europe and Asia. The construction materials and design have changed in the last 15-20 years, but the aim of these constructions, to improve brood survival, have not changed. The first platforms were made of wood and most were 'open' tray-type platforms. The next generation of artificial nests was made from aluminium, and more recently these have been adapted so that two sides are 'sheltered' to give more protection against wind and rain (Photo 1). The nest-scraps substrates of the platforms are typically 15 cm deep gravel.



Photo 1. Unhatched Saker egg in a sheltered artificial nest site (I. Balázs).

Sakers utilize artificial nests erected on trees as well as pylons for nesting and will also use natural nests at these sites too. Most of the natural nests used by Sakers in Hungary are built by Common Buzzard (Photo 2), Ravens, Imperial Eagles, Carrion Crows and some by White-tailed Eagle. (Bagyura *et al.*, 2009).



Photo 2. Saker nestlings in a Common Buzzard nest ca. 5 m up a tree (I. Balázs)

Methods and Results

I have compiled data from 281 Saker clutches laid over a four-year period in 2007-10 in Hungary. These clutches were laid in artificial nests and natural nests situated on electricity pylons and trees. Data used in this study has originated from three different regions of Hungary: Hortobágy National Park (eastern Hungary), FertőHanság National Park (western Hungary) and Kiskunság National Park (central Hungary). I have not analysed the data on a regional basis.



Photo 3. Unhatched Saker Falcon eggs collected from artificial nests on electricity pylons (I. Balázs)

Overall, 94 (33%) of nests contained at least one unhatched egg when the nests were inspected at the chick stage. There was no detectable difference in the number of nests with unhatched eggs in natural nests that were situated on electricity pylons and trees (Photo 3). Only one clutch laid in a natural nest contained at least one unhatched egg i.e., 3.4% (1 of 29 nests; Table 1).

Natural nests	Pylon	Tree
Nests with unhatched eggs	0	1
Nests without unhatched eggs	19	9

Table 1. Number of nests containing at least one unhatched egg in natural nests situated on pylons and trees.

Unhatched eggs were primarily associated with clutches laid in artificial nests, with 37% of artificial nests containing at least one unhatched egg (79 of 252 nests). This difference between artificial and natural nests was highly significant ($\chi^2 = 11.62$, 2df, $P < 0.001$). Furthermore, location of artificial nests was also related to the frequency of nests containing unhatched eggs, with significantly more artificial nests situated on electricity pylons containing unhatched eggs than those situated on trees ($\chi^2 = 12.17$, 2df, $P < 0.001$; Table 2). Artificial nests on pylons were more than twice as likely to contain unhatched eggs as artificial nests on trees (Figure 1).

Artificial nests	Pylon	Tree
Nests with unhatched eggs	79	14
Nests without unhatched eggs	101	58

Table 2. Number of nests containing at least one unhatched egg in artificial nests situated on pylons and trees.

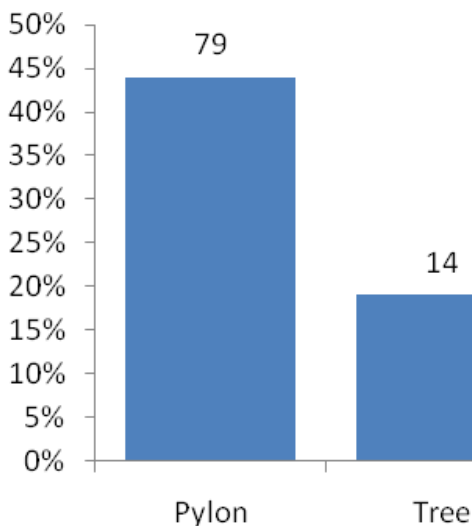


Figure 1. Percentage of artificial nests containing unhatched eggs at sites on electricity pylons and in trees.

In 33 nests none of the eggs hatched (accounting for 39% of clutches with at least one unhatched egg). The whole clutch failed to hatch at 15% ($N = 29$) of artificial nests in pylons compared with 5% ($N = 4$) of artificial nests in trees. However, examining only those nests that failed to hatch at least one egg, there was no significant difference in the proportion of whole clutch failures at artificial nests in electricity pylons and trees (Table 2).

Whole clutch failures may be a consequence of adult infertility, suggesting that infertility was not the main cause of the difference between hatching success at artificial nests in pylons and trees. On pylons, 14 of the whole failure clutches were in the new ‘sheltered’ artificial nests and 15 were on the older ‘open’ artificial nests.

	Pylon	Tree
Whole clutch	29 (36.7%)	4 (28.6%)
Part clutch	50 (63.3%)	10 (71.4%)

Table 3. Frequency of whole clutch failure to hatch and partial clutch failure at Saker nests in pylons and trees.

Discussion

When comparing the frequency of unhatched eggs at nests in artificial and natural nest sites, I have used data from nest visits that were made after the incubation period when the eggs should have already hatched. Consequently, the observed differences may have resulted from differences in the likelihood of eggs being removed from the nests i.e., unhatched eggs are more likely to be removed from natural nests than artificial nests. However, total nest contents (i.e., eggs and chicks) were similar at artificial nests and natural nests (average 2.9 eggs/chicks per nest), suggesting that unhatched eggs are not more likely to be removed from natural nests than artificial nests. The likely potential predators of unhatched eggs are Beech Marten (tree nests mainly) and Carrion Crow (pylon and tree nests). These predators would probably predate the whole brood, including small nestlings, if they had access to the contents of Saker Falcon nests

Unhatched eggs in active Saker Falcon nests can result from (i) infertility or (ii) embryo mortality. It can be difficult to distinguish between these two causes in the field and I have made no attempt to determine which of these factors was responsible for the failure of eggs to hatch in this study. However, it is difficult to envisage how infertility could be associated with nest site choice. There were more whole clutch failures at artificial nests on pylons than in trees (15% *cf.* 5% of clutches laid), but it should be borne in mind that there were many more clutches that included eggs that failed to hatch on pylons than in trees (44% *cf.* 19% of nests). Controlling for this difference, I found no significant difference in the proportion of whole clutch failures at pylons and trees, so the most likely explanation is that embryo mortality is the main reason for the difference in hatching success in this study.

Embryo mortality is strongly influenced by the environmental conditions experienced by the egg during after it has been laid and during incubation.

The principal contributory factors to embryo mortality during incubation are: deviations from the optimal incubation temperature, excessive water loss and bacterial infection. It is possible that eggs in artificial nests are more likely to get chilled than those in natural nests, perhaps because the nest scrape drains water less freely or they are more exposed to wind and rain than natural nests.

My finding that artificial nests on electricity pylons are more likely to contain unhatched eggs than those on tree nests suggests that exposure may be a significant factor, as artificial nests on pylons are normally in higher and more exposed locations than those on trees. Furthermore, it is possible that clutches in nests on electricity pylons are affected by electromagnetic fields (Fernie & Reynolds, 2005), as many adult Sakers spend a large proportion of their lifetime perched close to high voltage electricity wires. However, it is difficult to see why exposure to electromagnetic fields should be different for Sakers occupying artificial and natural nest sites on pylons. It will be necessary to conduct further research to discover the mechanism as to why eggs in artificial nests are less likely to hatch than those laid in natural nests.

Acknowledgements

I appreciate the work of all the people who took part the Saker Falcon conservation efforts in Hungary, especially those who helped in this investigation: Miklós Váczi, Gábor Tihanyi, Csaba Pignicki. Also thanks to the people who gave advice on the issue: Miklós Dudás, Imre Tóth, András Vasas, Tamás Szitta, Tamás Zalai, János Bagyura, Mátyás Prommer, András Kleszó and my Parents who have aided this theoretical investigation with their fund!

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Attitudes of pigeon keepers to the reintroduction of Saker Falcons in Bulgaria

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Summary

Attitudes of pigeon fanciers to birds of prey were assessed by questionnaires that were distributed across settlements close to the proposed reintroduction area for the Saker Falcon in Bulgaria. Peregrine Falcons and Sparrowhawks are the species that cause most damage to pigeon flocks according to the pigeon fanciers. The reported level of losses from raptors was less than 1-6 pigeons per year per fancier. Fanciers owning more pigeons suffered more attacks than those owning less pigeons. There were more raptor attacks at lofts near forested areas than at lofts in open areas. Attacks by raptors were considerably more frequent during spring and autumn. Pigeon fanciers who practise “endurance competition” seem to be the most problematic group with regard to the conflict between raptors and pigeon. Conservation activities aimed at minimising this conflict should be implemented with priority during the spring time as it is sensitive period for the breeding local raptors and potentially for reintroduced Saker Falcons.



Saker amongst feral pigeons in Hungary (Istvan Balazs)

Introduction

Formerly abundant and widespread the Saker Falcon is now probably extinct as breeder in Bulgaria. The species is now the subject of conservation projects to re-establish a viable breeding population, one of which involves the reintroduction of the species to the Central Balkans National Park (Ragyov *et al.* 2009). Following IUCN guidelines we are currently implementing a

series of preparatory steps for a reintroduction project. As part of this process we undertook an assessment of the attitudes of local pigeon keepers to prospect of Saker Falcons being reintroduced in their region.

Preliminary research showed that the attitude of many pigeon fanciers to raptors is generally negative because of raptor attacks on their pigeons. Consequently we can expect a similar negative attitude to the proposed reintroduction of Saker Falcons. We decided to focus our efforts to improving our understanding of the problem between pigeon keepers and raptors.

Methods

Questionnaires were distributed to fanciers living in the potential reintroduction area “Central Balkan”. A total of 57 questionnaires were completed during meetings with local pigeon keepers from 16 settlements in the study area. In addition we collected information on the raptor problem from a pigeon keeper’s internet forum: forum.galabite.com.

Most of the people (71%) kept pigeons as decorative birds, whilst the remainder used pigeons for competitions, mainly “endurance competition” and sometimes “post pigeons competitions”.

Results and Discussion

Species most problematic for pigeon fanciers

SPECIES	Number	%
Peregrine Falcon	22	32
“Falcon”	15	22
Sparrowhawk	11	16
“Hawk”	8	12
Unknown species	4	6
Goshawk	2	3
Kestrel	2	3
Saker Falcon	2	3
Common Buzzard	1	1
Levant Sparrowhawk	1	1

Table 1. Species named by pigeon keepers as the being the most likely to attack pigeons.

We asked pigeon keepers which species they believed attacked domestic pigeons most frequently, with Peregrine and Sparrowhawk being the most frequently named species (Table 1). However, many pigeon keepers do not distinguish different raptor species, but instead use a common name for birds that endanger their pigeons, such as “falcon” or “hawk”. We checked the ability of pigeon keepers to recognise different

raptor species: five pictures of different birds of prey were presented in the questionnaires that needed to be matched to their correct names. However, only 40% of pigeon fanciers recognized all five raptor species correctly and 35% of gave more than three wrong answers. The Kestrel and the Common Buzzard were the most correctly identified species, while the Saker Falcon was the most misidentified species (Table 2). This probably reflects the relative abundance and familiarity of the particular species.

SPECIES	Correct	Incorrect
Common Buzzard	41	16
Peregrine Falcon	34	23
Saker Falcon	27	30
Kestrel	49	8
Goshawk	32	25
Totals	183	102

Table 2. Pigeon fancier’s identification of different raptor species

Characteristics of the raptor problem

Almost all of the pigeon fanciers (95%) have observed raptors attempting to catch or catching a pigeon. Some owners observed attacks relatively infrequently (1-12 observations per year) and others much more frequently (Table 3). The latter did not specify any number of attacks but rather expressed the opinion that the raptor attacks on pigeons are commonplace. Interestingly, pigeon keepers who reported more frequent attacks owned more pigeons than those reporting fewer attacks (44 *cf.* 104 pigeons per fancier).

Response	N	%
1 time ever	3	6
1-5 times ever	11	21
1-2 times per year	8	15
min. 1 time per month	12	23
very often/every day	19	36

Table 3. Number and percentage of responses to the question about the frequency of attacks by birds of prey on pigeons.

According to information published in 2009-2010 on the pigeon keeper’s internet forum 47% (15/32) of attacks was successful and that the most keepers report 3-10 pigeon losses per year. Pigeon keepers who reported experiencing problems with raptors during our interview claimed to have lost 1-6 pigeons per year to birds of prey. Thus data from our interviews and from the internet forum indicates that raptors can account for 1 to 10 pigeons per year from each pigeon keeper.

Information gained from the internet forum suggests that the geographic location and especially the habitat around the lofts are of great importance for the level of damages caused by raptors. Lofts located close to areas of mature woodland and forests suffer more attacks than lofts located away from wooded areas. This is supported by findings of other studies e.g. Dixon (2002) and Henderson *et al.* (2004).

The timing of raptor attacks peaked in spring and autumn. This could be due to food demands of breeding birds in spring and post-breeding dispersal in autumn, or perhaps to an increase in the number of migratory raptors at these times.

Attitude toward raptors

Our review of the pigeon fanciers' internet forum showed that 78% (N = 40) of keepers had negative attitude to raptors and a third of these (N = 17) used or planned to use invasive methods against raptors (e.g., shooting or poisoning) with the remainder preferring to use non-invasive methods (scaring the raptors away). There were also 6 pigeon keepers who had a neutral attitude to raptors, accepting raptor attacks as a natural phenomenon and 5 who expressed positive attitudes towards birds of prey (Figure 2).

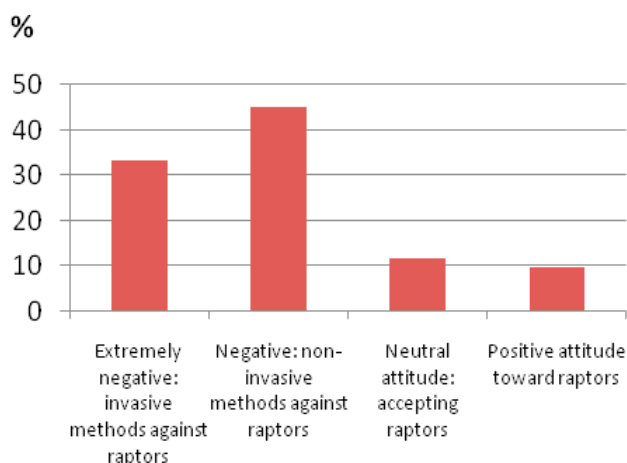


Figure 2. Attitude of pigeon fanciers toward raptors.

All birds of prey in Bulgaria are protected but nevertheless killing raptors is a common measure which pigeon fanciers undertake to protect their birds. Those who practice “endurance competition” are the most problematic group; they let their pigeons free for hours exposing them to attacks of birds of prey. Very often large bets are placed on the outcome of these competitions, which exacerbates their losses and compounds the problem.

Anti-raptor measures and their possible effect on Saker Falcons

Eighteen methods against raptors were reported on the pigeon fanciers' internet forum (Table 5). We divided them in three groups i.e., *Invasive*, *Non-invasive* and *Preventive*. These methods are applied either around

the lofts or around the raptor nest. Although pigeons can be a significant part of the Saker diet, there is no evidence that Saker Falcons will attack pigeons near the lofts, as they rarely fly into the settlements. The most problematic can be invasive methods e.g., such as shooting (with a gun or sling) can kill adults and young birds, if the nest is known. Fortunately raptors, especially in our study area, use nests in hidden or remote places. *Hawk traps* and *Arabic loops on pigeons* are still not known methods in Bulgaria and they are rarely used for capturing raptors. The biggest risk for Saker Falcons seems to be the use of poisons in the breeding territory. Unfortunately, this anti-raptor measure is the most frequently used by pigeon fanciers who adopt invasive methods against raptors. The poison *Lanat* used on the feathers of pigeon is the only chemical that was recorded in use in that regard. Our surveys obtained strong evidence that Peregrines have been killed regularly in that way in South Bulgaria. Fortunately in the reintroduction study area this problem was detected not neither during this study nor during previous field surveys between 2006 and 2010. However, there is a record of a Peregrine killed by pigeon fanciers in the past (V. Kojchev).

Invasive

1. Poisoned pigeon bait
2. Shooting (gun)
3. Shooting (sling)
4. Arabic loops on pigeon
5. Hawk trap

Non-invasive

1. Shooting (blank cartridge)
2. Eagle Owl voice recording
3. Releasing cheap pigeon with cut feathers before releasing main stock
4. Small bomb
5. Signal rocket
6. Scarecrow
7. Flag
8. Chatterbox
9. Clapping hands

Preventive

1. Using pigeons with high escaping skills
2. Lofts to be away of places with concentration of “wild” pigeons
3. Pigeons are released only when the fancier is out with them
4. Keeping the pigeons in closed cage

Table 4. Methods used by pigeon fanciers to protect their property against raptors (information extracted from pigeon keepers internet forum)

Legal solutions for protection pigeons against raptor predation

Legal methods that can potentially reduce attacks by birds of prey on pigeons can be divided into 2 groups:

Loft area deterrents.

Acoustic repellents. Bird-scaring devices based on noise emission (e.g., gas cannons, pyrotechnic shots).

Visual repellents. Visual deterrents that have been adopted by pigeon fanciers include putting a replica Great Horned Owl near the loft, using scarecrows, painting large eyes on the loft roof or walls, using 'eye-spot' balloons, stringing reflective discs or tape around the loft and placing mirrors near the loft entrance.

On-bird deterrents

In order to deter birds of prey attacking pigeons when they are away from the immediate loft area it is necessary to apply deterrents to individual birds. These are aimed primarily at deterring attacks by Peregrines and Goshawks. These deterrents could confer some protection for the marked individual only or for the whole flock. Two 'on-bird' deterrents are visual (sequins and roundel transfers) whilst the third is acoustic (Bali bells).

However, none of these techniques has been shown to reduce raptor attacks on pigeons and an effective methods to prevent raptor attacks on pigeons has not been developed. The review we made for this study showed that a compensation programme, similar to the widely used compensation programmes implemented for losses caused by predators (wolves and bears) on livestock, have not been implemented for pigeon fanciers. Such a programme is outlined in

the draft of Bulgarian Saker Falcon Action Plan that is being developed at the moment. We are considering implementation of a pilot compensation programme in the proposed reintroduction area. This would lower the risk of mortality for reintroduced Saker Falcons and improve the prospects for other protected birds of prey such as Peregrines, Sparrowhawk and Goshawk.

Despite the negative attitudes of pigeon fanciers toward raptors it is unlikely that this will affect the survival of released Saker Falcons, nor the success of the reintroduction.

Acknowledgements

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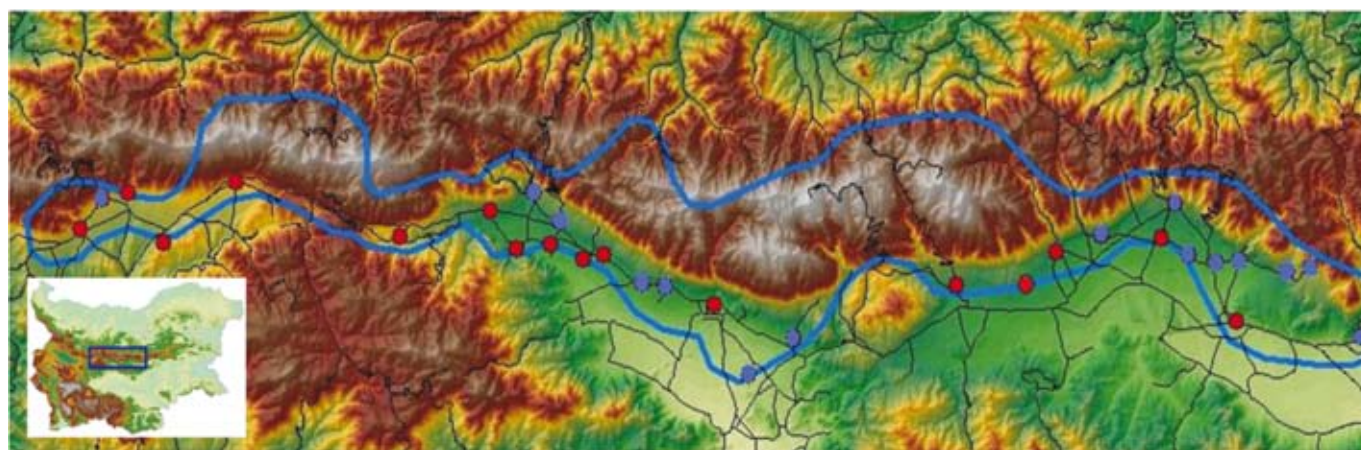


Figure 1. Map of the study area (potential area for reintroduction "Central Balkan"). Red dots: settlements visited during the study. Blue dots: other settlements



The problem of raptor electrocution at electricity distribution lines

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Summary

Electrocution of birds at power poles of medium-voltage electricity lines is a long-standing and widespread problem across the globe. The development of an effective electricity supply network is a key element for economic and social improvement in developing countries of Asia and Africa. China is a major supplier of infrastructure to develop electricity distribution networks in Asia and Africa, but unfortunately the standard design used for the hardware and poles is particularly bad for bird electrocution. Examples are given of the high bird of prey mortality rates that can occur at electricity distribution lines and the potential effect on bird of prey populations is discussed in light of the growth of such electricity distribution networks in Asia and Africa.

Background

Rapid industrialisation in the latter half of the 20th Century has resulted in the development of an enormous network of power distribution lines in North America, Europe, Africa and Asia. The provision of electricity is essential for the economic and social development of every country. In developing countries the health and social well-being of communities can be improved once they are connected to a reliable electricity supply and in the developed world we have come to rely on an electricity supply for our everyday existence. The network of power distribution lines will continue to grow, especially in Asia and Africa.

Electricity is typically generated at power stations using fossil fuels or nuclear power, at hydro-electric plants and via renewable sources such as wind farms. Once produced the electricity needs to be transmitted to the places where it will be used. Transmission lines carry electricity over long distances and comprise conductor wires carrying high-voltage supplies (generally 100 to 600 kV), which are suspended above ground on poles. Because transmission lines carry high-voltages it is necessary to have a large amount of insulation between the conductor wires and the hardware of the poles that hold these suspended wires. This insulation typically comprises a long chain of glass or ceramic discs; the higher the voltage the longer the chain of insulators.

Transmission lines form the basis of an electricity grid and from this a wider network of distribution lines carry the electricity to all the places where it is needed. Transformers reduce the voltage between the transmission and distribution lines, and the distribution network carries a medium-voltage supply (generally 3 kV to 60 kV). Because the voltage is lower, the amount of insulation required is less, which means that the conductor wires are closer to the crossarm they are suspended from. Raptors frequently perch on these crossarms, so the risk of touching the wire at the same time is greater at distribution lines than at transmission lines.

Electricity distribution and raptor electrocution

Electrocution of birds at medium voltage electricity distribution lines is a widespread problem. Electrocution can occur when a bird simultaneously touches two conductor wires (phases), which is more of a problem when the wires are closer together and for larger birds that can physically span the gap between the two. Electrocution can also occur when a bird touches one wire when it is perched on a crossarm that is earthed. Crossarms can be earthed if they are bolted to concrete poles that have a steel reinforcement mesh. Electricity can also arc across to a perched bird without any contact with a conductor wire, especially in damp conditions.

Raptor electrocution is a problem that has existed since power distribution lines were first erected in the late 19th Century, though the earliest records of bird electrocutions were from the 1920s in the USA and the scale of the problem was not fully recognized until the 1970s (Lehman *et al.*, 1999). It is a problem that has been recognized internationally at Governmental level, for example in 2002 a resolution was passed at the Conference of Parties of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) in Bonn. This resolution was entitled "Electrocution of Migratory Birds" and called for measures to safeguard birds from electrocution at distribution lines.

In Europe and North America steps have been taken to improve the safety of distribution lines, but there is still a long way to go. The sheer scale of the electricity distribution network and the extent of mitigation required, means that thousands of kilometres of power lines still pose an electrocution risk to birds. In Asia and Africa the problem is growing rapidly. In many developing countries there is a lack of awareness of the issue amongst electrical engineers and those responsible for developing energy infrastructure. The use of Chinese manufactured equipment for electricity distribution across Asia and Africa is a cause for



concern, as the standardized design used by the Chinese is particularly dangerous for raptors (Figure 1). Given the importance placed on standardising electricity distribution infrastructure in China, it seems unlikely that this current design will be modified to limited the electrocution risk for raptors.

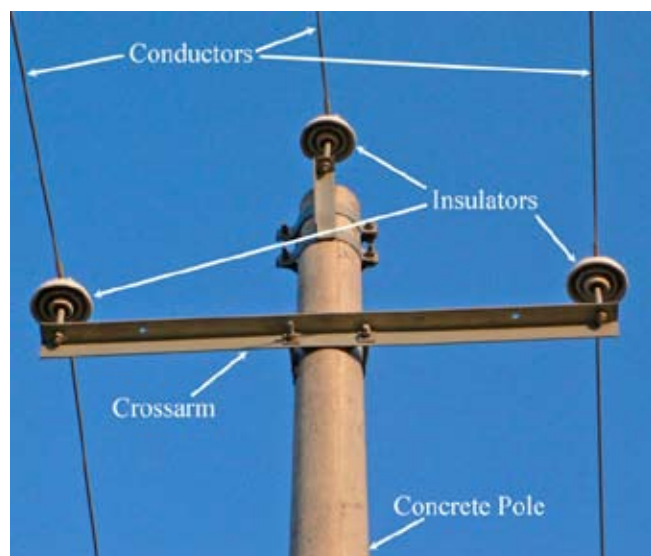


Figure 1. Typical Chinese designed pole used for electricity distribution. The metal crossarm is earthed by the steel-reinforced concrete pole.

Raptor electrocution in Mongolia

In Mongolia new electricity infrastructure developments often use Chinese manufactured concrete poles and associated hardware in contrast to the wooden poles formerly used (Harness *et al.*, 2008). These new lines can pose a significant electrocution threat to raptors. In recent years studies have been undertaken in Mongolia to identify and highlight the problem, especially by Rick Harness of EDM International, USA and Dr. Gombobaatar Sundeov of the National University of Mongolia. There is some awareness of the problem amongst Mongolian electrical engineers but attempts to reduce raptor electrocution using spikes, tapes and fans have proved ineffective (Amartuvshin *et al.*, 2010).

To my knowledge, detailed surveys to calculate kill rates at problematic distribution lines have not been carried out, but single visit surveys have detected large numbers of dead raptors (e.g., Harness & Gombobaatar, 2008), indicating that it could be impacting populations by acting as a biological sink. The scale of raptor mortality caused by electrocution is something that is often not easily conveyed in a table or in words, so here I have taken the opportunity to present a gallery of corpses found during one opportunistic survey of an electricity distribution line in Mongolia.

In May 2009 I was taken to an electricity distribution line by Batzul Bold, a Mongolian ornithologist who had known that this line, running between Uulbayan and Monhhaan in Suhbaatar province, was lethal to raptors

for several years. On the 12-13th May we drove 56 km along this line and found the remains of 41 raptors that had recently been electrocuted (most of the carcasses appeared to be less than one week old). These birds included species that were local breeders and others that were on passage through the region to breeding sites further north (such as Common Buzzard and Northern Goshawk). It may be that electrocution rates are greatest in the spring and autumn migration periods, or it could be high throughout the year. Unfortunately, it is not possible to assess this from a single visit, nor is it possible to account for carcasses that had been removed by scavenging animals. Nevertheless, it is clear that this single line has the potential to kill enormous numbers of raptors; and this is just one of several similar lines that have been erected recently in Mongolia.

Future prospects

Chinese manufactured electricity distribution lines are being installed across Asia and Africa, in places where they can have a significant impact on raptors. Changing the Chinese 'standard' design is simple from an engineering standpoint but difficult politically, and in the current global economic climate there is little prospect of purchasers switching to alternative, more costly, pole designs. Where large companies are establishing power supplies it may be possible to pressure them to mitigate the problem of electrocution or use alternative designs; the proliferation of large, electricity-demanding mining operations in Mongolia is a case in point.

It is important to raise awareness of the issue, especially among electricity infrastructure purchasers. Managers of electricity networks need to be aware of the problem, as raptor electrocution can cause failures in the supply. Governments have conservation obligations under international conventions, so political pressure can be applied to ensure they meet these obligations in relation to raptor electrocution.

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Gallery of raptor corpses found below a 56 km electricity distribution line running from Uulbayan to Monhhaan. In total we found the remains of 41 raptors comprising 10 Upland Buzzards, nine Ravens, seven Saker Falcons, four Common Buzzards, three Golden Eagles and two specimens each of Goshawk, Black-eared Kite, Common Kestrel and Steppe Eagle.



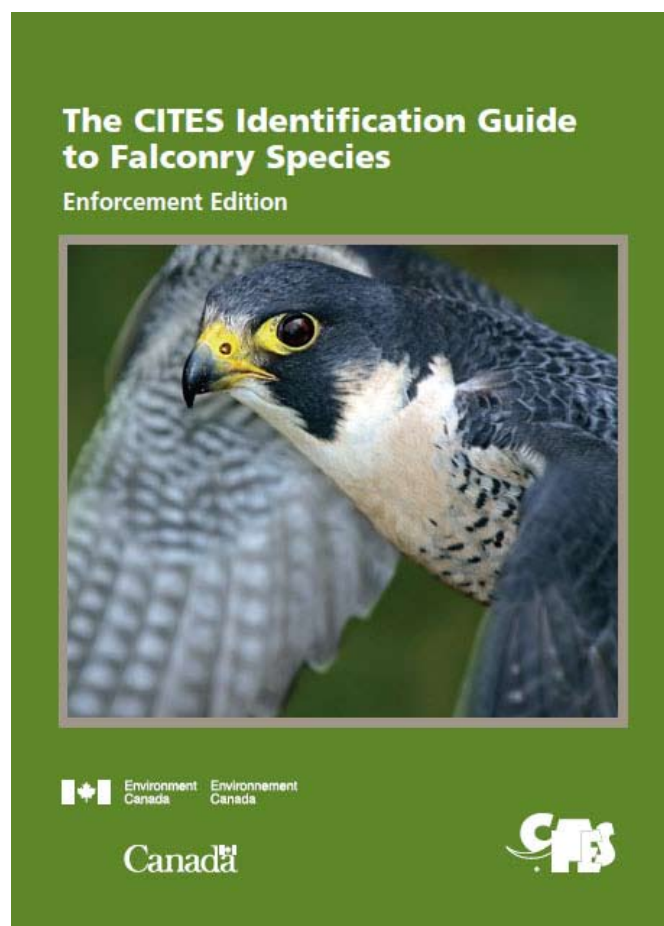
Combatting the illegal trapping and trade of falcons in Turkey

Anonymous members of the Turkish Bird Research Community

Background

A 2007 survey of breeding Sakers in Turkey, organized through the Southeast European Saker Network (SESN), concluded that illegal trapping was potentially affecting the breeding population in the country. Consequently, a follow-up project was developed through SESN to address the issue of illegal trapping.

In 2009 Environment Canada and CITES produced the “CITES Identification Guide to Falconry Species”. This guide includes important distinctions between the falcon and the hawk family, which are often confused because of their similar appearance. Colour photographs show key characteristics of different species around the world, so that individuals can use the guide to recognize falcons based on these characteristics, and can learn about common trade patterns (the main countries that import and export falcons), and the purpose for which that particular bird is traded. In addition a special Enforcement Edition of this guide has also been produced, as a toolkit for enforcement officers working to detect and prevent falcon smuggling.



The CITES Identification Guide to Falconry Species: Enforcement Edition covers:

- The **stages** of illegal falcon trade – removing the bird from the wild, moving the bird across borders, and selling and delivering the bird to falconers
- **Locations** from where falcons may be taken
- Smuggling and concealment **techniques**
- Common smuggling **routes** – by air, land or sea
- A review **checklist** for CITES permits and certification
- **Behaviours** consistent with smuggling – for example, using a GPS device

In 2010, SESN in conjunction with Turkish ornithologists developed an initiative to increase awareness of illegal trapping amongst law enforcement agencies by translating the CITES Identification Guide to Falconry Species and the Enforcement Edition into Turkish and presenting this to enforcement agencies in at workshops in various parts of the country. The following account has been prepared by members of the Turkish Bird Research Community who must remain anonymous for their own safety.

Introduction

The Turkish SESN team received permission from Canadian officials to translate the text and use the diagrams (but not the photographs) of the CITES Falconry Species guide. The team used personal and other photos from Turkish bird watchers to complete the guide. We made presentations and give the translated guide and information about stopping falcon trapping at 16 different offices of government authority, which included village elders, normal police, forestry officials, military police and the official military.

We started the project only knowing of four small regions where Saker trapping was reported to have taken place, but during the course of our project work we discovered evidence of trapping in a further nine areas. We are certain that falcon trapping is the cause of the Saker Falcon decline in Turkey. We found several witnesses who told us about seeing cars containing two to seven Sakers, 15 to 20 years ago and that subsequently the falcons have disappeared from cliffs in the nearby areas. I have divided our present findings related to trapping into Eastern and Central Anatolia.

Reports of Falcon Trapping in Eastern Anatolia

We did not find evidence of falcon trappers near Dogubayazit, but we learned that Syrians do cross the border here so this is a possible smuggling location. We heard testimony from a man who 20 years ago saw

Turkish Arabs in a car with three Sakers in Ardahan. In Bulanik, from many men in one village, we learned that Syrians have been coming there for at least the last five or six years. They steal or buy pigeons from the villages in this area. The villagers had been guiding them and they caught at least one Saker here from an electric power line two years ago. Here we also learned that last year (2009) a Syrian trapped one Saker in Malazgirt and then came to Bulanik hoping to trap another. We spoke to one man who told us that he had seen Arabs at a falcon breeding territory and they said they were going to Erzincan where another Syrian reported trapping a falcon. However, in Erzincan and the surrounding area we found no knowledge of any Syrians coming; they might possibly go to a small village some distance from the actual city. We learned from one military captain that in 1993 he had captured Arab Turks from Mardin in the province of Ozalp with two brown falcons.

Reports of Falcon Trapping in Central Anatolia

We learned of two large areas of both Turkish and foreign Arab falcon trapping activity. In both areas many people stated that they haven't seen any falcons for a long time - since the Arabs started to come about 10 to 20 years ago. One area is south of Kayseri, the other area is between Kayseri and Sivas. In the second area we spoke to one Jandarma soldier who, in 2007, heard stories about the capture of a Turkish Arab from Mardin whilst he was trapping near Sarkisli. He was caught before he had trapped a falcon and explained to the military police in detail the methods used to trap falcons. He asked the military to give him a fine and that he would then just trap falcons in another area because this was his job. In Yesil Hisar we spoke to two different people who saw many Arabs about 15 to 20 years ago and one had witnessed four falcons in one car. We stopped at every petrol station here and asked them if they see Arabs. They all stated that they come to the area, but that they have dropped in numbers in the last ten years. Their cars have Arabic license plates or Hatay province plates. One station attendant saw three falcons in a car five years ago. They also told us the names of the places that Arabs often ask for directions how to get to; we gave these place names to the military police.

The military police reported that between Yeşil Hisar and Kayseri they saw falcon trappers in the steppe areas every year, but added that they cannot catch them because the trappers have better vehicles and will drive across any field. The trappers also know hiding places such as low spots in the steppes where they park and hide. Furthermore, they buy supplies from the villagers so the villagers protect them.

In Nigde we spoke to a man who turned in two vehicles of Arabs 17 years ago with a total of seven Saker Falcons. He said he has never seen a falcon in this region in the last ten years. He saw many before and blames the Arab falcon trappers. Near Karadag in Konya province there is no close military presence and we spoke to locals and one village elder who said they have never seen Arabs in the area. Yet, near this village the petrol station owner said they come every year in small numbers, but he has never seen them with a falcon. He said he heard of them trapping falcons near Karapinar north of here. We did not have time to investigate this area thoroughly and found no immediate evidence of Arabs coming there. We also could not find any modern evidence of falcon trapping near Kirik Kale/Keskin and after some searching reached the conclusion that this was no longer a prime falcon trapping area as the population here was probably 'trapped-out' some time ago.



Additional information gathered on falcon trapping and trading activity

We obtained anecdotal information on trapping and trading activity from Turkish bird-watchers, Turkish falconers and from internet searches.

Anecdotes from Turkish bird-watchers:

- i. Several falcons were found in a side panel of a large truck crossing into Iran along with hashish.
- ii. Lure trained falcons seen being flown to lures across the Turkish-Syrian border with small packages tied on their backs.
- iii. Adverts are often placed on local TV stations or newspapers by villagers who have taken birds of prey from a nest. If this is a Saker Falcon someone reports this to Syrians and then an Arab Turk takes the falcon to them.

Anecdotes from Turkish Falconers

- i. If you ever capture a Saker you can always sell it to a man in Mersin who sells them to the Syrians.
- ii. One man bought a Saker missing a toe for \$250 from an Arab Turk because he said that the Syrians won't want it. This man was very secretive and wouldn't explain anymore.
- iii. I would guess that at least 50 Sakers are sold into Syria every year based on the stories I've heard. I can get them to sell you a male, but the females always go to Syria and cost about \$1000.
- iv. About 20 years ago southeast of Kırık Kale I saw a group of five Turkish falconers with their own Sakers.

Articles found on the internet

29 August 2000. Near Pınarbaşı east of Kayseri 2 Syrians were captured named Abdullah Alrabe and Zıb Al Awad'ı. They had 1 falcon and pigeons and traps and hoods.

28 August 2008. Near Arslanköy at Dümbelek Düzlüğü Hüyük Yaylası 4 vehicles were chased after being suspected of suspicious activity. One vehicle was captured and a Peregrine was found. The two men were fined



Peregrine still attached to noose harness that was discovered by authorities near Arslanköy in August 2008 (image taken from internet video <http://video.mynet.com/albeymeta/Toros-Daglari-nda-kacak-sahin-avi/190412>)

30 September 2009. In the Şarkışla province near Demirboğa two Syrians with a Turkish Arab were captured trying to catch a falcon flying in the area. The lead author spoke to the officer who captured them and they said just let us pay the fine. The Turkish Arab said we will then capture the falcon so we can sell it to pay the fine. They were very proud of their trapping knowledge and explained it in detail to the officers with no fear. They were fined a small fine for illegal hunting.

Falcon Smugglers Captured During This Project

We believe that this project has led to an increase in military police efforts to capture falcon smugglers. In 2010, a total of 13 men were captured and fined. One

Saker, another unidentified falcon (most likely a Saker) and nine Peregrines were released. Never before have so many falcon smugglers been captured in one season. Many possible trappers were chased, hopefully preventing the further capture of falcons. There are possibly even more captures from 2010 to report, but due to the sensitivity of some cases and heavy work load of officials they have not yet given us a report. We will continue to follow up with all the Commanders of the areas where we conducted our education efforts.

Near Yahyalı two Syrians were captured by military police officials who identified them based on the CITES materials we had provided to them. On 12 June 2010, the trappers were caught throwing a pigeon on a line into the air but they had not captured a falcon. They were fined for illegal hunting.

At Uzunyayla near Pınarbaşı on 23 July two Syrians and two Arab Turks from Sanli Urfa were captured. After our education meetings with the military police in that area, they remembered to check for Syrians in the mountains. So when they saw Syrians they stopped them and saw they had pigeons. Then they begin searching the vehicle and found the falcon. They were captured with a Saker and 18 pigeons and with several noose jackets. The Saker was hidden under the hood of the car. They were fined 3,434 lira as a group for illegal hunting and the Syrians were fined a further 6,500 lira for capturing a protected bird of prey. The falcon was released at some nearby cliffs.



A juvenile Saker confiscated from trappers at Uzunyayla in July 2010

At Başyayla near Karaman four Syrians were captured with one local Turkish guide and one Peregrine. The local guide swore that he was just helping them and did not know it was illegal. The Syrian who reportedly captured the falcon was fined 6,500 lira. The others were fined varying amounts for illegal hunting. Two other vehicles escaped across the steppes while only the one vehicle was captured. They were reported by a villager who heard several gun shots being fired from a moving vehicle near the camp where they were captured the next morning. It was later determined they were shooting animals at night.

After a complaint the police stopped a car on the Tarsus Adana Gaziantep highway heading east. The driver was from Şanlıurfa, and hidden in the back seat of his car were eight falcons. From a photograph provided by the police we were able to identify seven as Peregrines, but they did not take close-up photos of each bird. The driver lied to the police and said they were Sparrowhawks and that he was taking them to local falconers legally.



Eight falcons hidden in the upholstery of the back seat of a car

Near Mersin on 1 September military police chased several Arab vehicles who threw something out of one of the cars. The police discovered that they had thrown a Peregrine out of the vehicle and that it had had its eyes sown shut. They were able to capture one vehicle with two Syrian men, who were fined 6,500 lira for capturing the falcon.



Peregrine with stitched eyes that was thrown from a car by trappers who were being chased by the military police near Mersin

Experience gained during the project

During the project we encountered a number of difficulties, which we have described below:

With new border crossing changes as of last year (2009), Syrians can come to Turkey without a visa. We learned that more hobbyist falcon trappers are coming to look for Saker and Peregrine Falcons. Officials in East Anatolia near the border areas showed very little interest in our project and explained to us that falcons are not important compared to capturing terrorists and

smugglers of humans/human organs. In areas further from the borders, in Central and Western Turkey, there was a corresponding increase in interest and willingness to help. Furthermore, in larger cities it was difficult to schedule meetings with officials, compared to smaller towns where we were able to schedule appointments with ease. In village areas, we freely spoke to officials with no appointment being necessary. We learnt that meetings with officials in larger cities need to be scheduled up to six months in advance, a situation that was further complicated because the area covered by our project increased as we gained more information. Consequently, we did not have the opportunity to schedule meetings with high ranking officials governing whole provinces.

During our work, we discovered that most officials are rotated every two years, which means that an effective education project must be implemented at least every two years in order to retain the high-profile of combatting falcon trapping amongst the law enforcement agencies.

Further work

We believe that designing signs warning of the prosecution of falcon trappers and placing them at the Syrian border and near areas of high falcon trapping would be of help. This would be an easy way to increase the fear level of villagers to not help falcon trappers and let falcon trappers know that the officials are not ignorant of the problem. At the same time this would be a visual reminder for the military police about the presence of falcon trappers. Signs should be printed in Turkish and Arabic in areas where roads cross near areas under military watch, so that the signs would not be destroyed.

Educating locals in areas of high falcon trapping activity might lead to more complaints made against falcon trappers. However, in many villages we heard stories of how Syrians buy pigeons and sheep from the poor villagers. They pay more than normal prices and also offer to pay for information about falcon nest sites. They apparently do this to win favor and protection from the villagers. A strategy to help villagers put a value on the Saker Falcon and report the Syrians must be developed if this is to be stopped.

Acknowledgements

We want to thank Southeast European Saker Network for making this project possible with funding from the Environment Agency Abu Dhabi. We are very grateful for the cooperation of all the Jandarma (military police) and Askeri (military) commanders, Secret Service Agents and other officers who were willing to listen and therefore later capture falcon trappers. In addition, this project would not have been nearly as successful without the cooperation of local birdwatchers in Central and Western Anatolia.



Lymphoid leukosis in Asian Houbara Bustards in the UAE

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Introduction

Lymphoid leukosis is the most common type of retroviral-induced tumour seen in birds, but has rarely been reported in bustards (*Chlamydotis macqueenii*) (Bailey 2008). It has been diagnosed in two Houbara Bustards at NARC and Wernery (2000) described a case in a female Houbara Bustard. In poultry it is caused by viruses placed in a subgroup of avian type C oncoviruses of the family *Retroviridae* (Garcia-Fernandez *et al.* 2000). However, since no virus has been identified from these bustard cases it might be spontaneous leukosis. Although the disease is well studied in chickens and turkeys, relatively little is known about the disease in other species. Therefore, a retrospective study was performed on 19 cases in Houbara Bustards, diagnosed at Central Veterinary Research Laboratory (CVRL) over the last 10 years.

Materials and Methods

A total 1082 Houbara Bustard carcasses were submitted for necropsy to CVRL between 1996 and 2009. Organ samples from all cases were taken for histopathological and microbiological investigations, using routine methods. Selected formalin-fixed organ samples, collected from 827 dead birds at a Houbara Bustard-breeding centre, were also included in this study.

Slides prepared from organs with leukotic infiltrates were then processed for immunohistology using two anti-human antibodies (Rabbit Anti-human CD3; T-cell-marker and Mouse Anti-human CD 79 α cy; B-cell-marker) to differentiate between the neoplastic cells.

Results

A total of 19 cases of leukosis in Houbara Bustards were diagnosed at CVRL in Dubai from 1996-2009 (Table 1). Nineteen cases came from a Houbara bustard-breeding centre, where necropsy was performed. Four cases came for post mortem from 2 different private collections (2 each) in Dubai, resulting in an incidence of 0.36% (4 out of 1082 Houbara Bustards with necropsy performed at CVRL).

Year	Number of Leukosis-cases
1999	1
2000	-
2001	2
2002	-
2003	1
2004	1
2005	-
2006	2
2007	2
2008	2
2009	8
Total	19

Table 1: Occurrence of lymphosarcoma cases in Houbara bustards diagnosed at CVRL.

Clinical signs included depression, anorexia and dyspnoea. Clinical examination revealed massively distended livers. Haematology findings in birds that were clinically ill before dying included a mild hypochromic anaemia, a severe leukocytosis with lymphocytosis and the presence of numerous immature lymphocytes and lymphoblasts. On necropsy, ascites and hepatomegaly with whitish nodules in the spleen and kidneys, were observed. Histopathology revealed severe infiltration of affected organs with mononuclear cells (lymphoblasts and lymphocytes) in follicle-like formations, disrupting the normal architecture.



Fig 1: Hepatomegaly in a Houbara Bustard with severe diffuse fibrinous peritonitis and pericarditis due to lymphoid leukosis.

The liver was involved in 17 cases (Fig. 1), the spleen in 15 cases. A few cases also revealed lesions in other organs (6 x kidneys or GIT, 3 x bursa of Fabricius or bone marrow, 1 x heart). Histopathological examination showed severe lymphoblastic infiltrations in the affected organs (Fig. 2). Immunocytochemistry with anti-human antibodies confirmed T-cell leukosis with more than 80% of the tumor cells staining positive for CD3 (Fig. 3).

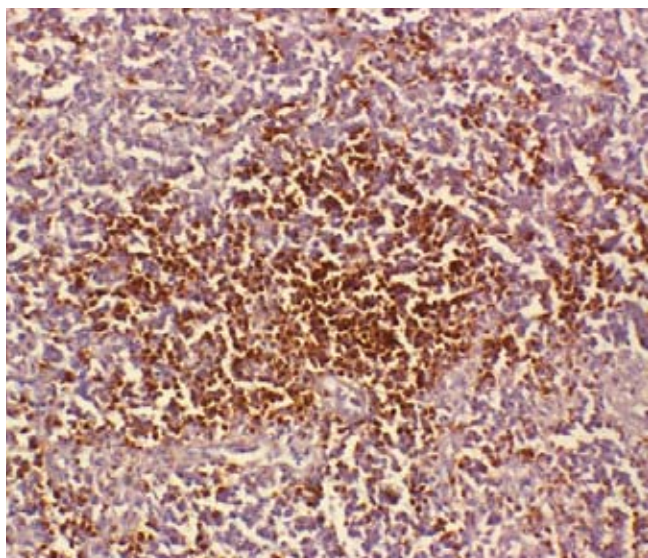


Fig 2: Histology of the heart of the bird in Fig 1 showing massive infiltration with lymphoblastic cells disrupting the normal tissue architecture (H&E)

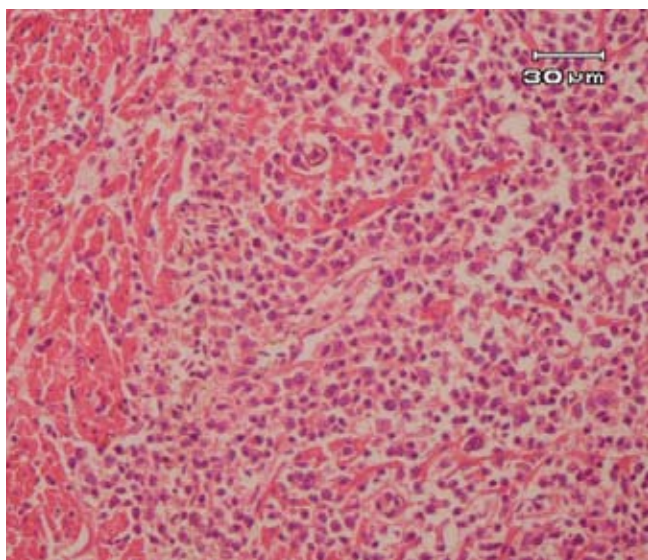


Fig 3: Immunocytochemistry of liver: more than 80% of the tumor cells staining positive for CD3 (T-cell-marker)

Discussion:

Our retrospective study was performed on nearly 2000 Houbara Bustards, investigated by histopathology between 1996 and 2009. Lymphoid leukosis was diagnosed in 19 out of nearly 2000 Houbara Bustards (0.95%), investigated by histopathology since 1996. Most of the cases came from one Houbara Bustard-breeding centre.

This rare incidence of lymphatic leukosis in Houbara Bustards and the apparent lack of a retrovirus led us to speculate that these are cases of sporadic leukosis. However, exposure to (undetected) infectious diseases during illegal trade has to be considered, since some cases have occurred in wild Houbara Bustards confiscated by the UAE customs authorities and included in breeding programmes (Bailey *et al.*, 2000). There is no treatment for this disease. Hence, control measures based on high standards of hygiene and flock management are required in any of such breeding projects.

In poultry it is possible to test for virus antigen and antibodies and it may be possible to screen for infected bustards. Breeding birds at one project were tested with an antigen ELISA test (Flockcheck, ALV-Ag, IDEXX, UK) using cloacal swabs and no positive birds were detected. No further birds died of leukosis at this project suggesting that this disease occurs sporadically and may not readily transmitted from infected birds.

Further retrospective surveys of this disease from other bustard breeding projects would be useful and contribute to our understanding of this condition in captive bustards.

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Experimental Use of Interferon- γ in Healthy Falcons

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Summary

To assess the safety of interferon- γ , six healthy falcons were dosed daily (SID) with 1ml total volume (0.02 ml neat interferon in 1:50 dilution) for two weeks. Three more falcons acted as blind controls receiving equal volumes of NaCl. Haematology and biochemical parameters were evaluated before and throughout the project. No negative effects were observed in either clinical and laboratory parameters. In clinical cases (viral and aspergillosis) the use of interferon- γ had no side effects, but its contribution could not be evaluated. Therefore, further investigation is needed on that field.

Introduction

Interferons are the only natural antiviral agent in mammals and birds (Lowenthal et al 2000, Kaiser et al 1997, Kaiser & Stäheli 2008). In poultry, interferons have been demonstrated to ameliorate Newcastle disease, avian influenza and other viral infections (Marcus et al 1999, Sekellic et al 1999, Lowenthal et al 2003, Xia et al 2009, Kaiser 2010). In psittacine birds the intramuscular use of avian interferon- γ was effective against circovirus infected birds (Stanford, 2004). Human interferon- γ has also been reported to help immunity in human patients diagnosed with pulmonary aspergillosis (Bandera et al, 2008). Lately, the commercial production of avian interferons by specialised laboratories has increased their availability and use in clinical practice.

Aims and Methods

The purpose of this study was to explore the safety, the route efficacy and the normal haematological responses of chicken interferon- γ (ChIFN- γ) in falcons and to assess its potential for use as a drug for the treatment of viral diseases (AIV, Newcastle disease) or as supportive treatment for aspergillosis cases. The birds (pure and hybrid captive falcons) used in this study were healthy in terms of clinical signs (detailed physical examination),

previous recent endoscopic, parasitological and hematologic values (day 0). Birds with aspergillosis, trauma, bumblefoot, parasites, suspected bacterial or viral infections and other conditions that may interfere with the haematology values were excluded. Six of the birds, randomly selected, were treated (day 1) with avian interferon- γ , whose concentration was 1:50 (0,02 ml neat interferon) and the total diluted volume was 1 ml, orally, SID, for at least 2 weeks. Three falcons have served as blind controls and received the equal volume of normal saline. Daily monitoring was done by an experienced owner (falconer), under a standard protocol, for any changes in weight, flight behaviour, appetite or any signs of illness. Haematology and biochemical values were examined at days 0, 3, 7, 10, 14 from the beginning of the trial.

Results and Discussion

None of the birds showed any adverse clinical effects from the administration of oral interferon- γ . Appetite, faeces and cast production, plumage condition, weight, flight performance were normal. Haematology (TWBC, differential white cell count, heterophil/lymphocyte ratio) and biochemical values (full panel but with focus on total proteins, albumin, globulin and A:G ratio) were also unremarkable, during the 2-week trial, for the same birds as well as collectively between controls and interferon- γ administered falcons. Moreover, chicken interferon- γ was used in some aspergillosis clinical cases, in conjunction with antifungal and supportive therapy. No negative results were observed, but it was not possible to assess if the application of interferon- γ contributed to the overall clinical improvement.

Concluding, the use of chicken interferon- γ in falcons caused no side-effects when orally administered. Further studies in clinical cases are needed in the future to assess the effect of interferon- γ against aspergillosis or other infections important to falconry.

Acknowledgements

The authors thank His Highness Sheikh Hamdan bin Rashid al Maktoum (Deputy Ruler of Dubai, Minister of Finance and Industry and Head of the Department of Health, Dubai), Mr Humaid Obaid al Muhairi, (Managing Director of Dubai Falcon Hospital) for financing this project as well as Mr. Zoltan Loerentei who provided the falcons and warmly supported the investigators during the project.

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Bilateral tibiotarsal fracture repair using an intramedullary pin and external skeletal fixator tie-in (IM-ESF tie-in) in a Martial Eagle

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Introduction

The Martial Eagle (*Polemaetus bellicosus*) is the largest eagle in Africa and it is distributed from Senegal to Somalia and south to the Cape (Brown 1982)

Fracture management techniques in birds have been described by several authors (Bennett and Kuzma, 1992; Martin and Ritchie, 1994; Harcourt-Brown, 1996; Bennett, 1997; Coles, 1997; Harcourt-Brown, 2000; Redig, 2000a; Redig, 2000b; Tully, 2002). Even though there are significant differences between avian and mammalian bone growth and fracture repair (Redig 2000b; Tully, 2002) general principles still apply (Bennett and Kuzma, 1992). The ideal fixation device for avian fractures should: (i) be able to stabilize the fracture neutralizing its inherent forces (compression, rotation, bending and shear), (ii) not rely on coaption, (iii) allow early return to function and promote load shearing, (iv) avoid morbidity of adjacent structures (especially joints), (v) be inexpensive and (vi) be removed after fracture union is achieved (Bennet and Kuzma, 1992; Bennett, 1997; Redig, 2000a; Redig 2000b).

Clinical Case

Initial Presentation

A sub-adult male Martial eagle was referred from the veterinary services of the Breeding Centre for Endangered Arabian Wildlife (BCEAW, Sharjah, UAE) for orthopaedic surgery. The animal was found early in the morning on the ground unable to stand. Ventrodorsal radiography of the whole body taken at the BCEAW showed transverse fractures in the proximal third of the left and right tibiotarsus and fracture of the right fibula (Figure 1). The animal was in good body condition.



Figure 1: Ventrodorsal radiography of the Martial eagle showing transverse bilateral tibiotarsal fracture. The fibula is also visible broken in the right leg.

Surgical Procedure

The bird was anaesthetised with isoflurane. The femorotibial joints and cranial tibiotarsi were surgically prepared after the feathers were plucked. A 3.5 mm trocar point partially threaded Steinmann intramedullary pin (IMEXTM Veterinary Inc, USA) was inserted at the craniomedial aspect of the right proximal tibiotarsus in normograde fashion. The joint was flexed and the cranial cnemial crest and the fossa retropatellaris were identified to avoid the articular surface of the joint (Figure 2).

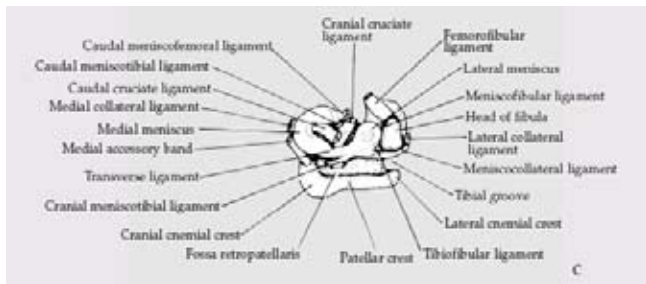


Figure 2: The ligaments and related structures of the left cranial articular surface of the femorotibial joint of the Goshawk (*Accipiter gentilis*). From: Harcourt-Brown, N.H. (2000) *Birds of Prey: Anatomy, Radiology, and Clinical Conditions of the Pelvic Limb* (CD-ROM).

One transverse 2.4 mm positive-profile threaded half-pin (Interface™, IMEX™ Veterinary Inc, USA) was placed from the lateral aspect in the proximal fragment and other in the distal for external skeletal fixation. All process was performed with the aid of fluoroscopy (Fluoroscanner™ Premier™; Encore Hologic Inc, USA) to ensure correct pin placement and to avoid damage of the intertarsal joint (Figure 3). The three pins were bent at right angles and fixed together with thermoplastic casting material (Vet-lite Veterinary bandage; Runlite S.A., Belgium) (Figures 4-5). Care was taken to ensure that the alignment of the leg was correct before the fixation of the pins (Figure 6). The same procedure was repeated in the left leg (Figure 3, 7). No dressing was needed.

Postoperative care

Fluids, long acting amoxicillin and butorphanol were given. It was advised to place the animal on sand in a quiet environment. Assessment of fracture evolution and possible removal of fixations was scheduled in four weeks.

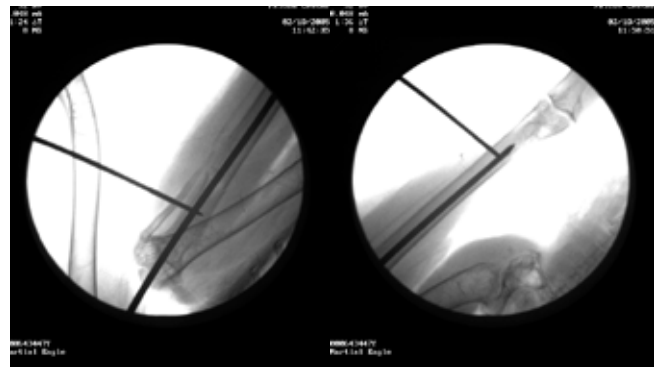


Figure 3: Fluoroscopy aid placement of the implants for tibiotarsal fracture resolution using an intramedullary pin and external skeletal fixator tie-in. Intramedullary pin insertion at the craniomedial aspect of the right (a) and left (d) proximal tibiotarsi. Half-pin insertion at proximal and distal fragments of the fractures at the right (b-c) and left tibiotarsi (e-f).



Figure 4: The intramedullary pin and the two half-pins were bent at right angles.



Figure 5: Thermoplastic casting material was used to fix together the three pins.

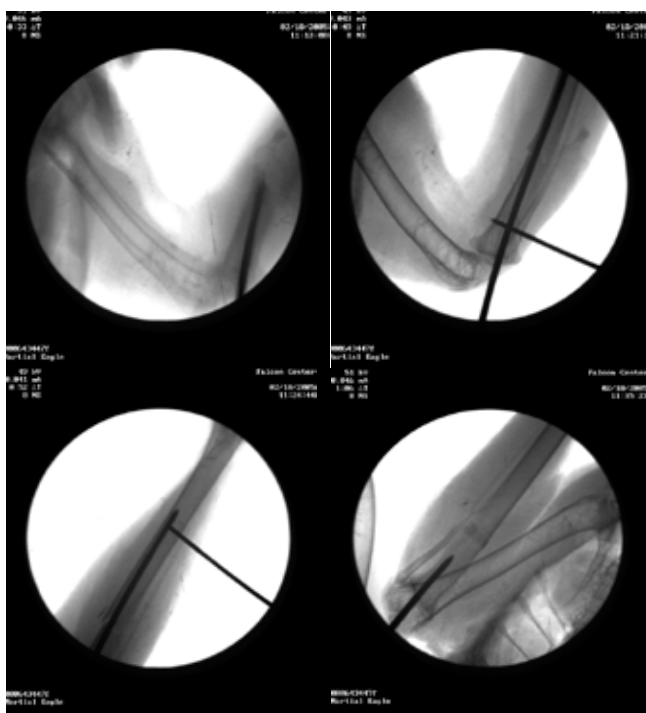




Figure 6: The legs were correct aligned before the intramedullary pin and the external fixators were tie together.



Figure 7: The same procedure performed at the right leg was repeated in the left tibiotarsus.

Clinical outcome

Five and a half weeks after the orthopaedic surgery the Martial eagle was presented for evaluation of fracture healing. Even though the animal was a bit stiff, it could stand on both legs, use the toes and eat normally. The animal was anaesthetized and both legs were examined by fluoroscopy. There was a good binding callus at the right tibiotarsus fracture site and even though a small fracture gap was still present at the left leg there was also reactive lateral callus (Figures 8-9). Decision of removal of the pins was based in the evidence of bone union and the proximity of the scheduled date for sending the eagles to a rehabilitation centre in South Africa. After the removal, there was not weak feeling at the fracture site on palpation. It was advised to keep the bird on sand until the shipment to avoid bumblefoot development. The following week the bird was lame on the left leg but still putting weight on it. One month after, the animal was fully recovered and it was sent to South Africa.

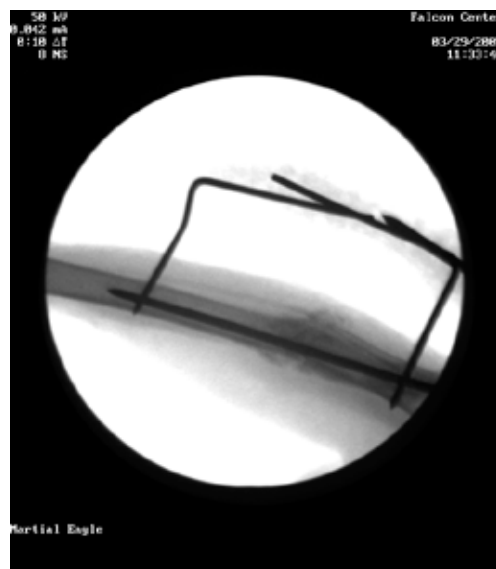


Figure 8 (left): Fluoroscopy of the right tibiotarsus of the Martial eagle 39 days after orthopaedic surgery. Notice the presence of bridging callus.

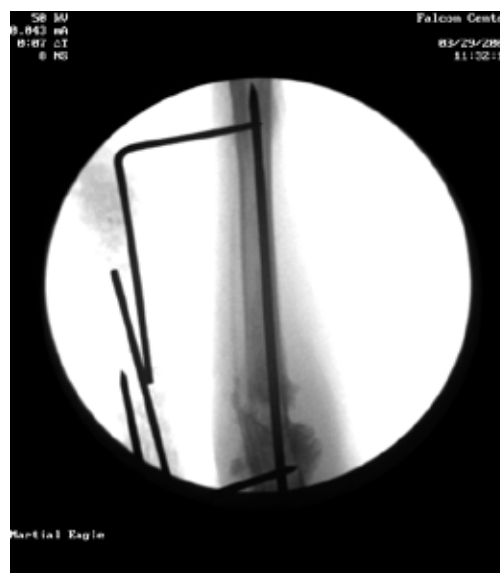


Figure 9 (right): Fluoroscopy of the left tibiotarsus of the Martial eagle 39 days after orthopaedic surgery. Even though a fracture gap still present, it can be notice also the presence of reactive callus.

Discussion

The bird tibiotarsus is formed by a fusion of the tibia with the proximal row of tarsal bones (Hollamby et al, 2004) and in captive birds of prey is the most commonly fractured leg bone (Harcourt-Brown, 2000). The proximal transverse fractures in our case were caused by the bird flying off the perch after been recently jessed on too long leash and placed in a new training setting. This type of fracture has also been described in hawks and in quarantine birds placed outside after a period of visual seclusion (Harcourt-Brown, 2000).

Several methods for tibiotarsal fracture reparation have been described (Harcourt Brown, 1996; Coles, 1997; Bennett, 1997; Harcourt-Brown, 2000; Redig, 2000b), and even though great success has been reported with some of them (Harcourt-Brown, 2000; Redig, 2000b), the risk of complications associated with each one has to be considered. The large size of the bird, the type and site of the fractures, the materials available, and the intent of rehabilitation and release of the bird were taken into account at the time of choosing the fixation device. The IM-ESF tie-in has been described for its use in raptor long bones (Redig, 2000a). It was chosen as, in theory, it was able to counteract the rotation and bending forces that our transverse fractures were subjected to (Bennett and Kuzma, 1992), as IM pin opposes bending forces and ESF opposes rotational, compressive, shear and bending forces (Bennett and Kuzma, 1992; Redig, 2000a). In addition the IM pin provided the necessary alignment for this bone (Redig, 2000b).

The main problems associated with pin positioning in the tibiotarsus are the difficulty of placement of an IM pin without invading a joint surface (Bennett and Kuzma, 1992; Redig, 2000b) and the potential of damage of vital structures at the lateral aspect of the tibiotarsus by the ESF pins (Harcourt-Brown, 2000). The introduction of the IM pin in a normograde fashion with the articulation bent helped to avoid the femorotibial articular surfaces and the use of fluoroscopy during the procedure avoid the damage of the intertarsal joint. In addition the normograde insertion was chosen to reduce the surgical time, the risk of osteomyelitis and post-surgical care.

Fracture healing in birds has been reported as early as three weeks in small size birds and forty days in large ones (Bennett and Kuzma, 1992; Harcourt-Brown, 2000). Removal of the fixation devices after five weeks and a half was based in the radiographic evidence of bone union but also by the necessity of including this animal into the shipment to the rehabilitation centre. In other circumstances fixation devices may have not been removed until the seventh week. Early removal of implants did not affect the healing of the bird, and even though it was lame at the left leg the following week, it was putting weight on and it was fully recovered after one month when it was sent to South Africa.

In conclusion, IM-ESF tie-in can be successfully used in the resolution of tibiotarsal fractures in large birds.

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Review Article: Mycoplasmas in Birds of Prey

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Mycoplasmas are well known as pathogens in man and other mammals as well as birds. Importantly in poultry they are able to cause clinical signs and economical losses. They are also linked to disease outbreaks in certain Passeriformes birds. Mycoplasmas are, therefore, also considered pathogenic to other avian families. Little is known about the role of *Mycoplasma* species in birds of prey. Several authors described respiratory dysfunction, air sacculitis, pneumonia and tracheitis as clinical signs of *Mycoplasma* infection of raptors, without differentiating the *Mycoplasma* species. A novel *Mycoplasma* strain was isolated from the footpad abscess of a black vulture (*Coragyps atratus*) and described it as *M. corogypsi*, and *M. gallisepticum*, *M. gallinaceum*, *M. gallinarum* and *M. iners* were detected in two Peregrine Falcons (*Falco peregrinus*) with respiratory disease. *M. buteonis*, *M. falconis*, and *M. gypis* were firstly isolated from a Common Buzzard (*Buteo buteo*), a Saker Falcon (*Falco cherrug*) and an Eurasian Griffon Vulture (*Gyps fulvus*), respectively. These three isolates were also isolated from healthy raptors in the USA and *M. anatis*, *M. columborale*, *M. gallisepticum*, *M. gallinaceum*, *M. gallinarum* and *M. iners* were found in association with respiratory disease and *M. corogypsi* from a case of pododermatitis.



Figure 1: Picture of a colony of *Mycoplasma lipofaciens* (strain ML64) isolated from an egg of a Northern Goshawk (*Accipiter gentilis*) (M Lierz).

The first prevalence studies of mycoplasmas in raptors were performed by Lierz et al., (2000) and indicated that mycoplasmas are more common in birds of prey than previously thought. By investigating birds of prey found injured or debilitated in Germany, they were able to isolate mycoplasmas from 82% of nestlings, 26% of

juveniles and 50% of adults. The *Mycoplasma* species isolated were identified as *M. gypis*, *M. meleagridis*, *M. falconis*, and *M. buteonis*, using an immunobinding assay (IBA). However, five isolates could not be identified. In the *Mycoplasma* positive birds, clinical signs were not observed. As only birds of prey found injured or debilitated were examined, the incidence within healthy free-ranging raptor populations remained speculative (Lierz et al. 2000).

Only recently have studies investigating the prevalence of mycoplasmas in birds of prey been performed. Prevalence studies in captive falcons in the UAE (Lierz et al. 2002), in captive (Lierz et al. 2008a) and free-ranging (Lierz et al. 2008b) birds of prey in Germany as well as in captive and free-ranging Lesser Kestrels (*Falco naumanni*) in Spain (Lierz et al. 2008e) demonstrated, that, regardless of management and origin, at least 90% of the birds investigated were positive for mycoplasmas. In these studies, *Mycoplasma falconis* was isolated from falcons only, *M. gypis* only from Accipitriformes and *M. buteonis* from both raptor groups. As only healthy birds were investigated, these mycoplasmas would appear to be commensal organisms. Some undifferentiated mycoplasmas were also isolated in all studies. Sequencing the 16S rRNA gene of some of these isolates from falcons in Germany and Spain, a 99% homology between the isolates and an affinity to *M. buteonis* was discovered. Antigenically the isolates were distinguishable from *M. buteonis* (Lierz et al. 2008d, 2009). It was not possible to detect poultry-pathogen mycoplasmas (*M. gallisepticum*, *M. iowae*, *M. meleagridis*, *M. synoviae*) in healthy birds of prey (Lierz et al. 2008d). This suggests that the occurrence of these mycoplasmas in a sick raptor might be of clinical significance.

Latent infections with mycoplasmas are well known in poultry, causing clinical disease only in embryos if vertically transmitted. Therefore, vertical transmission of mycoplasmas in birds of prey was investigated (Lierz et al. 2007a, 2009) with the isolation of *M. lipofaciens* (strain ML64) from an egg of a Northern goshawk (Lierz et al. 2007a). Because raptor eggs are usually incubated prior to examination, the influence of a poor sample quality on the recovery of mycoplasmas was investigated. Artificially infected infertile chicken eggs showed a decreasing *Mycoplasma*-re-isolation rate with progressing incubation time, but this influence could not be demonstrated in dead-in-shell embryos. *M. lipofaciens* (strain ML 64) was found to be highly pathogenic for chicken and turkey embryos (Lierz et al. 2007b) and was able to spread horizontally within the hatcher. This suggests that this *Mycoplasma* strain might have pathogenic importance in birds of prey too. Additionally the strain was able to infect the investigating veterinarian, suggesting a zoonotic potential (Lierz et al. 2008c). Interestingly, mycoplasmas regularly found in birds of prey were not vertically transmitted confirming the commensal nature of these bacteria. Investigating semen of birds of prey from Germany (Lierz and Hafez 2008c) showed 21.9% of the samples positive for

mycoplasmas. All isolates recovered demonstrated a nearly identical sequence of the 16S rRNA-gene with highest homology of 96% to the sequence of the 16S rRNA-gene of *M. verecundum*. Antigenically these isolates were distinguishable from *M. verecundum*. The pathogenic potential of this *Mycoplasma* species remains obscure as investigations into the semen quality of raptors are lacking. Interestingly the same species was found in a choanal swab of a Lesser Kestrel in Spain (Lierz et al. 2009), suggesting a wide distribution in raptors.



Figure 2: Turkey embryos artificially infected with *M. lipofaciens* (strain ML64). Left embryo: negative control, right embryo demonstrates dwarfing (M Lierz).

Culture and subsequent antigenic differentiation was found to be very useful when investigating the prevalence of mycoplasmas in birds of prey, especially as undifferentiated species regularly occurred. Investigating the occurrence of a specific *Mycoplasma* species, the use of a species-specific PCR is of advantage so contamination of culture media with bacteria or fungi or overgrowth of one *Mycoplasma* strain by another does not influence the results (Lierz et al. 2008a,d). Due to the difficulties of *Mycoplasma* culture, the use of a *Mycoplasma*-genus-specific PCR to demonstrate the presence of mycoplasma-DNA is recommended as a first step of sample investigation (Lierz et al. 2007a, 2008a,d). However, it was demonstrated that a PCR for the detection of *M. meleagridis* established in poultry, gave false positive results if used in raptor samples (Lierz et al. 2008d).

The investigations showed that the role of mycoplasmas differs between avian families. In poultry the demonstration of mycoplasmas is usually relevant. The same was confirmed in psittacids, as 25% of parrots having a chronic respiratory disease were positive for mycoplasmas compared to healthy parrots which were all negative (Lierz and Hafez 2009). In a diseased raptor the demonstration of mycoplasmas does not lead to the etiological diagnosis. It is possible that some *Mycoplasma* species might have a pathogenic importance, while other species do not. The obtained results show that the relevance of a group of pathogens in one avian family cannot be transferred to another.

Future studies should focus on the undifferentiated mycoplasmas and the description of new species, in particular for such isolates with a possible pathogenic potential (e.g. those from semen samples). The importance of isolates obtained from birds of prey should be studied for their relevance in poultry, as one raptor isolate was found to be pathogenic for poultry-embryos and another caused false positive results in a *M. meleagridis*-PCR.



Figure 3: Turkey embryo artificially infected with *M. lipofaciens* (strain ML64), demonstrating curled toes-typical for a embryonic mycoplasma infection (M Lierz).

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What's new in the literature?

Primordial germ cell-mediated chimera technology produces viable pure-line houbara bustard offspring: potential for repopulating an endangered species.

Wernery U, Liu C, Baskar V, Guerineche Z, Khazanehdari KA, Saleem S, Kinne J, Wernery R, Griffin DK, Chang IK. 2010. *PLoS One*. 29, 5(12):e15824.

The Houbara bustard (*Chlamydotis undulata*) is a wild seasonal breeding bird populating arid sandy semi-desert habitats in North Africa and the Middle East. Its population has declined drastically during the last two decades and it is classified as vulnerable. Captive breeding programmes have, hitherto, been unsuccessful in reviving population numbers and thus radical technological solutions are essential for the long term survival of this species. The purpose of this study was to investigate the use of primordial germ cell-mediated chimera technology to produce viable Houbara bustard offspring. Embryonic gonadal tissue was dissected from Houbara bustard embryos at eight days post-incubation. Subsequently, Houbara tissue containing gonadal primordial germ cells (gPGCs) was injected into White Leghorn chicken (*Gallus gallus domesticus*) embryos, producing 83/138 surviving male chimeric embryos, of which 35 chimeric roosters reached sexual maturity after 5 months. The incorporation and differentiation of Houbara gPGCs in chimeric chicken testis were assessed by PCR with Houbara-specific primers and 31.3% (5/16) gonads collected from the injected chicken embryos showed the presence of donor Houbara cells. A total of 302 semen samples from 34 chimeric roosters were analyzed and eight were confirmed as germline chimeras. Semen samples from these eight roosters were used to artificially inseminate three female Houbara bustards. Subsequently, 45 Houbara eggs were obtained and incubated, two of which were fertile. One egg hatched as a male live born Houbara; the other was female but died before hatching. Genotyping confirmed that the male chick was a pure-line Houbara derived from a chimeric rooster. This study demonstrates for the first time that Houbara gPGCs can migrate, differentiate and eventually give rise to functional sperm in the chimeric chicken testis. This approach may provide a promising tool for propagation and conservation of endangered avian species that cannot breed in captivity

Isolation of a low pathogenic avian influenza virus (H7N7) from a black kite (*Milvus migrans*) in Egypt in 2005.

Aly MM, Arafa A, Kilany WH, Sleim AA, Hassan MK. 2010. *Avian Dis*. 54(1 Suppl):457-460.

Avian influenza is endemic in some species of wild birds and is generally believed to cause only an asymptomatic infection. These viruses are routinely transmitted from this wild bird reservoir to poultry in many areas all over the world. Low pathogenic avian influenza (LPAI) was previously reported in Egypt from different types of wild

birds. This report describes the isolation and genetic characterization of H7N7 LPAI virus from a black kite (*Milvus migrans*), the first reported from this species, during surveillance done on wild birds in 2005. The black kite is a migratory bird that has breeding habitat in Europe and migrates in the winter to North Africa and the Middle East. Eight samples were collected in South Sinai, Egypt, and tested by virus isolation in embryonating chicken eggs. One sample had positive hemagglutination activity after the second passage in specific-pathogen-free embryos. Virus identification and characterization were done and the isolate was confirmed as H7N7 LPAI. The sequence data showed that this isolate was most closely related to European H7 strains isolated from domestic and wild birds.

Radiographic evaluation of cardiac size in four Falconiform species.

Barbon AR, Smith S, Forbes N.

2010. *J Avian Med Surg*. 24 (3):222-226.

To establish reference values for the cardiac size during radiographic examination in 4 species of Falconiformes used for falconry, lateral and ventrodorsal radiographs were examined from healthy birds of 4 species: Harris' hawks (*Parabuteo unicinctus*) (n = 48), peregrine falcons (*Falco peregrinus*) (n = 35), saker falcons (*Falco cherrug*) (n = 19), and lanner falcons (*Falco biarmicus*) (n = 13). On the lateral view, ratios between the length of the heart from base to apex and total length of the carina were calculated. On the ventrodorsal view, ratios between the width of the heart at its widest point and the distance between the ribs at the same level and between the width of the coracoid immediately caudal to the humeral articular surface in the shoulder joint and width of the heart and the distance between the ribs were calculated. No differences were found between species in the ratio of length of the heart/length of the carina. The ratios of width of the heart/distance between ribs and width of the heart/coracoid width differed between hawks and falcons but did not differ between the 3 falcon species.

Reproductive endocrinology of wild, long-lived raptors.

Blas J, López L, Tanferna A, Sergio F, Hiraldo F.

2010. *Gen Comp Endocrinol*. 168 (1): 22-28.

The last decades have witnessed a surge of studies analyzing the role of sex hormones on the behavior and ecology of wild bird populations, allowing a more integrated view of the evolution of avian physiology and life histories. Despite a marked progress, field studies show a considerable bias towards research on specific phylogenetic groups, neglecting a significant fraction of the class Aves. Here we analysed changes in the circulating levels of sex steroids in relation to reproductive behaviour in wild black kites (*Milvus migrans*), a long-lived and socially monogamous Accipitridae raptor. Males and females displayed a single seasonal peak of circulating testosterone (males) and estradiol (females) during pre-laying and laying.

Absolute male testosterone levels were low even at the seasonal maximum and remained below detection limits in females. The latter results supports the idea that avian species establishing long-term pair bonds require lower amounts of circulating androgens for reproduction.

Circulating progesterone showed a single seasonal peak in females and males, but their timing (during Incubation and Post-brooding respectively) did not overlap. The fact that females black kites perform the majority of incubation and males provide the majority of care to fledglings suggests that progesterone is involved in the expression of parental behaviors.

The use of genetics for the management of a recovering population: temporal assessment of migratory peregrine falcons in North America.

Johnson JA, Talbot SL, Sage GK, Burnham KK, Brown JW, Maechtle TL, Seegar WS, Yates MA, Anderson B, Mindell DP.

2010. *PLoS One*. 18; 5(11):e14042.

Our ability to monitor populations or species that were once threatened or endangered and in the process of recovery is enhanced by using genetic methods to assess overall population stability and size over time. This can be accomplished most directly by obtaining genetic measures from temporally-spaced samples that reflect the overall stability of the population as given by changes in genetic diversity levels (allelic richness and heterozygosity), degree of population differentiation (F(ST) and D(EST)), and effective population size (N(e)). The primary goal of any recovery effort is to produce a long-term self-sustaining population, and these genetic measures provide a metric by which we can gauge our progress and help make important management decisions. The peregrine falcon in North America (*Falco peregrinus tundrius* and *anatum*) was delisted in 1994 and 1999, respectively, and its abundance will be monitored by the species Recovery Team every three years until 2015. Although the United States Fish and Wildlife Service makes a distinction between *tundrius* and *anatum* subspecies, our genetic results based on eleven microsatellite loci suggest limited differentiation that can be attributed to an isolation by distance relationship and warrant no delineation of these two subspecies in its northern latitudinal distribution from Alaska through Canada into Greenland. Using temporal samples collected at Padre Island, Texas during migration (seven temporal time periods between 1985-2007), no significant differences in genetic diversity or significant population differentiation in allele frequencies between time periods were observed and were indistinguishable from those obtained from *tundrius/anatum* breeding locations throughout their northern distribution. Estimates of harmonic mean N(e) were variable and

imprecise, but always greater than 500 when employing multiple temporal genetic methods. These results, including those from simulations to assess the power of each method to estimate N(e), suggest a stable or growing population, which is consistent with ongoing field-based monitoring surveys. Therefore, historic and continuing efforts to prevent the extinction of the peregrine falcon in North America appear successful with no indication of recent decline, at least from the northern latitude range-wide perspective. The results also further highlight the importance of archiving samples and their use for continual assessment of population recovery and long-term viability.

Migration patterns, use of stopover areas, and austral summer movements of Swainson's Hawks

Kochert, MN, Fuller, MR Schueck, LS, Bond, L, Bechard, MJ, Woodbridge, B, Holroyd, GL, Mark S. Martell, S, Banasch, U.

The Condor 113(1):89-106. 2011

From 1995 to 1998, we tracked movements of adult Swainson's Hawks (*Buteo swainsoni*), using satellite telemetry to characterize migration, important stopover areas, and movements in the austral summer. We tagged 46 hawks from July to September on their nesting grounds in seven U.S. states and two Canadian provinces. Swainson's Hawks followed three basic routes south on a broad front, converged along the east coast of central Mexico, and followed a concentrated corridor to a communal area in central Argentina for the austral summer. North of 20° N, southward and northward tracks differed little for individuals from east of the continental divide but differed greatly (up to 1700 km) for individuals from west of the continental divide. Hawks left the breeding grounds mid-August to mid-October; departure dates did not differ by location, year, or sex. Southbound migration lasted 42 to 98 days, northbound migration 51 to 82 days. Southbound, 36% of the Swainson's Hawks departed the nesting grounds nearly 3 weeks earlier than the other radio-marked hawks and made stopovers 9.0–26.0 days long in seven separate areas, mainly in the southern Great Plains, southern Arizona and New Mexico, and north-central Mexico. The birds stayed in their nonbreeding range for 76 to 128 days. All used a core area in central Argentina within 23% of the 738 800-km² austral summer range, where they frequently moved long distances (up to 1600 km). Conservation of Swainson's Hawks must be an international effort that considers habitats used during nesting and non-nesting seasons, including migration stopovers.



Book Reviews

Atlas of the Breeding Birds of Arabia. (Fauna of Arabia Volume 25)

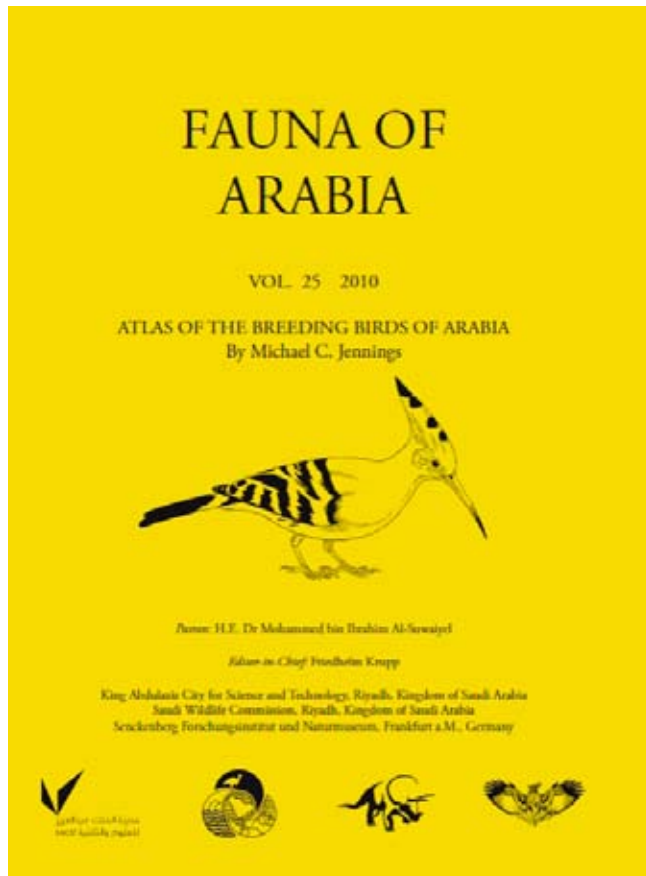
Michael C. Jennings.

KACST, SWC & Senckenberg, Germany.

ISBN 978-3-9299-0783-4 HB

Published 2010, 751 pages.

Available from Karger Libri AG, PO BOX CH-4009, Basel, Switzerland. Price CHF 169.00.



This work represents the culmination of over a quarter of a century's fieldwork across the Arabian Peninsula, with the Atlas of the Breeding Birds of Arabia (ABBA) Project beginning in 1984. The ABBA was conceived and driven forward by Michael Jennings and this magnificent volume is fitting tribute to such a remarkable project. The author's extensive personal knowledge of Arabian avifauna extends back over 40 years. Since its inception data has been gathered from a wide range of sources both historical and contemporary, with regular dissemination of information being provided throughout the process via the ABBA newsletter, *The Phoenix* (with 27 issues published since 1984). An interim Atlas was published in 1995, which served to identify what has been achieved at that stage and what else needed to be done. Targeted fieldwork has meant that most areas of the Arabian Peninsula, save for remote parts of the Empty Quarter, have been covered.

The mapping process involved collecting breeding data for grid squares based on geographical lines of latitude and longitude. In total there are 1,142 half degree squares covering the Arabian Peninsula, 899 of which

were visited during targeted ABBA surveys. Additional data was provided by a wide network of observers and published records. Data was gathered on the presence of species in each square, together with evidence of breeding, which was classified as Possible, Probable and Confirmed.

Following the Introduction, the book is divided into five chapters. The first chapter, entitled 'Aspects of Arabian Ornithology', deals with endemism, nomadic behaviour and exotic species. The second chapter, 'Factors Affecting Bird Distribution in Arabia' covers the influences of climate, geography and topography, habitats and zoogeography on the Arabian avifauna. The third chapter, 'Regional Bird Communities and Habitats', deals with the distinct communities that are found in different regions of the Arabian Peninsula. This is followed by a chapter entitled 'Conservation', which deals with anthropogenic impacts on birds and their habitats, and some of the actions that have been implemented to ameliorate these effects.

All of the above chapters are lavishly illustrated with photographs of birds and their habitats, whilst the text is both highly informative and easy to read. In relation to conservation, we are informed that falcons in the region face significant pressure from trappers, with smaller falcons such as Common Kestrels *Falco tinnunculus* and Lesser Kestrels *Falco naumanni*, being trapped for use as lures for the larger, valuable, falconry species such as Saker *Falco cherrug* and Peregrine *Falco peregrinus*. The Lanner Falcon *Falco biarmicus* is on the verge of extinct in the region due to trapping of adults and the removal of young from their nests. In addition to these pressures the problem of electrocution is acute and accounts for significant levels of raptor mortality. The plight of the Houbara *Chlamydotis macqueenii* in the region is well documented and the author draws attention to the need for effective legislation and enforcement in the region, coupled with education about the effects of uncontrolled hunting.

The major part of the book is taken up by the species accounts, covering 273 breeding species found in the region, plus a further 24 for which breeding is likely. Each account is accompanied by a vignette illustration of the species concerned, a distribution map and extensive text covering several pages. The book benefits from having a standardized text format for the species accounts, which covers the global distribution and subspecies found in the Arabian Peninsula, distribution and status in Arabia together with information on its habitat use and breeding biology. Each account contains key references with an extensive reference list at the end. There is a useful gazetteer that can be used to identify the areas named in the text. These species accounts make fascinating reading and contain many

original or obscure facts on the biology of little known birds (or well-known birds in a little known region).

Accounts for the Falconidae deal with five breeding species: Common Kestrel, Sooty Falcon *Falco concolor*, Lanner Falcon, Peregrine Falcon and Barbary Falcon *Falco pelegrinoides*. The value of the ABBA Project is immediately obvious from the Sooty Falcon account, as the work clearly shows how this species is mainly confined to the coastal islands of the Red Sea and Arabian Gulf, with an Arabian population of an estimated 500 breeding pairs. As the region is believed to hold at least half the global population, the previous estimate of 40,000 pairs was clearly significantly overestimated. Consequently, as a direct result of this assessment, the IUCN has revised the Red List status of the Sooty Falcon from 'Least Concern' to 'Vulnerable'.

The account for the Lanner Falcon describes how this species was regarded as 'not uncommon' in south Arabia during the early 20th Century, only to become rare across the whole of Arabia at the present time. This decline to the verge of extinction is attributed to the commercial value of the species driving an unsustainable wild-take for falconry. The trapping of Peregrines falls mainly on the migratory *calidus* race from breeding populations in northern Eurasia, which arrive in the Arabian Peninsula each autumn. As a breeding species, the Peregrine is restricted mainly to Socotra where the birds here probably belong to the African race *minor*. There are a couple of breeding records from Oman, one apparently involving a pairing with Barbary Falcon and the other relating to an exceptionally late record of chicks removed from the nest in September. Both records are unusual and must be regarded with caution, as they possibly relate to the Barbary Falcon, which is a widespread but scarce breeding species across the region.

The atlas map for the Asian Houbara shows how its breeding range has diminished and fragmented, such that this once 'widespread' and 'plentiful' species is now confined to protected areas in Saudi Arabia, Oman, with a few others breeding in eastern Yemen, the Mahazat as-Sayd reserve in Saudi Arabia and western Abu Dhabi (the latter two areas being the result of reintroduction with breeding since 1991 and 2007 respectively). The highly informative account covers the biology of the species in detail as published information from the Arabian Peninsula is still scanty. The current breeding population is estimated at *ca.* 200 females, with migrants from Central Asia augmenting the population from autumn to spring. Fewer migrants are now arriving in Arabia, as a consequence of falconry hunting expeditions extending deep into the Central Asian breeding range in recent decades. I

was surprised to learn that the decline of the Houbara was noticeable by the 1930's and at this time falconry hunts could account for 70 to 200 Houbara in a single day, with an estimated 2000 birds taken each year by the royal courts in Kuwait, Riyadh and Bahrain. No doubt the 20th Century declines were also exacerbated by widescale destruction of breeding habitats in their Central Asian breeding grounds during the period of Soviet agricultural expansion, but the 'harvest' levels described here could never be sustained.

Whilst the accounts for falcons and bustards I have referred to above appear to reflect a pessimistic outlook for these species, there is still room for optimism because there is a developing environmental awareness in the region; this book will add to this.

Urban development and agricultural expansion poses threats to many other desert specialists, but these changes also provide opportunities for many other species. Arabia is a fascinating region to study birds, lying at the intersection of the Palearctic, Afrotropic and Indomalayan biogeographic zones, the avifauna reflects components of each. Not being particularly familiar with the region, the diversity of landscapes described in this book was something of a surprise for me. This book will no doubt motivate many birdwatchers to visit the region, and furthermore it provides valuable baseline data for researchers within the region to assess where and what conservation efforts need to be put in place to maintain such a rich and diverse avifauna. In short, this is an indispensable book for all ornithologists with an interest in Arabia. Reviewed by A.Dixon

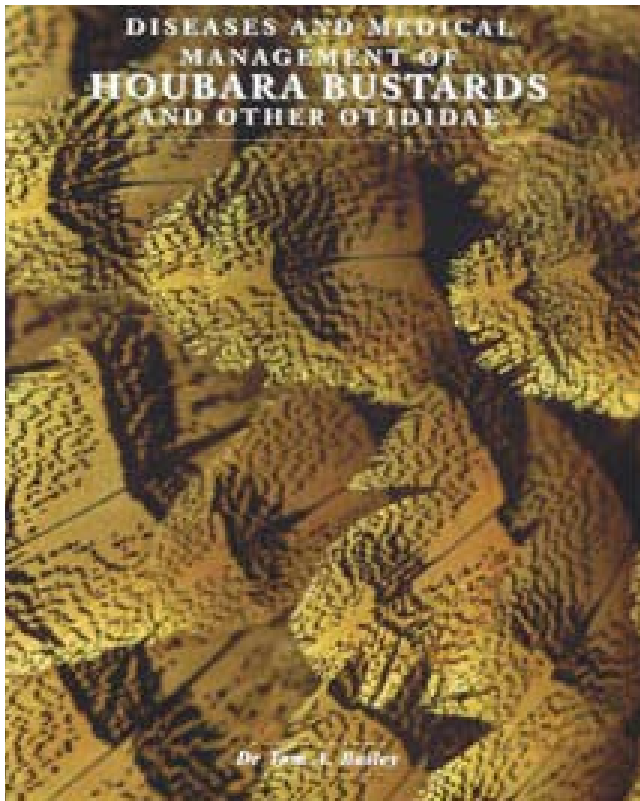


Hoopoe Lark breeding in Qatar Photo: A. Dixon

Diseases and Medical Management of Houbara Bustards and Other Otididae

Edited by Tom Bailey, BSc, BVSc, MRCVS, Cert Zoo Med, MSc, PhD, Dip ECZM (Avian)
ISBN 978-9948-03-562-6

Zoological Education Network is proud to announce the release of “Diseases and Medical Management of Houbara Bustards and Other Otididae” as a digital Adobe Acrobat PDF instant download file. Available at www.exoticdvm.com/avian



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News and Announcements

Successful Saker Conservation LIFE Conference

<http://www.kerecsensolyom.mme.hu/en/content/news>

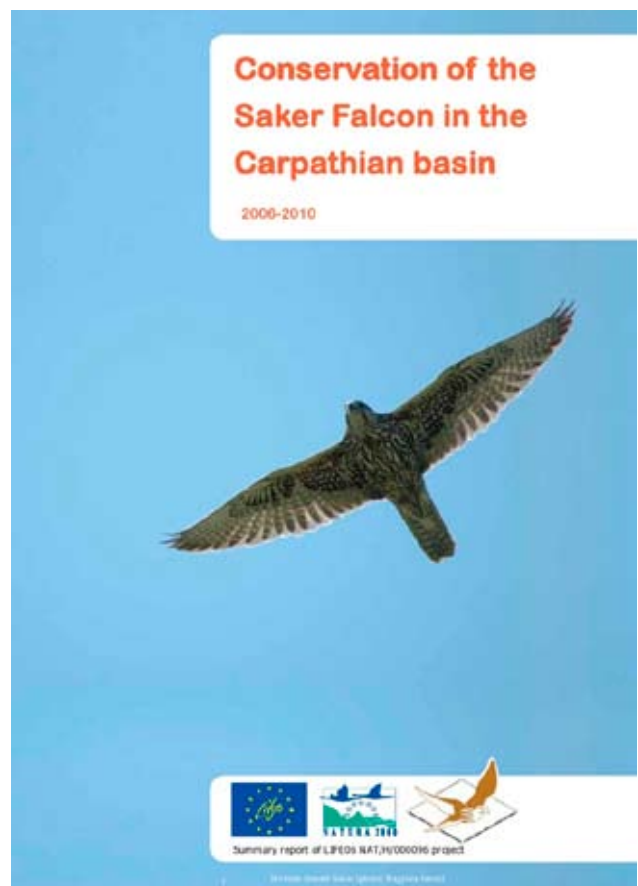
The final conference of the Saker conservation LIFE project was held in Eger, Hungary 16-18 September 2010. More than 60 participants from 10 countries attended the conference, where they could learn about the Saker conservation activities in the European range of the species including the results of the LIFE projects lead by Bükk National Park Directorate and expert-wisely co-ordinated by MME/BirdLife in Hungary and RPS in Slovakia.

The programme of the conference, and the abstracts of the presentations and posters are available here:

http://kerecsensolyom.mme.hu/uploads/File/Saker_Conference_Abstracts.pdf

A layman's report has been done in the frame of the LIFE programme for those, who are not experts in the topic. The layman's report can be read here:

http://kerecsensolyom.mme.hu/uploads/File/laikus_saker_2010_en.pdf



Mongolian Artificial Nest Project: meeting for district (soum) and province (aimag) leaders.

The last of the 5000 artificial nests were erected in Mongolia on the 12th September 2010. A meeting was held in Ulaanbaatar, on the 9th November 2010, to discuss future nest monitoring and maintenance with district leaders. It was decided that during the next five years a ranger from each district will join the research teams each time they visit the artificial nest grids to learn how to monitor nesting success and how to identify different species of raptors.

N.Batsuuri, State Secretary for Ministry of Nature, Environment and Tourism (MNET), opened the meeting that was attended by 60 community leaders and interested parties. P. Tsogtsaikhan, Senior Officer, Department of Environment and Natural Resources, MNET, gave a presentation on the Mongolian Saker Falcon trade and CITES. The next district and regional leaders meeting is planned for November 2012.



Funding for the artificial nest project comes from the Environment Agency Abu Dhabi and over the five-year period from 2011-15 work will proceed on monitoring the productivity of the artificial nests, the survival of adult and young Sakers, together with collecting data on the natal origin, age and sex of Sakers harvested by falcon trappers. All chicks from the artificial nests will be implanted with microchips as will all falcons exported under the CITES regulated programme.

The Mongolian government has taken steps to implement regulations to control trapping with the Ministerial Order of Nature, Environment and Tourism #A-205 on 30 June 2010, which designated rules to be followed for the harvest, transport, care and export of Saker Falcon from Mongolia.

The Mongolian government will report to the 25th meeting of the Animals Committee (AC25) in July 2011 about the developments of the artificial nest project and the introduction of a system of regulation for the Saker Falcon harvesting programme.

First breeding record for a Saker Falcon chick produced at the artificial nests in Mongolia

In June 2010 Norwegian photographer Stig Frode Olsen discovered a Saker Falcon nest on a small rock face on the steppe in Töv province, Central Mongolia. The female attending the two chicks at this nest was wearing a single patagial-tag on its right wing (the tag on the left wing was no longer present). Nevertheless, from this single tag it was possible for researchers to identify the bird as being “Blue-Blue T”, a chick that was hatched at one of the artificial nests in the Bayan Artificial Nest Experimental Area in 2008. The site of her hatching place was 36 km away from the place where she subsequently bred.



© Stig Frode Olsen

Saker Falcons normally start breeding when they are two or three years old, and this female was one of 59 chicks that fledged from 16 different nests in the first two breeding seasons after the artificial nests were erected at Bayan. None of the chicks produced in these first two seasons (2007 and 2008) returned to breed at the artificial nests in 2009 or 2010, and the female discovered by Stig Frode Olsen was the first chick produced at an artificial nest that has been subsequently found breeding. The natal dispersal distance is short, and it is more likely that adult birds breeding close to their natal area will be detected than those breeding further away.

Researchers used the patagial tag visual markers to identify individual chicks produced at the Bayan Artificial Nest Experimental Area from 2007-09, so it is hoped that more chicks will be identified as breeding birds in the next few years. However, the patagial tags are no longer fitted to young falcons and the researchers are now only using genetic markers to identify individuals that are breeding and produced at the Bayan Artificial Nest Experimental Area. Any chicks that return to breed in these artificial nests once they are reproductively mature can be identified, but chicks that leave the area to breed elsewhere will not be detected.



مراجعة لمقالة: الميكروبلazمات في الطيور الجارحة

مايكل ليرز

عيادة الطيور والزواحف والبرمائيات والأسماك في Justus-Liebig- Universität Giessen, Frankfurter Str. 91-93 35392 Giessen, ألمانيا

الميكروبلazمات هي ممرضات معروفة في الإنسان وغيره من الثدييات وفي الطيور أيضا، من المهم أنها تسبب أعراضا سريرية وخسائر اقتصادية في الدواجن، ولذا فإنها تعتبر أيضا ممرضة لبقية عائلات الطيور وإن كان لا يعرف إلا القليل عن تأثير أنواع الميكروبلazمات على الطيور الجارحة. أظهرت أبحاثنا أن دور الميكروبلazمات يختلف بين عائلات الطيور إذ تعتبر مشاهدة الميكروبلazمات في الدواجن أمرا ذي أهمية ولكن مشاهدتها في الطيور الجارحة المريضة لا يقود إلى تشخيص مجهول المسببات. بحتمل أن يكون لبعض من أنواع الميكروبلazمات أهمية إمرضية بينما لا تكون لأنواع أخرى مثل تلك الأهمية. يجب أن تركز الأبحاث المستقبلية على ميكروبلazمات غير متميزة ووصف الأنواع الجديدة وبخاصة في العينات المفروزة ذات الإحتمالية الإمرضية الهامة (كذلك المأخوذة من عينات المنى). يجب دراسة أهمية العينات المعزولة المأخوذة من الطيور الجارحة لتحديد صلتها بالدواجن، إذ أنه قد وجد أن عينة معزولة من طير جارح هي ممرضة لأجنة الدواجن كما سببت عينة أخرى نتائج ايجابية كاذبة في اختبار *M. Meleagridis*-PCR.

تكثرُ نسيج الكُرَيَاتِ البِيضِ اللَّمْفَاوِيَّ في طائر الحبارى في الإمارات العربية المتحدة

جي منه¹، ت.أ. بيلي²، ف لامين²، يو فيرنري¹

¹مختبر أبحاث الطب البيطري المركزي، ص ب 597، دبي، الإمارات العربية المتحدة

²مستشفى دبي للصقور، ص ب 23919، دبي، الإمارات العربية المتحدة

تكثرُ نسيج الكُرَيَاتِ البِيضِ اللَّمْفَاوِيَّ *Chlamydotis undulata macqueenii* هو أكثر أنواع الأورام الناتجة عن الفيروس القهقري مشاهدة في طيور الحبارى. أجريت دراسة بأثر رجعي على 19 حالة من طيور الحبارى التي شخصت في مختبر أبحاث الطب البيطري المركزي في السنوات العشر الماضية. أجريت دراستنا على قرابة 2000 من طيور الحبارى التي فحصت ببياتولوجيا الأنسجة بين 1996 و2009. شخصت نسيج الكُرَيَاتِ البِيضِ اللَّمْفَاوِيَّ في 19 من الألفي طير (0.95 بالمائة) التي فحصت ببياتولوجيا الأنسجة منذ 1996، وكانت أغلب الحالات من مركز واحد لإكثار طيور الحبارى. إن إجراء دراسات بأثر رجعي لهذا المرض في المشاريع الأخرى لإكثار الحبارى سيكون مفيدا وسيؤدي إلى الإسهام في فهمنا لهذه الحالة في الطيور الأسيرة.

معالجة الكسر الظنوبوي الكاحلي ثنائي الجانب باستخدام مسامير داخل

النخاع ورباط تثبيت هيكلي خارجي في النسر العسكري

باربرا أركاربيال

مدير الخدمات البيطرية، ص ب 126888، أبو ظبي، الإمارات العربية المتحدة

تصف الحالة علاج تقويم العظام لكسر ظنوبوي كاحلي ثنائي الجانب Bilateral

Tibiotarsal Fracture في صقر عسكري *Polemaetus bellicosus* باستخدام

مسامير داخل النخاع ورباط تثبيت هيكلي خارجي IM-ESF tie-in.



نجاح في تقييس أعداد من بيض صقر الغزال في أعشاش طبيعية واصطناعية في المجر

إستفان بالوز (بالو)

ناشط مشارك في برنامج الحياة لصقر الغزال، MME/Birdlife المجر، Kőltő u. 21, 1121 Budapest, Hungary.

كان الهدف الرئيسي لهذا التحقيق فحص نجاح تقييس البيض في مجموعات بيض صقر الغزال في مواقع أعشاش طبيعية واصطناعية على أعمدة الكهرباء عالية الجهد (HVEP) وعلى الأشجار، وتم فيه جمع البيانات من 281 عشا في الأعوام 2007-2010 من ثلاث مناطق مختلفة من المجر. إجمالاً، تم العثور على 33% من الحضنات التي تحتوي على بيضة واحدة على الأقل لم تفقس، وعثر على 166 بيضة فاسدة في المجموع. كان نجاح التقييس في الأعشاش الاصطناعية أقل منه في الأعشاش الطبيعية (التي أقامتها الغربان أو الصقور الحوامة)، كما وجدت نسبة أعلى من البيض الفاسد في أعشاش أعمدة الكهرباء عالية الجهد مقارنة بأعشاش الأشجار. تناقش الأسباب المحتملة للاختلافات التي شوهدت في وتيرة البيض الذي لم يفقس في أنواع مواقع التعشيش المختلفة.

تقييم مواقع هواة تربية الحمام من إعادة توطين صقر الغزال في بلغاريا

ديميتار راجيوف¹، وجيورجي ستويانوف²، وفنيلين كويتشيف²، وأنطون ستانشفيف²

¹معهد أبحاث التنوع البيئي والأنظمة البيئية، الأكاديمية البلغارية Gagarin str. 2, Sofia, Bulgaria

²المديرية المركزية لحدائق البلقان Bodra Smiana str. 3, Gabrovo, Bulgaria

جرى تقييم لمواقع هواة تربية الحمام من الطيور الجارحة عن طريق توزيع استبيانات في كافة مناطق السكن القريبة من المنطقة المقترحة لإعادة توطين صقر الغزال في بلغاريا. يعتبر هواة تربية الحمام أن صقور الشاهين والبواشق هما النوعين الأكثر إضراراً بأسراب الحمام. كان مستوى فقد الحمام بسبب الطيور الجارحة من 1-6 حمامات لكل هاو، وعانى الهواة الذين يملكون أعداداً أكبر من الحمام من الهجوم أكثر من أولئك الذين يملكون أعداداً أقل. كان عدد هجمات الجوارح على أبراج الحمام القريبة من مناطق الغابات أكبر منه على الأبراج الموجودة في المناطق المفتوحة، ولوحظ ارتفاع وتيرة هجمات الجوارح في الخريف والربيع، كما وجد أن هواة تربية الحمام الذين يشاركون في "سباقات القدرة" هم أكثر المجموعات تأثراً بصراع الجوارح والحمام. يجب تطبيق نشاطات الصون الهادفة إلى الإقلال من المواجهات بين الجوارح والحمام في فصل الربيع حيث أنه الفترة الحساسة لتكاثر الجوارح المحلية ولإعادة توطين صقر الغزال.

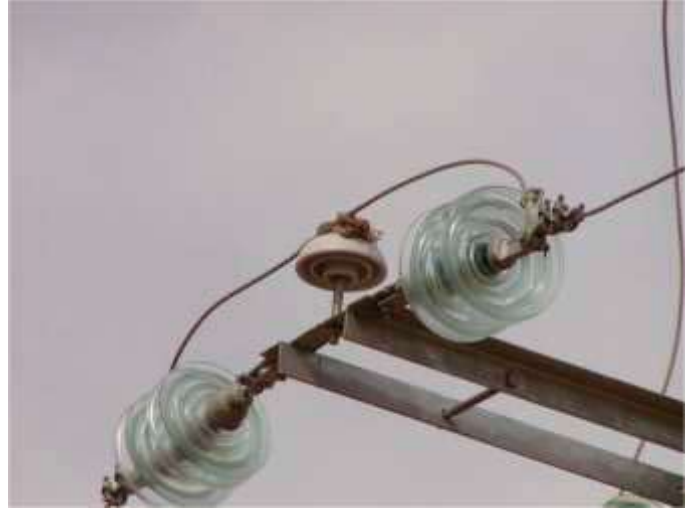
صعق الطيور الجارحة على خطوط توزيع الكهرباء في منغوليا والصين

أندرو ديكسون

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يعتبر صعق الطيور بأعمدة خطوط الكهرباء متوسطة الجهد مشكلة معروفة ومنتشرة حول العالم، حيث يعتبر تطوير شبكات كفاءة للتوزيع الكهربائي عنصراً هاماً للتطور الاقتصادي والاجتماعي للدول النامية في آسيا وأفريقيا. تعتبر الصين المزود الرئيسي للبنية التحتية لتطوير شبكات توزيع الكهرباء في آسيا وأفريقيا إلا أن التصميم النمطي المستخدم في الرؤوس والأعمدة لسوء الحظ هو تصميم سيء يؤدي لصعق الطيور. يقدم التقرير أمثلة على النسبة العالية لحالات نفوق الطيور الجارحة التي تحدث على خطوط التوزيع الكهربائي والتأثير المحتمل لذلك على أعداد الطيور الجارحة في ضوء تنامي شبكات توزيع الكهرباء في آسيا وأفريقيا.

Photo: Rick Harness



دليل تعريف أنواع الصقور لاتفاقية الاتجار الدولي بالحيوانات والنباتات المهددة بالانقراض – نسخة التطبيق

يقوم العدد الجديد من دليل تعريف أنواع الصقور لاتفاقية الاتجار الدولي بالحيوانات والنباتات المهددة بالانقراض – نسخة التطبيق من إعداد هيئة بيئة كندا واتفاقية الاتجار الدولي بالحيوانات والنباتات المهددة بالانقراض CITES بمساعدة المسؤولين عن تطبيق أحكام حماية الحياة البرية في أنحاء العالم في محاكمة وردع مهربي الصقور والصيادين غير المرخصين الذين يحاولون التحايل على القوانين الدولية الخاصة بالحياة الفطرية.

الصناعية في المجر، ويحتاج هذا الأمر إلى مزيد من الدراسة لتحديد سبب حدوث ذلك. سبق أن جرى تسليط الضوء على الآثار السلبية المحتملة لمكلمات مواقع الأعشاش في المجر (Klein et al., 2007) وأكدت تلك الدراسة على أهمية تقييم التكلفة والمنفعة لاستخدام مكلمات مواقع الأعشاش بهدف صون الأنواع.

تقوم منظمتي صون مختلفتين في بلغاريا بمبادراتين لمكلمات مواقع الأعشاش وإعادة الإطلاق، ولنفس هدف إنشاء تعداد متكاثراً قادر على الحياة من صقور الغزال في ذلك البلد. إن لاضطهاد مرتبي الحمام القدرة على إعاقة أي إعادة إنشاء لصقور الغزال، ويقدم Ragyov et al تقريراً عن دراسة استقصائية جرت عن مواقف مرتبي الحمام من الطيور الجارحة في البلقان الأوسط.

صقر الغزال في منغوليا هي موضع جهد صوني يقوم على مكلمات مواقع الأعشاش، ويهدف إلى تخفيف الاتجار المنظم وفق الاتفاقية الدولية للاتجار بالأحياء البرية المهددة بالانقراض – سايتس. إلا أن الحصد لأغراض الصقارة ليس العنصر الوحيد الذي يقضي على أعداد هذا الطير في البلاد، إذ يشكل الصق الكهربي تهديداً خطيراً في عدة مناطق. تتجلى أبعاد المشكلة في مقال يتعلق بزيارة واحدة إلى خط توزيع كهربائي يمتد بين قريتين في وسط منغوليا.

ما زال الاتجار غير المشروع بالصقور لأغراض الصقارة العربية يمثل قضية صونية كبرى وخاصة في مناطق وسط آسيا، حيث يعني عدم تطبيق القوانين القائمة أن صيادو الفخاخ يعملون دون رادع. يمكن زيادة الوعي بصيد الصقور بالفخاخ لدى الموكلين بتطبيق القوانين كما أظهرت مبادرة شبكة جنوب شرق أوروبا. لسوء الحظ؛ فإن شخصيات الباحثين الأتراك العاملين في هذا المشروع يجب أن تبقى طي الكتمان لحماية سلامتهم، لكن مقالاتهم تظهر كيف يمكن لرفع الوعي عن صيد الصقور بالفخاخ أن يؤدي لإنفاذ أفضل للقوانين. أظهرت التجربة التركية أن دليل سايتس لتحديد أنواع الصقور "CITES Identification Guide to Falconry Species: Enforcement Edition" الذي أنتجته مؤسسة "بيئة كندا" هو أداة نافعة لرفع الوعي بصيد الصقور بالفخاخ لدى السلطات المنفذة وأن ترجمة هذه المطبوعة إلى اللغات الأخرى (خاصة اللغتين العربية والروسية) ستمثل خطوة مفيدة أولى في مكافحة الاتجار غير المشروع.

المراجع

Klein, A., Nagy, T., Csörgő, T. and Mátics, R. 2007. Exterior nest-boxes may negatively affect Barn Owl *Tytoalba* survival; an ecological trap. *Bird Conservation International* 17: 263-271.

هذه آخر كلمة عدد أكتبها لنشرة *فالكو* كطبيب بيطري للحياة البرية والطيور في مستشفى دبي للصقور، إذ سأعود وعائلي في إبريل إلى المملكة المتحدة لنبدأ حياة جديدة في ويلز، ولأبدأ العمل في مؤسسة *إنترناشيونال وايلدايف كونسلتانتس* المحدودة. إنني أؤمن الدعم المهني الذي تلقينته من زملائي وأصدقائي في مجالات العمل المختلفة التي شاركت فيها عبر السنوات الثمان الماضية. على الجانب الشخصي؛ فقد استمتعت عائلتي كثيراً بالسنوات الثمان التي عشناها في دبي، والتي مثلت بالنسبة لنا جميعاً مغامرة تشكيل حياة، وإذا كنا سنترك آثار أقدامنا على رمال الصحراء فإننا سنحمل الرمل معنا بين أصابع أقدامنا.

على المستوى المهني؛ كان العمل في مستشفى دبي للصقور ومركز وادي الصفا للحياة الفطرية تجربة رائعة، حيث لا يمر يوم دون إثارة مع حالات سريرية من عبر مملكة الحيوان، من صقر الغروب إلى الحيوان الكسلان ومن صقر السنقر إلى الغزلان. لقد أظهر لي الوقت الذي قضينته في دبي التشكيلة الكاملة من مواقف البشر من الحياة الفطرية والصقور، الجيد والسيئ والقيح منها، وفي الواقع فإن الجوانب السيئة والقيحة من المواقف تجاه الحياة البرية هي التي دفعتني وثلاثة من زملائي لإطلاق نشرة *أخبار الحياة البرية في الشرق الأوسط* (www.wmenews.com) في عام 1996 بهدف الدفع لتفهم أفضل للمشاكل التي تواجه الحياة الفطرية والبيئة في المنطقة.

هناك بعض الأشخاص الرائعين الملتزمين بتعزيز الوعي الطيور الجارحة في المنطقة وتفهمها. لقد أطلق مرتبو الصقور مثل زلطان لوينتي وزوجته ساندرنا معرض دبي للطيور الجارحة، وهو عرض تعليمي للطيور الجارحة يخلق تواصلاً إيجابياً بين سكان المناطق الحضرية في دبي والطيور الجارحة. في مجال الحيوانات البرية، كان العمل مع الفريق المتحمس في مشاريع إعادة تأهيل السلاحف في دبي مدعاة للرضا البالغ. هناك القليل من المشاعر التي تتفوق على ما نشعر به لدى إطلاق الحياة البرية التي أعيد تأهيلها إلى بيئتها الطبيعية من جديد، وفي حالة السلاحف فإن هذه الحيوانات كانت ستلقى حتفها بالتأكيد لو لم يتم إنقاذها من قبل أفراد الجمهور الخبيرين وإعادة تأهيلها للعودة إلى كامل الصحة والقوة.

إذا كانت الحياة الفطرية تجلب أفضل ما في الطبيعة البشرية فإنها تجلب أسوأ ما فيها أيضاً. ينطبق ذلك بحق في عالم الصقارة حيث يشجع إغراء الكسب السهل للمال اصطيداً وتهريباً للصقور البرية. ورغم أنه ما من شك في أن التوجهات قد تغيرت خلال العقد الماضي، وأن القوانين قد باتت أكثر صرامة، وأن استخدام الطيور التي أكثر في الأسر قد فاق استخدام الصقور البرية في الإمارات العربية المتحدة؛ إلا أنه ما زال هناك الكثير مما يجب عمله. إنني أقدر أن ثلثي الصقور التي يستخدمها الصقارون في المناطق التي أعرفها قد أكثر في الأسر، بينما قد يكون ثلث صقور السنقر ومعظم صقور الشاهين والغزال المستخدمة قد اصطيدت في البرية. إن من الواضح أن هناك المزيد من الجهد المطلوب لتشجيع استخدام الطيور التي أكثر في الأسر (خاصة من الأنواع الخالصة الإكثار) ورفع مستوى الوعي بالتأثيرات المحتملة للاصطياد غير المنظم للصقور.

توم بيلي

يحتوي هذا العدد على تقرير هام من استفان بلازثات عن العدد المرتفع للبيض غير الفاقس لصقور الغزال التي وجد في الأعشاش

We are delighted to announce that the Emirates Falconers' Club, Abu Dhabi is hosting the

Third International Festival of Falconry

at Al Ain Jahili Fort, United Arab Emirates

Public Festival days

15th, 16th & 17th December 2011

Free admission

www.falconryfestival.com

For more information on conferences, short breaks and how to contribute to the festival please contact:

info@falconryfestival.com

Sponsored travel available for over 500 participants

Saturday 10th December

Meet and greet Abu Dhabi & Dubai Airports

Sunday 11th, Monday 12th, Tuesday 13th & Wednesday 14th December

*Falconry Conferences at Al Ain Rotana Hotel
Overnight Hawking Parties at Desert Camp
Saluki Racing at Desert Camp
Sand Dune Cinema & Evening Socials
Falcon Flying Events at Desert Camp
Training for Festival Arena Events*

Wednesday 14th December *Additional events*

*Excursions to Abu Dhabi Falcon Hospital & Grand Mosque
'Falconers come to Town' – falconers parade in Abu Dhabi*

Thursday 15th December

*Schools Day
Arena Events
Award Ceremony for Art and Photograph Competition
Social Events*

Friday 16th December *- free admission*

*International Festival of Falconry
Arena Events
Grand Parade
Falconers Feast and Social Evening*

Saturday 17th December *- free admission*

*International Festival of Falconry
Arena Events
Grand Parade
VIP Gala Dinner,
UNESCO Celebration and Concert*

Sunday 18th December

Depart

