



FALCO

**The Newsletter of the Middle East Falcon Research Group
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Objectives of the MEFRG (www.mefrg.org):

Provide a forum for information exchange on matters relating to falcons and falconry in the Middle East

Promote and/or improve the understanding of:

- The cultural heritage of Arabic falconry
- The utilisation and management of quarry species
- The conservation of wild falcons used in Arabic falconry
- The management of falcons in falconry
- Advances in veterinary and aviculture care of falcons
- International issues impacting on, or arising from, Arabic falconry

The objectives of the MEFRG will be achieved by

- Holding regional workshop meetings and international conferences
- Publishing and distributing a paper and electronic Newsletter (**FALCO**) on issues of common interest to the MEFRG
- Coordinating and hosting a website and maintaining an online subscribers database

We welcome the submission of articles for **FALCO**. Please bear in mind that **FALCO** is not a scientific journal and we would like authors to remember that articles should be accessible to a diverse readership comprising falconers, biologists, veterinarians and policy makers. We are interested in authoritative, accurate and informative articles related to the subject areas listed below

Falconry

articles about the practice of falconry of interest and relevance to Arabic falconers

Falconry Heritage

articles about Falconry Heritage of interest and relevance to Arabic falconers

Quarry Management

articles on the conservation and management of quarry species utilised in Arabic Falconry or of interest to Arabic falconers

Raptor Conservation

articles on the conservation and management of raptors used in Arabic falconry, but also more generally of any raptors in the Middle East

Avian Health and Management

articles on veterinary and avicultural issues specifically originating from work carried out in the Middle East, but external studies that are relevant to improving the health of raptors in the Middle East will be considered

Research Biology

articles on biological research of falcons used in Arabic falconry, to cover issues such as migration, taxonomy, genetic research, etc

International Issues

articles and updates on international policy decisions and discussions relating to falconry, conservation, trade and animal health that is of relevance and interest to Arabic falconry

Public Awareness and Education

articles on initiatives that can contribute to a better understanding of Arabic falconry and the wider issues surrounding it

Technical Updates

reviews and updates on new products/equipment etc. that may be useful for biologists, falconers and vets working with raptors

Photo Section

interesting images of relevance to subjects covered by the MEFRG

Raptors in the News

summary of recent press releases relating to subjects covered by the MEFRG

What's New in the Literature

Review of recently published scientific literature relevant to the objectives of the MEFRG

We also accept and publish Book Reviews and Letters. If you are in doubt about whether or not an article fits any of the above categories please contact the editor:

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Cover picture

Hunting falcon, Abu Dhabi (Photo: Linda Wright)

Back Cover picture

Almazbek Akunov, a Kyrghiz falconer, on horseback with Golden Eagle and two Taigan Kyrghiz national hunting dogs.

It is early autumn and falcon migration in the northern hemisphere is in full swing, with Peregrines travelling from their Arctic breeding grounds in Eurasia and North America to wintering sites in milder, southerly climates. In autumn, migratory and passage Sakers begin to arrive in non-breeding areas of the Mediterranean, North Africa, the Middle East and the Indian sub-continent. Many more restrict their movements to regions within the extensive breeding distribution of the species, particularly to the vast alpine grasslands of the Tibetan Plateau.

The period of migration is the most hazardous time in the life cycle of a falcon; many young birds will not survive the arduous passage to their wintering grounds, and likewise for adults the death rate during migration is greater than at any other time. The long, flight is energy demanding, and migration takes the birds through unfamiliar, often inhospitable, terrain where food resources are scarce. Natural mortality is high, with additional man-made threats.

A recurrent theme each autumn is the threat to migratory falcons posed by falcon trappers. Trapping of passage falcons is most prevalent in North Africa, the Middle East and Central Asia, with the birds being transported to the Gulf States for the Arabian falconry market. For some species and populations, such as the Arctic-breeding *calidus* Peregrines, current trapping levels do not appear to be having a major impact. However, for others, such as Sakers in the former Soviet Union, trapping is believed to be a major factor driving population declines. Whatever the population impacts, trapping and especially the clandestine smuggling of falcons across international borders is often cruel and results in many casualties. There is a serious welfare issue and the trade also risks transmission of zoonotic diseases, threatening the health and welfare of falcons in the recipient countries. All this reflects badly on the image of falconry, and Arabian falconry in particular.

More must be done to combat this problem. Media articles regular appear about seizures of falcons in Russia, Kazakhstan and elsewhere but we hear little about the consequences to those who are caught or the ultimate fate of the birds. Few smugglers and trappers are imprisoned or fined to the level that taking the risk is not worth the reward. As well as better enforcement we need to see movement on the development of legitimate trade supplies that can take the place of the illegal trade and meet the demands for wild caught

falcons. There also needs to be a process of education for falconers and their suppliers, to improve their understanding of the impact uncontrolled illegal trade on the falcons they admire.

The initiatives of the CMS Raptors MoU go some way to addressing this issue, with an on-line information exchange for Arabian falconers being established by the International Association for Falconry and Conservation (IAF). *Falco*, in its own small way, also serves to provide information to grassroots falconers about a range of issues relevant to them, whilst also informing decision makers at national and international levels about the work being done by falconers to conserve the falconry tradition, the falcons and their quarry.

One major conservation initiative being developed by falconers is addressing the problem of electrocution of falcons at power lines. This major cause of mortality accounts for the lives of many more falcons than trapping and trade, and is the single most significant direct threat facing falcons in many parts of the world. Arabian falconers are now taking steps to remediate dangerous lines in parts of Central Asia. I look forward to being able to bring more news of this in future issues of *Falco*.

In this issue we have a brief overview of the status of the 'Red-naped Shaheen' in Mongolia, a small desert-dwelling form of the widely distributed and variable Peregrine. Continuing the 'research biology' theme, Mohammed Foyso introduces his work to establish the Bangladesh Falcon Research Project. In relation to 'avian health and management' the article by Dominik Fischer and co-workers serves as a reminder of the potential risks of herpesvirus infection as a result of feeding pigeons to captive raptors. Within the theme of 'public awareness and education' Mike Nicholls presents the results of a questionnaire to examine the perceptions of non-falconers, mainly from the UK and USA, to falconry.

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The Red-naped Shaheen in Mongolia

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Introduction

The status of the Peregrine *Falco peregrinus* in Mongolia is unclear, not only because of limited observations but also due to taxonomic uncertainty. Some taxonomic authorities treat the Barbary Falcon as a distinct species *Falco pelegrinoides*, with two subspecies *F.p. pelegrinoides* in North Africa and Middle East and *F.p. babylonicus* in Central Asia. The taxon *babylonicus* is also known by the common name Red-naped Shaheen, particularly among falconers. However, IUCN and BirdLife treat these taxa as races of the very variable and widespread Peregrine. We follow White *et al.* (2013) here and consider that two Peregrine subspecies may potentially breed in Mongolia i.e., the nominate *F. p. peregrinus* ("European Peregrine") and the smaller desert form *babylonicus* ("Red-naped Shaheen"), with the larger Arctic-breeding *calidus* and *harterti* occurring on passage.

Global distribution

The Red-naped Shaheen breeds from eastern Iran and southern Turkmenistan, Afghanistan and western Pakistan, the western Himalayas of India and mountainous regions of Tajikistan and Kyrgyzstan, extending into to the Kyzylkum desert of Uzbekistan to the Aral Sea, the southern half of Kazakhstan and east to the Tien Shan in Xinjiang, China. In the north-east of its range *babylonicus* reportedly occurs in the Altai region and beyond to the northern Khövsgöl province of Mongolia. White *et al.* (2013) suggested that the Transbaikalia region or north-western Mongolia is an area where *babylonicus* is likely to come into contact with the nominate *peregrinus*.



Picture 1. Juvenile Red-naped Shaheen near Oyu Tolgoi. (Photo: Purevsuren Ts.)

The Red-naped Shaheen is rarely reported and is believed to be a summer visitor to Mongolia, occurring in western and southern provinces (Gombobaatar & Monks 2011). The first indication of breeding in Mongolia was during the 'Mongolia Kam' expedition of Pyotr Kuzmich Kozlov, when on 11 October 1899 a juvenile Red-naped Shaheen was collected from west of Ikh Bogd, the highest peak of the Govi-Altai mountains, in what is now Bayankhongor province (Kozlova 1932). More recently, a male was noted near Bayan-Ovoo, Bayankhongor province on 20 July 2009 (Beljalov 2009), and three females were reportedly caught by Arabian falcon trappers in Bayankhongor and Övörkhangai provinces in September 2010 (Gombobaatar & Monks 2011). T. Purevsuren photographed a juvenile at the Oyu Tolgoi mining site, Ömnögovi province in 2011 (Picture 1). Also an injured juvenile bird found in the same area was kept in captivity by local people and after a year the bird moulted into adult plumage (T. Purevsuren *pers.comm.*).

There is an unusual record of up to five Red-naped Shaheens roosting in poplar trees by the Gobi tourist camp near Dalanzadgad, Ömnögovi province on 16-18 June 1989 (Stephan 1994). This odd aggregation of a normally solitary species suggests that either this was a recently fledged brood or perhaps more likely a case of misidentification. Another unusual record suggesting tree-nesting comes from Zuunbayan, Dornogovi province where two fully-fledged juveniles were seen in a tree on 07 August 1989, and were believed to have been reared in a nearby Black Kite *Milvus migrans* nest (Kuročkin & Mikhailov 1994). This late breeding record again suggests possible misidentification, possibly with the late-breeding and semi colonial, tree-nesting Amur Falcon *Falco amurensis*.

In the north-west of Mongolia Andreas Buchheim recorded a breeding pair of Peregrines attending a crevice high up a steep cliff in a gorge of the Khovd River in May of 2012, noting that they comprised a male European Peregrine paired with a female Red-naped Shaheen. In this same area, in June 2001, a male was observed passing food to a female near a cliff, but both members of the pair were identified as European Peregrines (Gombobaatar & Monks 2011).

The first authenticated breeding evidence was obtained by N. Batsaikhan, a biologist from the National University of Mongolia, who saw two fully-feathered chicks sitting at a nest site with the adults flying around in Khorkhiyn Mountains, Ömnögovi province in 2010. In mountains at Gurvantes, Ömnögovi province, the biologist T. Lhagvasumberel observed a Red-naped Shaheen sitting at a nest with its mate standing nearby in late March 2013 (Picture 2), and the following year a pair was in the same place in August 2014 (G. Purev-Ochir).



Picture 2. Adult at nest, Gurvantes 2013. (Photo: Lkhagvasumberel T.)

The most recent observations were made by Dorjkhagvajantsan, a Mongolian bird watcher and tourist guide, and relate to a nest found in the Bayanlig district, Bayankhongor on 27 May 2015; a demonstrative pair of adult birds was defending the nest site. Later a juvenile was photographed in this area, indicating that the pair bred successfully.

Electrocution records



Picture 3. Juvenile Peregrine (carcass #4) electrocuted in South Mongolia (Photo: B. Davaasuren)

In September 2013 and August 2014, as part of our work for the Environment Agency-Abu Dhabi, we conducted surveys of 15 kV electricity distribution lines to search for electrocuted birds of prey. Our survey covered 26 power lines located in eastern, southern and western Mongolia. During this survey we found eight dead Peregrines that had been electrocuted and all but one were juveniles. The adult was a male *babylonicus*, but it was difficult to determine whether or not the juveniles were specimens of *babylonicus* or the migratory Arctic subspecies *calidus/harterti* (Picture 3). One large specimen, carcass #06, had a flattened wing chord that identified it as a female *calidus/harterti* from the Russian arctic. This bird was an early passage migrant that was found on 15 August. The remaining juvenile carcasses were either male *calidus/harterti* or female *babylonicus* (Table 1).

Juveniles	Wing Chord	Date
carcass #1	ca. 333	14 August 2013
carcass #2	344	12 August 2014
carcass #3	354	30 September 2013
carcass #4	347	13 August 2014
carcass #5	335	13 August 2014
carcass #6	377	15 August 2014
carcass #7	329	12 August 2014
<i>calidus</i> (F)	368 (354-385)	
<i>calidus</i> (M)	322 (316-330)	
<i>babylonicus</i> (F)	328 (313-336)	
<i>babylonicus</i> (M)	289 (277-312)	

Table 1. Flattened wing chord of seven juvenile Peregrines found electrocuted in Mongolia. Mean (Min-Max) flattened wing chord for juvenile *calidus* and *babylonicus* has been adapted from White *et al.*, 2013 (i.e., unflattened wing chord * 1.04).

All the electrocuted birds were found in semi-arid habitat surrounding the Delgerkhangay Mountain massif in Dundgovi province (Figure 1). This region appears to be suitable for breeding *babylonicus*, which is found primarily in arid and semi-arid habitats.

Acknowledgements

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Figure 1. Distribution of three recent breeding records of Red-naped Shaheen *Falco peregrinus babylonicus* in Mongolia (yellow stars), and location (circles) of electrocuted Peregrines recovered during power line surveys for the Environment Agency-Abu Dhabi (red = unidentified subspecies, juvenile *calidus/harterti* or *babylonicus*, green = adult *babylonicus*). D = Dundgovi, O = Omnogovi and B = Bayankhongor provinces.

Bangladesh Falcon Research Project

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Summary

The Bangladesh Falcon Research Project was initially started to investigate the status and breeding ecology of the Red-headed Falcon *Falco chicquera*. Later the research was extended to include Amur Falcon *Falco amurensis*, Laggar Falcon *Falco jugger*, Peregrine Falcon *Falco peregrinus* and Saker Falcons *Falco cherrug*. Two new return migration and one migration locations (possible routes) were discovered for Amur Falcon. Sightings of Peregrine Falcon increased during the study period (2006-2014). Wintering Peregrine *F. p. calidus* was recorded at 13 different points of Dhaka city. The resident Peregrine *F. p. peregrinator* was recorded for the first time in Bangladesh. Laggar Falcon was reported from the northern dry parts of Bangladesh after a long interval. No observations of Saker were recorded in central, south-east and north-east Bangladesh but the species may possibly be present in the northern dry zone.

Introduction

More than 700 species of birds are found in Bangladesh, including 10 species of falcons (Khan, 2010).

In 2006, when "*Birds of Prey of the Indian Subcontinent*" by Rishad Naoroji was published I was inspired to establish the "Bangladesh Falcon Research Project". Initially concentrating on the Red-headed Falcon, my study later extended to include the Amur, Peregrine, Laggar and Saker Falcons. Study of the Red-headed Falcon included breeding biology, ecology, roosting behavior, diet during the breeding and nonbreeding season, and movement of this little studied falcon. Detailed information can be found published elsewhere (Foysal, 2010; 2014). In this article I provide information on the data I have collated on the occurrence of the Peregrine Falcon, migration of the Amur Falcon, and sightings of Laggar and Saker Falcon.

Methods

During travel for my wildlife research throughout Bangladesh (mainly north-east and south-east) I regularly surveyed communication towers and electric pylons for Peregrine and Saker Falcons. Furthermore, a social networking site was used to gather reports of any falcon sightings.

Results

Migration of Amur Falcons in Bangladesh

The Amur Falcon study began in 2010 based on an opportunistic sighting in Dhaka. Since 2010 the Dhaka site has been regularly monitored, where single individuals and large flocks numbering up to ca. 200 birds have been counted. Amur Falcons were recorded here on both autumn and spring migration. In 2014, a few Eurasian Hobbies *Falco Subbuteo* and an Oriental Honey Buzzard *Pernis ptilorhynchus* were also recorded at the site during spring migration.

In 2011, Amur Falcons were observed at another location in the Cox's bazaar district (south-east). Since then the site has been regularly monitored, where single birds and flocks of up to 20 birds have been seen passing over this site, heading to the sea in the Bay of Bengal. A few birds also stopover at this site.

In 2014, an autumn migration site was discovered in the Rangamati district (south-east), single individuals and flocks up to ca. 100 birds were recorded during autumn migration. This is also a stopover site.



Picture 1. Amur Falcon (Photo: N. Williams)

In the north-east of Bangladesh there is a regular migration and return migration route, where single individuals and small flocks of up to 40 birds were regularly observed (T. & M.A. Khan *pers. comm.*); a few birds also stopover. In 2013 in the middle of November *ca.* 150 birds were observed in mangrove forest of the Sundarbans (S. Hussain *pers. comm.*).

Autumn migration was observed in October and November and spring migration from late April to June, peaking in May. The birds were observed to hunt insects, including termites in both the north-east and south-east.

Peregrine Falcon occurrences

Observation from almost all parts of the country (except most of the northern parts) in the recent past have revealed wintering Peregrines occurring in coastal areas, estuaries, riverine areas, agricultural land, urban areas and mangrove forest (Sundarbans). Opportunistic sightings of single birds at 13 different locations were recorded from the capital Dhaka city. A pylon survey made in the southern parts of Dhaka (outside the city) found seven Peregrines (one juvenile and six adults) within *ca.* 9 km. Only the *F. p. calidus* subspecies was recorded.

On 10 October 2013 a single Indian Peregrine *F. p. peregrinator* was recorded for the first time in Bangladesh. The bird was recorded in Dhaka at 07:30 perched on an electric pylon. It was later mobbed by crows. A second *F. p. peregrinator* was recorded from Kaptai National Park (south-east region). The bird was seen perched on a tree at 10:30 (S. Mohsanin *pers. comm.*). Interviews from pigeon keepers in Dhaka indicate that the Peregrine is considered to be a serious threat to domestic pigeons. Two Peregrines were reportedly shot by a pigeon keeper in the past.

Roosting was observed in Dhaka and Cox's bazaar district on communication and electric pylons. Peregrines were observed to feed on domestic pigeons in urban areas. An urban individual fed on House Sparrows *Passer domesticus* and *Pipistrellus* bats (A. Maruf *pers. comm.*). The falcon was also observed to chase domestic pigeons, waders, and an Indian Flying Fox *Pteropus giganteus*.

Saker Falcon survey

During my travels in NE and SE Bangladesh since 2008, I was always looking out for Sakers, but never saw a bird. In 2014, I surveyed the southern part of Dhaka for Peregrine and Saker Falcons but no Sakers were seen.



Picture 2. Saker Falcon (Photo: A. Dixon)

Laggar Falcon sightings

In December 2006 a Laggar was sighted in Dinajpur district (the most northern part of Bangladesh). The bird was perched on a telegraph wire over harvested rice stubble (Pender, 2012). A second sighting was reported in Rajshahi district (again in northern Bangladesh) on 12 November 2009 (J. Pender *pers. comm.*).

Other falcon sightings

The first record for Merlin *Falco columbarius* in Bangladesh was a single individual seen in flight at Hatiya island, Noakhali (central coast) on 13 March 2013 (P.D. Round *pers. comm.*). The bird was hunting a small flock of waders.

Discussion

Amur Falcon

Prior to this study there was little information about migration of Amur Falcons in Bangladesh. Spring migration is poorly known throughout the Indian subcontinent (Naoroji, 2007), but Assam, in neighbouring India, is known as an important stopover site of the Amur Falcon. Large numbers of falcons, up to 18,000, have been recorded in central Assam (Phukan and Nagar, 2003). Migration and stopover sites in NE Bangladesh, where a maximum of ca. 40 birds have been recorded, are close to Assam. Nevertheless, satellite tracked birds are known to pass through Bangladesh. It is a big question how the thousands of birds migrate from Assam if they do not use a path through Bangladesh.

Peregrine Falcon

The Peregrine Falcon is considered a rare winter visitor in Bangladesh (Naoroji, 2007; Siddiqui et al., 2008). This study showed the Peregrine to be a common winter visitor in Bangladesh. Perhaps *peregrinator* is a regular winter visitor to Bangladesh too, but in lesser numbers than *calidus*. More study is needed about the interaction with pigeon keepers. While the southern parts of Dhaka are well known for pigeon keeping, all data on diets indicate opportunistic feeding. Research should be done on wintering Peregrine diet in all occupied habitats.



Picture 3. *calidus* Peregrine, Lower Kolyma River, Russia (Photo: E. Duthie)



Picture 4. *peregrinator* Peregrine, Cox's Bazar, Bangladesh (Photo: S. Abbas)

Saker Falcon

The Saker Falcon is a vagrant in Bangladesh (Naoroji, 2007; Siddiqui et al., 2008). Only one record is known from near the northern part (Thompson et al., 1993). Throughout the subcontinent it is a rare and uncommon winter visitor, preferring arid and semi-arid areas (Naoroji, 2007). As the northern parts of Bangladesh are arid to semi-arid, intensive surveys in that region may reveal the true status of the Saker Falcon in Bangladesh.

Laggar Falcon

The Laggar Falcon is considered as a rare resident in Bangladesh (Naoroji, 2007). Historically this species has been recorded in five divisions out of six (Siddiqui et al., 2008). No breeding has been recorded in Bangladesh. Recent sightings were recorded from northern parts of Bangladesh. Naoroji (2007) mentioned this species favors arid to semi-arid open habitat. The northern parts of Bangladesh are comparatively drier than others part of the country. Recent sightings suggest this species has declined and is now confined to northern parts. A systematic survey in the northern parts and historical sites may reveal the real status of the Laggar Falcon in Bangladesh.

Other falcons

Merlins inhabit open areas including scrub desert, coastal flats, salt and freshwater marshes, open cultivation and mountain valleys (Naoroji, 2007). Bangladesh supports all these habitats and the species may be found more locations and numbers than previously presumed.

The Bangladesh Falcon Research Project is an ongoing project on a small scale and mainly confined to Dhaka and Cox's bazaar district. Large scale research will help to understand resident and migratory falcon biology and ecology in Bangladesh. Research findings will help to develop a conservation action plan of these important biological indicator species in the future. I would like to request raptor researchers and conservationists from all over the world to extend their helping hands to enlarge the project.

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Public Awareness and Education

Public Perceptions of Falconry: a pilot survey



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Introduction

Undoubtedly falconry saw an unprecedented, monumental rise of practice during the latter half of the 20th century which has continued unabated into the 21st. This is true not only amongst those nations with a strong cultural heritage of falconry, but also increasingly by new practitioners in countries such as southern Africa and Malaysia where there is little or no ancient historical record.

Over the same time period we have observed that there has been a parallel increase in the number of organisations which oppose the recreational and commercial use of animals on moral, ethical, welfare, environmental sustainability and conservation grounds. Such organisations (sometimes called "antis") often have, as a part of their mission the raising of public awareness to issues surrounding their cause as a way of influencing political decision makers.

As a practice falconry is certainly a hunting activity which has, to differing degrees depending upon

hawk and quarry species and hawking location, an impact upon environment and wildlife. As such, falconry could broadly be expected to receive attention of bodies lobbying species and habitat conservation and against animal cruelty. We were curious to know therefore how the public at large (i.e. non falconers) viewed “falconry” as a concept and practice and whether this public image was aligned with an “anti” agenda.

We anticipated that potentially the public may have negative views of falconry along with other activities often targeted by “anti” organisations, for example:

- “hunting” with its association in the UK with fox hunting with hounds or in the US the shooting of game;
- the incarceration of birds in cages and aviaries, especially as trained hawks are often seen tethered;
- performing animals, such as seen in circuses, which is generally thought to employ “cruel” methods;
- exploitation and even illegal trade in wildlife, and more generally with animal cruelty, both in the methods of training hawks and in the killing of animal quarry.

To balance our suppositions we also speculate that falconry may in the public eye rather have more positive images, such as:

- allowing trained birds to exhibit their natural behaviour, which is a foundation principle in animal welfare;
- “green” methods of biological pest control using trained hawks to deter pests and nuisances;
- the use of trained birds of prey used in public displays as “animal ambassadors” to help promote species conservation education;
- a strong cultural heritage and individuals’ rights to maintain such practices.

We therefore conducted an investigation with three aims:

- To examine attitudes towards falconry amongst members of the public
- To detect negative images and associations for falconry that might be exploited by an anti-falconry lobby
- Suggest strategies to maintain public support for the continuation of falconry in the 21st century and beyond.

We designed an on-line questionnaire (using www.surveymonkey.com, copyright © 1999-2014) in the English language and distributed this serendipitously *via* e-mail and social networking sites (*Facebook, Twitter*).

The questionnaire designed to reveal knowledge, understanding of and attitudes towards falconry,

birds of prey and hunting and we made a conscious attempt to avoid canvassing people with first-hand experience of falconry – focusing on the public at large. We had 389 responses of which 125 respondents declared they had first hand experience of falconry and were thus excluded from the subsequent analysis. The remaining (264) respondents - for convenience we now refer to as “non-falconers” - declared that they were all adult (19-60) were predominantly (61%) female, from UK (72%) and the USA (29%) and mostly living in urban (45%) and sub-urban (32%) locations.

Table 1. Associations made by non-falconers with the word “falconry” (N=298 responses).

Response	Chart	Percentage	Count
Flying demonstrations and displays		86%	257
Medieval / Renaissance history		67%	200
Hunting		66%	198
Educating the public about birds of prey		59%	176
Bird conservation		45%	135
Country fairs		43%	127
Pest control		41%	121
Historical re-enactment societies and events		34%	102
Field sports		33%	97
Arab culture		28%	83
Breeding birds in captivity		26%	77
Aristocracy and the “upper classes”		22%	65
Keeping birds as pets		20%	61
Birdwatching		11%	34
Birds in zoos		8%	25
Illegal trade in wild birds		7%	22
Organic and “wild” foods		6%	19
Action sports (such as skydiving or surfing)		3%	9

Non-falconers association with the word “falconry”

Of these non-falconers, the vast majority (98%) declared that they had heard of the word “falconry” and most of these (91%) that they had seen falconry in action, either first hand, or through the medium of film or both. Non-falconers were asked what further associations they made with the practice of falconry and their answers are summarised in Table 1. Most common responses (>59%) indicated that flying demonstrations and displays with trained birds of prey; mediaeval and renaissance history; hunting and public education were the most common associations made. Bird conservation; pest control, field sports, captive breeding of birds and cultural associations with

Arab peoples and the “upper classes” were somewhat intermediate (20-45%) in responses. Interestingly fewer associations (<20%) with birds as pets or in zoos, bird watching, the illegal trade in wild birds, a source of wild food or “action” sports” were volunteered.

Where have non-falconers seen falconry?

A large number (91%) of respondents analysed declared that they had witnessed falconry in practice and overwhelmingly this was either through the secondary medium of film (both documentary and fiction), through live demonstrations in zoos, animal centres, fetes or country fairs/shows or a combination of these. Relatively few (< 16%) had witnessed pest control using birds of prey or falconers flying hawks (hunting) in the countryside (Table 2).

Table 2 – Where non-falconers have seen what they believe to be practical falconry (N = 274 responses)

Response	Chart	Percentage	Count
On television or film (documentary/nature film)		67%	184
At a live demonstration at a zoo or animal centre		55%	151
At a fete, fair or country show		51%	141
On television or film (movie or fictional programme)		36%	99
At a historical re-enactment event		18%	48
Pest control around airfields, buildings or waste sites		16%	44
People flying hawks in the countryside		16%	45
Other		8%	23

Attitudinal survey

Part of the questionnaire invited responses to a series of 17 statements, such as:

“Falconry is an important part of human cultural heritage”

where participants could choose their answer according to a 5 point scale (whether they “strongly agree”, “agree”, “neither agree nor disagree”, “disagree”, “strongly disagree”). We categorised results using a preponderance method whereby responses were cumulated into the most frequent (>60%) response categories. For example the most preponderant answers to the question:

“Falconry is like foxhunting”

was between the “disagree” (48% of answers) and “strongly disagree” (19%) categories: we therefore concluded that a majority (67%) respondents either disagreed or strongly disagreed with the statement. Table 3 summarises the trends of answers to all 17 statements according to our analysis.

Conclusions

Strong messages from those surveyed are a belief that birds of prey must be conserved and that falconry has an important role in public education for bird of prey conservation. These attitudes coupled with the view that falconry is predominately associated with public flying demonstrations would seem to suggest that the word “falconry” is divorced from hunting as such, and more to do with training birds of prey for public performance. Interestingly though they did not particularly associate falconry with birds in zoos and so again it must be that they see this public education role as an aspect of public flying demonstrations rather than static display.

Association with falconry as a field sport is also made as more than half (66%) did report an association with the word “hunting”. However there may be a bimodal distribution of awareness and attitude towards hawking as few volunteered that they had witnessed birds of prey being flown in the countryside or for pest control, and it may be that many are naïve of the true nature of falconry as a hunting sport. Alternatively, they may not understand that it is a field sport in this sense but rather regard it as a “natural” behaviour of birds of prey and the majority agreed that “hunting is part of nature”. More forcefully however they agree that falconry allows birds of prey to do what comes naturally to them. This, the allowing captive or domestic animals to exhibit natural behaviour is one of the fundamental tenets of animal welfare legislation in the U.K and elsewhere.

However it is perceived that falconry is associated with the concept of hunting, few believe it to be aligned with shooting and foxhunting, two activities often publicised by “antis” as cruel, immoral and otherwise unacceptable.

Although not particularly strong there was some acknowledgment of cultural associations, for example with medieval and renaissance history (and thus with historical re-enactment) and a weak association with Arab culture. What is strong however is denial that only privileged classes should be allowed to currently practice falconry although this may have been so in the past. What is also strong is that although it’s not believed that falconry is the province of the privileged, it is also thought that not just anyone should be allowed to practice falconry. This is perhaps an acknowledgment that falconry requires expertise and commitment of practitioners.

Table 3 Summary of the trends of non-falconers answers to attitudinal questions.

Strongly Agree	Agree	Neither Agree/Disagree	Disagree	Strongly Disagree
<ul style="list-style-type: none"> Birds of Prey must be conserved (89%) Hunting is part of nature (81%) 	<p>Agree</p> <ul style="list-style-type: none"> Falconry helps educate people about wildlife conservation (83%) Falconry is an important part of human cultural heritage (76%) Falconry allows trained birds of prey to do what comes naturally to them (79%) Trained birds of prey are the best way of controlling pests such as pigeons (79%) Our separation from nature makes us uncomfortable with the natural world (70%) 	<p>Neither Agree/Disagree</p> <ul style="list-style-type: none"> Performing animals are inappropriate in the modern day and age (83%) <p>Neither Agree/Disagree</p> <ul style="list-style-type: none"> Falconry is heavily regulated by law (80%) <p>Neither Agree/Disagree</p> <ul style="list-style-type: none"> Falconry is cruel to wild birds (78%) British wild birds of prey need protection against falconry (76%) Birds of prey are pests of songbirds and tame pigeons (76%) Falconry is cruel to the bird of prey (75%) Hunting is inappropriate in the modern day and age (60%) 	<p>Disagree</p> <ul style="list-style-type: none"> Falconry is like bird watching (71%) <p>Disagree</p> <ul style="list-style-type: none"> Only the upper classes should be allowed to practise falconry (96%) Anyone should be allowed to practise falconry (75%) Falconry is like foxhunting (67%) Falconry is like shooting (66%) 	

Recommendations

The perceptions of our sample group made us conclude that the public view is that falconry is benign, having no detrimental or deleterious effect on habitat, wild birds or birds of prey. Moreover they believe that falconry has an important role in public education concerning wildlife conservation. They do not particularly associate falconry with hunting (hawking) or performing animals, rather regarding falconry methodology allows birds of prey to exhibit natural behaviour.

However the methodology used in this pilot survey was unlikely to recruit a random sample of the global public at large. The respondents were almost exclusively from UK and USA with English as a first language and likely had some general curiosity or empathy towards “falconry” as they perceive it through their own conceptual framework. Given these reservations, our results suggest that such a sub-section of the public at large can be useful allies in the projection of a positive public image of falconry. The results further indicate that a more thorough and comprehensive survey in different countries and languages may be merited.

Conclusions

Neolithic men celebrated a memorable hunt with paintings on the walls of their cave: modern falconers record their successes on YouTube as video! Our pilot survey suggests that non-falconers regard falconry as benign and they gain

most of their insight into what they believe it too be through the medium of film or from free flying displays using trained birds of prey – so called “falconry displays”. This is a strong base to build upon, yet it is essential that the falconry community at large take responsibilities to quality assure the public face of falconry through carefully selected moving images in the public domain and professionally presented public displays.

Acknowledgments

The original incentive to carry out this pilot survey was an invitation by International Wildlife Consultants and the Emirates Falconers’ Club to present research findings at the 3rd Festival of Falconry held in Abu Dhabi in December 2011. Helen Macdonald designed the questionnaire used in the survey and also gave a verbal presentation at the Festival of Falconry.

Acute mortality in captive Bald Eagle nestlings associated with herpesvirus infection *

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*This is a reprint of Fischer D. et al., (2014) *Acute mortality in American bald eagle nestlings associated with herpesvirus infection. Newsletter of the European Committee of the Association of Avian Veterinarians 4: 8-11* by courtesy of the European Committee of the Association of Avian Veterinarians.

History

Two 2-month old American Bald Eagles *Haliaeetus leucocephalus* were housed in a mixed species aviary with similar aged Steller's Sea Eagles *Haliaeetus pelagicus* and White-tailed Sea Eagles *Haliaeetus alibicilla*. The birds were fed on 1-day old chickens, rats, mice, rabbits, pigeons and quail without further supplementation of minerals or vitamins.

One Bald Eagle (male) was found prone in the nest, demonstrating a sudden onset of apathy, loss of appetite, weakness and green urates. Separation and initiation of emergency treatment by the local veterinarian using antibiotics, wormer and subcutaneous infusions were unsuccessful and the bird died 20 hours later. After one day similar clinical signs were demonstrated by the female sibling, which was caught and transported to a veterinary clinic immediately. Despite emergency treatment the bird died eight hours later. The owner sent both birds for pathological examination (Figure 1), separated all eagles and started cleaning and disinfection measures in the aviary. At this stage intoxication, undetected acute aspergillosis or viral infection was suspected as cause of death by the owner.



Figure 1. The two dead American Bald Eagles

Necropsy

Upon pathological examinations both birds were in a good body condition with large fat pads (Figure 2).

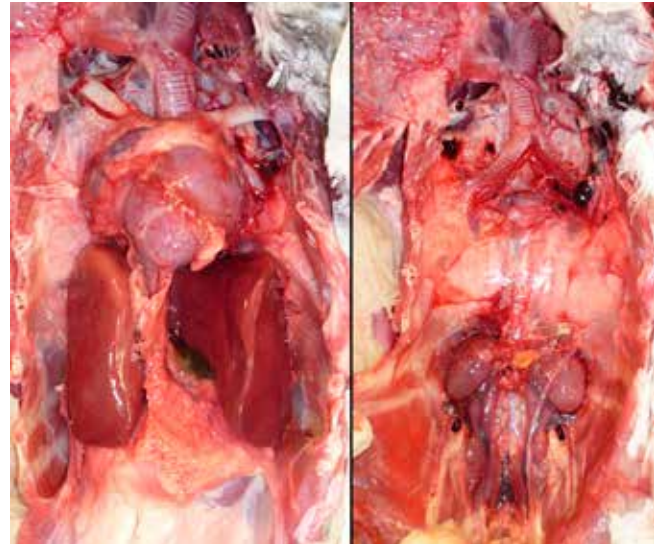


Figure 2. Situs of the inner organs before (left side) and after (right side) removal of heart, liver, spleen and gastrointestinal tract in the female eagle.

Radiographs confirmed the absence of fractures or heavy metal particles. Feathers were in good shape and there were no hints for trauma such as skin wounds or haematomas. Pericardial blood vessels were enlarged and pericardial effusion was noted in the male bird, which demonstrated yellowish strips in the myocardium additionally. The air sac membranes were slightly dull with oligofocal,

yellowish nodules. Dull-edged liver and spleen were enlarged and congested (Figure 3 & Figure 4). Nephric tubules were filled with uric acid (Figure 5) and intestinal content was slimy and coloured dark red to black. Brain tissue was unsuspecting.



Figure 3. Hepatomegaly

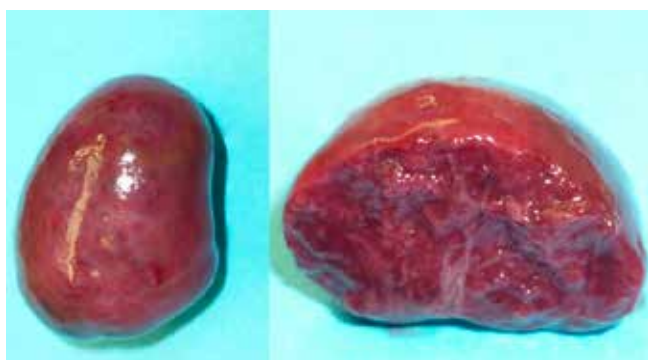


Figure 4. Splenomegaly

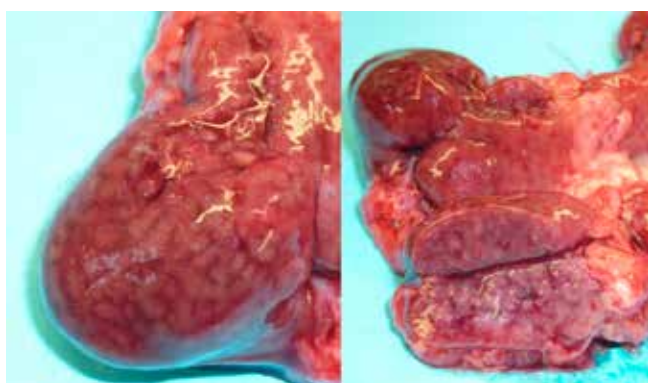


Figure 5. Nephric tubules filled with uric acid

Results from laboratory tests

Anaerobic and aerobic bacterial culture and fungal culture from liver, heart, lung, blood, and air sac membranes failed to detect a microbial pathogen. Parasitological examination of faeces from three intestinal locations and detection of avian influenza

subtypes H5 and H7 was negative. Molecular biological detection demonstrated absence of West-Nile virus and Usutu virus. Histopathological examination demonstrated diffuse congestions in different organs (liver, intestines, spleen, kidneys and lung). Moreover, multifocal to confluent necrosis were detected in parenchyma of spleen and liver with amphophilic to eosinophilic inclusion bodies inside the cell nuclei (Figure 6). As herpesvirus seemed reasonable at this stage a herpes consensus PCR was performed, which was positive. Unfortunately, a further virus sequencing and viral culture on chicken embryo fibroblast cells failed to enable a more precise virus description.

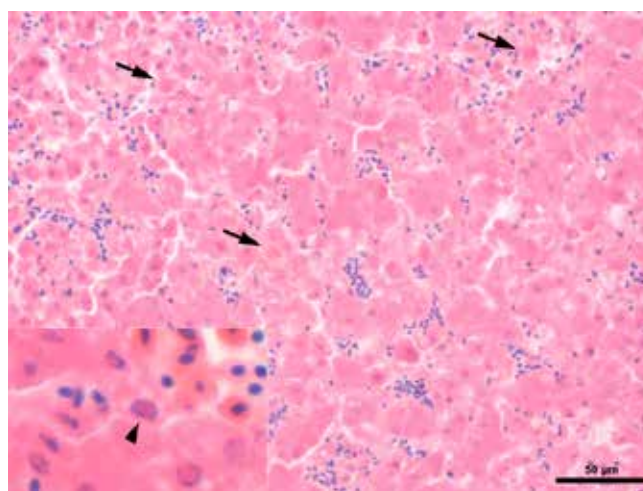


Figure 6. Histology: necrotic hepatocytes, arrows show inclusion bodies.

Discussion

Herpesvirus has been reported from several free-ranging and captive raptors associated with clinical diseases in some species (Dochtery *et al.*, 1983; Gailbreath and Oaks, 2008; Forbes *et al.*, 2000). Thereby, several types of herpesviruses (e.g. falconid HV1, strigid HV1, accipitrid HV1) have been described being regarded as species specific viruses (Heidenreich, 2013).

Clinical cases have been reported from falcons, owls and hawks demonstrating inflammations of spleen and liver during subsequent necropsy with characteristic inclusion bodies (Kocan *et al.*, 1977). Thereby, mostly multifocal, pin head-sized, yellow nodules occur in liver and spleen of owls and falcons, which may be easily mistaken by an acute salmonella infection (McKinney, 2000). In the present case nodules were absent, but liver and spleen of the bald eagles were swollen and dull-edged and inclusion bodies were confirmed in histopathology.

In the past herpesviruses have been valued of minor clinical significance in eagles (Kaleta, 1990). Herpesvirus isolates from cloacal swabs in bald eagles were not associated to clinical disease. However, in a free-ranging Booted Eagle *Hieraaetus pennatus* inability to fly, emaciation and hepatitis were suggested to be caused by a herpesvirus (Ramis *et al.*, 1994). Herpesvirus infected falcons suffer from sudden apathy, weakness, seizures, hepatic failure with green urates and death 2-3 days after appearance of first clinical signs (Stanford, 2008). Similarly in the present case the eagles demonstrated apathy, weakness and green urates prior to death. The signs can be associated to herpesvirus infection, because herpesvirus was suspected in histopathology and confirmed by PCR and no other pathogens were found in bacteriological, mycological, parasitological, molecular biological, and virological examination.

The source of the herpesvirus remains unclear. It may be transmitted by free-ranging birds into the aviary. However, herpesviruses from falcons, Cooper's hawks and owls have been demonstrated to be identical to columbid herpesvirus-1 of pigeons (Phalen, 2011; Pinkerton *et al.*, 2008). Therefore, ingestion of herpesvirus infected pigeons may be also the source of infection in the eagles; even if this has not been proven in an eagle species previously. Unfortunately, virus culture and sequencing were unsuccessful from the bald eagles in this case, so that a final confirmation was not possible.

Cleaning, disinfection, close monitoring and repeated serological screening of all birds in the facility were suggested in the present case, as other treatment and prevention measures are not established in eagles. In falcons, oral treatment with acyclovir and Marian thistle has been reported (McKinney, 2000); however, the treated individual died three month later demonstrating hepatitis and aspergillosis lesions. In the Middle-East a vaccine has been used with promising results in falcons, but similar reports are lacking in eagles (Wernery *et al.*, 2001).

In the following month no other cases of sudden deaths occurred in this facility. Thus, the infection was suspected not to be transmitted to other eagles. However, latent and subclinical infections, which are common in herpesvirus infected

animals, cannot be ruled out completely. It was recommended to remove pigeons from raptor's feed or to obtain pigeons from regularly checked and isolated flocks, respectively.

Acknowledgements

We thank Ursula Heffels-Redmann and Kristina Maier (Clinic for Birds, Reptiles, Amphibians and Fish, JLU Giessen) for support. Moreover the authors thank the Hessen State Laboratory Giessen and the Institute of Poultry Diseases, FU Berlin for pathogen detection.

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Images of falconry in Kyrghizstan from the Falconry Heritage Trust's image collection

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Falconers from the banks of Issyk-Kul Lake, a "pearl" of Kyrghizstan, are famous from immortal times. Kyrghiz falconers fly Golden Eagles, hawks and falcons but they have acquired the greatest glory through hunting with Golden Eagles.



Picture 1. Postage stamps from Kyrghizstan with scenes of falconry showing Golden Eagle and Taigan (Kyrghiz greyhound) in 1988 and 2015.



Picture 2. Envelope showing Kyrghiz falconers with Golden Eagles issued in 1960.



Picture 3. Kyrghiz Falconer. Painting in the National Museum in Bishkek.



Picture 4. Painting of Kyghizians in a yurt produced from an engraving of EM Korneev for the book "Nations of Russia". This painting was published by Giulio Ferrario in 1818 in his book "Il costume antico e moderno, o, storia del governo, della milizia, della religione, delle arti, scienze ed usanze di tutti i popoli antichi e moderni".



Picture 5. N.N Karazin. Kyrgyzians resting in the steppe after hunting.



Picture 7. Kyrgyz sultan. 1809. Engraving by E.O.Sotnikov on the basis of a painting by E.M.Korneev.

The Falconry Heritage Trust has a good collection of unique photos illustrating Kyrgyz falconers from the beginning of the 20th century and from the 1920's to the 1960's. Some of them are shown here:



Picture 6. V.V Vereshchagin. Rich Kyrgyz hunter with a hawk. 1871. Tretyakov Gallery, Moscow.



Picture 8. E Gehring, Kyrgyz falconer in early 20th Century.



Picture 9. Kyrgyz falconer with Golden Eagle from the early 20th Century. Photograph by V.Yu. von Branke.



Picture 12. Kyrgyz falconer with Golden Eagle in May 1949.



Picture 10. Kyrgyz falconers with Golden Eagles in 1907 and 1925.



Picture 13. Berkutchi in 1924.



Picture 11. Hunter O.Sharykov with a Golden Eagle in 1937



Picture 14. MT.Pogrebetskiy with Golden Eagle in 1926.



Pictures 15 & 16. Different generations of Kyrgyz falconers in 1912 (above) and 1958 (below).



Picture 17. Kyrgyz falconer at the Dinamo Stadium, Moscow, 1937.



Picture 18. Falconers in Jety-Oguz gorge in 1956.



Picture 19. Berkutchi and young ladies in national dress during holiday in Jety-Oguz district in 1953.



Picture 20.



Above: Almazbek Akunov, the main organizer of the annual falconry festivals "Salburun", has done a lot for the restoration of falconry in his country and his efforts recently saw a set of postage stamps issued, which celebrate falconry (Picture 20).

The majority of black-white photos for this article were taken from: <http://www.foto.kg/>

Wildlife officials confiscate Laggar Falcons from trappers in Pakistan

Officials of the Sindh wildlife department conducted a raid in the hilly areas of Jamshoro district near the Indus river, where they seized 12 Laggar Falcons, some pigeons a 400-foot-net and other trapping equipment.

According to wildlife officials, soon after the raid was conducted, the officials were contacted by local influential people of the area in a bid to pressure them to release the suspects along with the birds. "This is a common factor when such raids are conducted and hunters, along with birds, are taken into custody," explained the deputy conservator, Ghulam Muhammad Gaddani. He said that such raids at the time of the local government elections are considered a very serious act. All five persons, who hailed from Mianwali, were released after a few hours. Gaddani said that a Rs40,000 (ca. US\$385) fine, according to the Sindh Wildlife Act, was imposed on the hunters, who paid it immediately.

Scores of hunters set up camps in different areas in October and November before and after the arrival of the migratory birds. Illegal hunting of birds, according to the wildlife officials, is common in districts of the southern belt, such as Badin, Thatta, Sajawal and Hyderabad, which are located along the river. The hunters, are not only facilitated by local landlords and influential persons but also officials of the wildlife department, who are also involved in these illegal activities. "The locals get a share when these hunters earn good money," explained one official. "Our [wildlife] officials give the hunters the assurance of free movement in the area," he added. Some game wardens too support these illegal activities in the peak season.

The eyelids of all falcons were stitched shut. Their legs are tied together with their wings, after which they are left in an open area. "The other birds are trapped when they see the captive bird struggling and fly down to it," Gaddani explained. "It is one of the cruelest forms of hunting but it is very common nowadays," he added. The official said that these illegal camps are set up to capture the rare and endangered species of falcons, including Shaheen and Saker Falcons.

This was the third raid in the last 10 days by the team of Hyderabad region. On October 1, the team conducted a raid near Aamri, an area of Sehwan Sharif in district Jamshoro. During the raid, they caught five hunters red-handed and rescued three Laggar Falcons as well as over a dozen pigeons. The next morning, another team conducted a raid in Badin, near the Arabian Sea. Two Laggar Falcons were rescued. Officials claimed, however, that the culprits managed to escape before the team arrived at the spot. The Laggar Falcons, according to experts, were once quite common in the region but their population has declined recently, presumably due to over-hunting and unfavourable breeding conditions.

from The Express Tribune, October 6th, 2015.

<http://tribune.com.pk/story/967871/illegal-hunting-wildlife-officials-rescue-12-laggar-falcons/>



Falcons such as Hobby and Kestrel are used as 'baraq', bait birds to trap larger species such as Peregrine and Saker.

The Saker Portal Goes Live

Current global efforts to combat illegal trade in an endangered and high value species, the Saker Falcon, have taken a markedly different approach to many other high profile species. Rather than following the route of bans and emphasis on enforcement, the Convention on Migratory Species has an action plan based on sustainable use, trust building among user groups, and engagement of users and communities in monitoring.

The Saker falcon is a species of significant cultural importance to many indigenous people and is utilized by falconers across the whole of its extensive range – from Mongolia to North Africa and from Hungary to Saudi Arabia. It has been used sustainably for Falconry for at least 4,000 year and it may have been one of the first species used

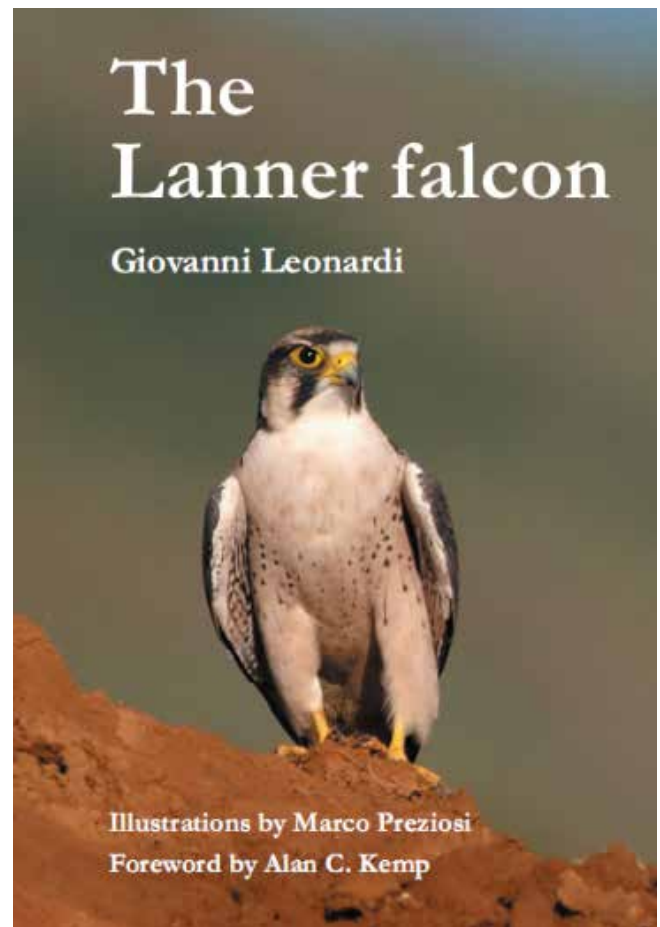
in falconry. The significance of the species extends beyond falconers to the communities within the breeding range and migration routes. In these areas, it is a real or potential source of income to trappers and others who can benefit from use of the resource.

Under the Saker Global Action Plan (GAP), falconers and sustainable use of the species for falconry is at the heart of conservation efforts. This plan incorporates a number of flagship projects. One initiative is aimed at building trust among trappers and falconers. Engagement has brought together a disparate group of parties. The Saker Task Force has combined the biologists of CMS and the Sustainable Use Groups of IUCN with falconers, BirdLife and conservation authorities of the Saker range states. It has fully integrated the falconers into the hunt for a solution to the plight of this species. Further, it has opened dialogue with falconers and authorities in nations which include Iran, Pakistan, Afghanistan, Kyrgyzstan, Kazakhstan and Mongolia, among others. Only the engagement of the falconers could achieve this. IAF is funding and managing the first of the Flagship projects which involves developing of an Internet Portal seeking to engage trappers and users, build trust and develop a system of sustainable use for the species. This portal utilizes popular smart phone technology and is available only in regional languages in order to gain trust.

The Portal went live during the Official Opening of the IAF Office in Brussels on 20th April 2015. To view the Portal go to <http://www.sakernet.org>



Book Review



The Lanner Falcon

Giovanni Leonardi

Privately published 2015 (<http://lannerfalcon.weebly.com/index.html>)

RRP: €50.00

This monograph on the Lanner Falcon is the culmination of field work and research undertaken over nearly a quarter of a century by Dr. Giovanni Leonardi of the Osservatorio Natura in Itlay. This is the third edition of a monograph first published in 1992, and this greatly revised and expanded version certainly achieves the stated aim of "creating an overview of all that is currently known about the Lanner Falcon". The book consists of 10 chapters (332 pages) incorporating numerous figures and tables, together with 32 pages of coloured plates, maps and photographs.

Chapter 1: History, taxonomy and genetics includes much of interest for the falconer, particularly in relation to the history of the species from ancient falconry texts. The complex subject of phylogenetic relationships among the Falcons

and, more specifically within the group of large falcons termed the 'Hierofalcons', is also discussed here, drawing on some of the recently published genetic work.

Chapter 2: *Structure and functions* covers anatomy, physiology and morphology. Close attention is paid to plumage differences between races, illustrating that phenotype is linked to climate where paler forms are found in hot zones and darker birds in cool regions. Information is provided on moult and biometrics of adults, vocalisations together with data on eggs and the development of chicks.

Chapter 3: *Distribution and population estimates* begins with a retrospective analysis of population process that may have led to the current observed distribution of Lanner Falcons. Given that quantitative data on populations are scarce across much of the distribution range, we are introduced to modelling work that predicts the potential distribution of each subspecies.

Chapter 4: *Territory and breeding densities* informs us that Lanner Falcons prefer open habitats across their distribution range and are absent from the equatorial forests. The habitats within breeding territories are varied as are the competitors for nesting sites. There are some concerns that an increasing and expanding Peregrine population may have an impact on Lanner Falcons through competition for nest sites, though the picture is far from clear and may vary regionally.

Chapter 5: *Breeding season* reveals how there is a distinct separation of egg-laying dates for populations in the southern hemisphere compared to the north. The behaviours associated with breeding such as mating displays and parental care are described along with basic ecological information on breeding parameters such as clutch size, brood size and breeding success.

Chapter 6: *Breeding strategies* covers the range of nest sites used by Lanner falcons, with some remarkable images of birds breeding on man-made structure such as an old WWII vehicle in the desert of SW Egypt.

Chapter 7: *Diet and hunting techniques* demonstrates that birds are the main prey taken across much of the distribution range, with the

remainder taken up by mammalian prey and to a lesser extent reptiles and insects. Hunting techniques are varied and it is interesting to note that co-operative hunting by two birds improved success rates.

Chapter 8: *Movements* are considered for the different sub-species, and though data is limited mainly to ring recoveries this chapter collates the information on medium and long-distance movements, which are undertaken in relation to periodic rains and the movements of prey species.

Chapter 9: *Threats and conservation* runs through a series of human threats such as disturbance, persecution and trade. Despite there being little evidence of widespread use of Lanner Falcons in Arabian falconry, trapping is widespread in neighbouring regions of Africa, suggesting that many trappers do not discriminate between species and try to capture all the falcons they encounter irrespective of 'market demands'. Other threats, such as predation and disease are also covered.

Chapter 10: *Lanner, Lagger, Black and Grey Falcons* is the briefest chapter. The selection of species for this chapter seemed a little arbitrary and I was unclear why these particular species were chosen for comparison rather than the five species in the 'Hierofalcon' group.

Any enthusiast of the Lanner Falcon will find something new in this book and its comprehensive reference list is a useful resource covering published material from Africa and Europe. The book would have benefited from proof reading by a native English speaker and a concluding summary for each chapter drawing together the various themes discussed would have been useful. But these are minor quibbles considering the wealth of information that has been presented in this publication.

Influence of nesting location on movements and survival of juvenile Saker Falcons *Falco cherrug* during the post-fledging dependence period

Rahman ML, N Batbayar, G Purev-Ochir, M Etheridge and A Dixon
2015. *Ardeola* 62: 125-138

We used patagial tags, VHF radio transmitters, and satellite-received transmitters to investigate the movements and survival of juvenile Saker Falcons fledged from artificial nests in open landscapes and natural nest sites in hilly areas in Mongolia. During the post-fledging dependence period (PFDP) juveniles progressively moved farther from their nest until dispersal from the natal area. Natal home ranges were larger for juveniles fledged at artificial than natural sites and the distance moved by juveniles during PFDP was positively related to fledging date and brood size. Duration of the PFDP was estimated as 40 days (range: 31-52 days). Over the PFDP, the best-fitting model to explain juvenile survival incorporated fledging date and nest site type, with juvenile survival being higher in early fledged broods from natural sites. Predation was identified as a major cause of mortality, especially in open landscapes where artificial nests were located. However, because artificial nests produced more fledglings, we found that overall productivity of juveniles to dispersal at artificial and natural nests sites did not differ significantly.

The rusty plumage coloration of juvenile Gyrfalcons is produced by pheomelanin and its expression is affected by an intracellular antioxidant

Galván I and A. Jorge
2015. *Journal of Raptor Research* 49: 59-65.

Juveniles of many diurnal raptors exhibit a characteristic rusty plumage coloration whose biochemical basis has never been determined. Using the Gyrfalcon (*Falco rusticolus*) as a model species, we analyzed feathers by Raman spectroscopy and showed that the rusty color is due to the presence of the pigment pheomelanin, which was also observed in the feathers of a juvenile Peregrine Falcon (*Falco peregrinus*). We experimentally modified the expression of the rusty plumage coloration by treating four developing

Gyrfalcons with buthionine sulfoximine (BSO), a specific and nontoxic inhibitor of glutathione (GSH) synthesis. Because cysteine, one of the three constitutive amino acids of GSH, is required for pheomelanin synthesis and GSH is the most important intracellular antioxidant, these findings indicate that the expression of rusty plumage coloration can be affected by environmental oxidative stress. Our results suggest that the rusty plumage coloration of at least some diurnal raptors is pheomelanin-based, and the dependence on GSH levels opens the possibility that the evolution of this trait in some species and the age-related variation in its expression across species may be explained by interspecific and intraspecific variation in exposure to environmental factors that generate oxidative stress and by age-related variations in endogenous levels of oxidative stress.

The Efficiency of an Integrated Program Using Falconry to Deter Gulls from Landfills

Thiériot E, M Patenaude-Monette, P Molina and J-F Giroux
2015. *Animals* 5: 214-225

We evaluated the long-term effect of an intensive integrated program based on falconry to deter gulls, mostly ring-billed gulls (*Larus delawarensis*), from a landfill. Gulls were counted at different periods each day, and the annual sum of the maximum count at any observation period each day declined from over 1.1 million to only 20,300 during the 20 years of the study. This could not be explained by a decline in the local breeding population that remained relatively large throughout this period as determined in a concomitant study. The effectiveness of the falconry program was also confirmed by tracking individual birds fitted with GPS data loggers. The tagged gulls stopped less often and spent less time at the landfill with falconry than at another one where a selective culling program was conducted. We conclude that the use of an integrated program using falconry, which we consider more socially acceptable than culling, can be effective in deterring gulls from landfills.

الوفيات الحادة في أفراخ النسور الأصلع (الأمريكي زى الرأس الأبيض) في الأسر بسبب عدوى فيروس الهيريس

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ظهرت أعراض على نسرين أصليين *Haliaeetus leucocephalus* و الذان كانا عمرهما حوالى شهرين و منها بداية لامبالاة فجائية ، و فقدان للشهية ، و الضعف و صفائح اليوريك أسيد خضراء . تم التدخل العلاجي السريع بواسطة البيطري المحلى باستخدام المضادات الحيوية و الضخ تحت الجلد و طاردات الدود ، و لكن كل هذا لم يجدى نفعا و ماتت الطيور. تم إرسال الطيور للفحص المرضى. فى هذه المرحلة كان التسمم أو العدوى الفطرية الحادة التى لم تلاحظ أو عدوى فيروسية هى السبب المشتبه فيه و الذى أدى إلى الوفاة بسبب المالك. الفحوص المعملية بينت أن فيروس الهيريس هو غالبا المسئول عن الوفاة . الصقور المصابة بفيروس الهيريس تعاني فجأة من اللامبالاة ، و الضعف ، و التوبات المرضية ، و الفشل الكبدى ، و صفائح اليورك أسيد تكون خضراء و تموت فى خلال 2-3 يوم بعد ظهور أول تلك الأعراض. من الممكن إنتقال فيروس الهيريس من الطيور التى يسمح لها بالخروج إلى داخل الحظيرة ، و أيضا يمكن أن ينتقل من الحمام المصاب بالفيروس و الذى يتم إطعامه للطيور الجارحة .

صور الصقارة من كيرجستان من مجموعة الصور الخاصة بتراث الصقارة

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هذا المقال يوضح مجموعة من الصور المتعلقة بالصقارة فى كيرجستان . الصقارون من بحيرة Issyk-Kul . و هى لؤلؤة كيرجستان مشهورون منذ القدم ، الصقارون من كيرجستان يطبرون النسور الذهبية و الصقور بأنواعها ، و لكنهم أكتسبوا شهرتهم من الصيد بالنسور الذهبية . تراث الصقارة يحتوى على مجموعة جيدة من الصور الفريدة التى توضح الصقاريين من كيرجستان من بداية القرن العشرين و من 1920 إلى 1960. Almazbek Akunov هو المنظم الرئيسى لمهرجانات الصقارة السنوية التى تعرف باسم Salburun و قد بذل الكثير من أجل إعادة إحياء الصقارة فى بلده ، و قد كان نتاج مجهوداته أنه تم إصدار مجموعة من طوابع البريد إحتفالاً بالصقارة فى كيرجستان



صقر الشاهين أحمر الرقبة فى منغوليا

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هذه السلالة من من صقور الشاهين التى تسكن أسيا الوسطى صغيرة فى الحجم و تسكن الصحراء و تعرف باسم الشاهين أحمر الرقبة *Falco peregrinus babyronicus*. حالة هذا الصقر فى منغوليا غير واضحة ، و لكنه يعتقد أنه زائر صيفى يتكاثر بأعداد قليلة بشكل عام فى جبال جوبى ألتاي فى الصحارى الجنوبية . تم إكتشاف الشاهين أحمر الرقبة لأول مرة أثناء بعثة استكشافية روسية سنة 1899، وفى خلال كل هذه السنوات لم يوفر إلا القليل من المعلومات الجديدة . و فى الآونة الأخيرة وجد أن هذا الصقر الصغير يتكاثر فى تلال الصحراء فى ثلاث مقاطعات.تم العثور على ذكر بالغ و صقور شاهين أخرى و قد صعقوا بسبب خطوط الكهرباء فى الصحراء المنغولية ، و هذه الصورة من الوفيات تشكل تهديدا حقيقيا على استمرارية وجود ذلك الصقر النادر فى منغوليا .

مشروع دراسة الصقر فى بنجلاديش

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كان الغرض من مشروع دراسة الصقر فى بنجلاديش هو دراسة وضع و كيفية تكاثر الصقر أحمر الرأس the Red-headed Falcon *Amur Falco amurensis*, *Laggar Falco jugger*, و *chicquera Falco* و فيما بعد تم توسيع البحث ليشمل الأنواع التالية ، بالنسبة للـ *Amur Falcon* فإنه قد تم أكتشاف موقعين جديدين للعودة من الهجرة و موقع للهجرة (مسارات محتملة) *Amur* . مشاهدات صقر الشاهين إزدادت خلال فترة الدراسة ما بين 2006- 2014.تم تسجيل 13 موقع مختلف بالنسبة لصقر الشاهين الشتوى *F.p.calidus*. فى مدينة دكا . الشاهين المقيم *F. p. peregrinator* تم تسجيله لأول مرة فى بنجلاديش. و بعدها بفترة طويلة تم تسجيل *Laggar falcon* فى الأماكن الجافة الشمالية من بنجلاديش. لم يتم مشاهدة الصقر الحر وسط أو جنوب شرق أو شمال شرق بنجلاديش و لكن من المحتمل أن تكون هذه السلالة موجودة فى المنطقة الشمالية الجافة .



Amur Falcon

Photo: Md. Abu Bakar Siddik

30 October 2014, Dhaka, Bangladesh

فهم العامة للصقارة – مسح تجريبى

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ممارسة الصقارة شهدت نموا هائلا خلال النصف الأخير من القرن العشرين و مازالت تنمو بلا انقطاع . و لم تكن مقتصرة على البلاد التى كانت الصقارة جزء من تراثها و لكن أيضا بلاد مثل ماليزيا و جنوب أفريقيا و هى بلاد لم يسجل عنها أن الصقارة كانت فى تاريخها القديم . و فى نفس الفترة قد شوهد نموا كبيرا فى أعداد المنظمات التى تتاهض إستخدام الحيوانات فى مجالى التجارة و الترفيه حفاظا على سلامة البيئة و توازنها و أيضا من الناحية الأخلاقية والأدبية . لقد كان عندنا من الفضول لكى نعرف كيف يرى الغير ممارسين للصقارة الصقارة كمفهوم و كممارسة ما دفعنا لتصميم استطلاع رأى عبر الإنترنت باستخدام www.surveymonkey.com ، باللغة الإنجليزية و تم توزيعه عبر البريد الإلكتروني و عبر مواقع التواصل الإجتماعى مثل Facebook ، و Twitter. و كانت النتيجة رسائل قوية تحمل الإعتقاد بوجوب الحفاظ على طيور الجارحة ، و أن الصقارة لها دور مهم فى تثقيف العامة عن الحفاظ عليها. و كان هناك إعتراف لم يرقى إلى درجة من القوة بأن هناك روابط ثقافية على سبيل المثال فى تاريخ العصور الوسطى و عصر النهضة و كذلك ارتباط ضعيف بثقافة العرب.

تم عمل مبادرة كبيرة من قبل الصقارين تتناول فيها مشكلة الصقور الكهربى للصفور بسبب خطوط الكهرباء . هذا السبب الرئيسى المسئول عن الكثير من الوفيات يعد أكثر خطورة على الصقور من الصيد و التجارة . و هو السبب الوحيد الذى يشكل تهديدا مباشرا على الصقور فى أجزاء كثيرة من العالم . الصقارين العرب قاموا باتخاذ خطوات لإصلاح خطوط الكهرباء التى تشكل خطورة على الصقور فى آسيا الوسطى . و اتطلع إلى أن أجنب المزيد من الأخبار بهذا الصدد فى الأعداد القادمة من Falco .

فى هذا العدد ألقينا نظرة عامة مختصرة على وضع صقور الشاهين أحمر الرقبة فى منغوليا ، و هو صغير يسكن الصحراء و هو نوع من الشواهين المتنوعة الواسعة الإنتشار . و فى إطار إستمرار البحث العلمى فى علم الأحياء قام محمد فيصل بتقديم عمله لتأسيس مشروع البحث العلمى للصفور فى بنجلاديش . و فى نفس السياق "إدارة إنفلونزا الطيور و الصحة " كان هذا عنوان مقال كتبه Dominik Fischer و زملاؤه كتنذرة للمخاطر المحتملة من عدوى فيروس الهيريس كنتيجة لإطعام الحمام للطيور الجارحة فى الأسر ، فى إطار التوعية العامة و التعليم قام Mike Nicholls بتقديم نتائج استطلاع رأى لدراسة مدى إدراك العامة الغير صقارين للصفارة و كان معظمهم من المملكة المتحدة و الولايات المتحدة الأمريكية .



Falcons confiscated from smuggler's car in Isfahan, Iran on 25 August 2015. They comprised 14 Peregrines (at least 10 of which were 'red-naped shahens) and two Sakers.



نحن الآن فى بداية الخريف، و هجرة الصقور على قدم و ساق. صفور الشاهين تسافر من موطنها الأصلي فى القطب الشمالى من الأقاليم اليورواسيوية و أمريكا الشمالية إلى مناطق ذات مناخ أكثر إعتدالا فى الجنوب. فى الخريف تبدأ الصقور الحرة المهاجرة و صفور الممر فى الوصول إلى مناطق غير صالحة للتكاثر فى البحر المتوسط و الشرق الأوسط و شبه الجزيرة الهندية . و الأكثر يقتصر تحركاته على الذهاب للأقاليم الصالحة للتكاثر بشكل كبير ، و على الأخص الأراضى العشبية الواسعة فى جبال الألب و هضبة التبت.

فترة الهجرة هى الأكثر خطورة فى دورة حياة الصقور. الكثير من الطيور الصغيرة لن يتمكن من النجاة أثناء هذا العبور الشاق إلى الأراضى الشتوية . و كذلك بالنسبة للبالغين فإن معدل الوفيات أثناء الهجرة يكون أكثر من أى وقت آخر . الطيران لمدة طويلة يستلزم الكثير من الطاقة و الهجرة تأخذ الطيور إلى أماكن غير مألوفة و غالبا غير مضيافة تندر بها مصادر الغذاء. الوفيات الطبيعية تكون مرتفعة بالإضافة إلى التهديدات التى من صنع الإنسان .

موضوع متكرر كل خريف هو تهديد الصقور المهاجرة من قبل صيادوا الصقور بالفخاخ . إيقاع صفور الممر فى الفخ يعد الأكثر شيوعا فى شمال أفريقيا و الشرق الأوسط و آسيا الوسطى. و يتم نقل الطيور إلى دول الخليج من أجل سوق الصفارة العربية . بالنسبة لبعض السلالات مثل شاهين كاليدوس الذى يسكن القطب الشمالى، فإن المعدل الحالى للصيد بالفخوخ لا يشكل تأثيرا كبيرا . و لكن بالنسبة للآخرين مثل الصقور الحرة من الاتحاد السوفيتى السابق ، فإن الصيد بالفخوخ يعد سبب أساسى لتقليل أعدادها. أيا كان التأثير على التعداد فإن الصيد بالفخوخ و خاصة تهريب الصقور فى الخفاء عبر الحدود الدولية يعد أمرا وحشيا و يتسبب فى الكثير من الوفيات. يوجد مشكلة خطيرة متعلقة بالسلامة ، فتجارة الصقور قد تتسبب فى مخاطر نقل الأمراض مما يهدد سلامة و صحة الصقور فى البلدان المستقبلية . كل هذا ينعكس بشكل سلبي على صورة الصفارة و الصفارة العرب بشكل خاص .

يجب عمل الكثير لمحاربة هذه المشكلة . كثيرا ما تنشر وسائل الإعلام أخبار عن مضبوطات الصقور فى روسيا و كازخستان ، و لكننا نسمع القليل عن مصير تلك الطيور بعد ذلك .قلو من المهريين و صيادو الصقور بالفخاخ يتم سجنهم أو تغريمهم لدرجة تجعل المخاطرة الأمر لا يستحق المخاطرة .بالإضافة إلى التطبيق الأفضل للقانون ، نحتاج إلى تنمية التجارة الشرعية لكى تحل محل التجارة الغير شرعية لتلبية الطلب على الصقور البرية التى يتم اصطيادها ، و يجب أن يكون هناك آلية لتثقيف الصقارين و موردينهم لتحسين فهمهم للتأثير الناتج عن التجارة غير الشرعية و غير المقننة على الصقور التى هى محط إعجاب لهم .

المبادرات من CMS Raptors MoU قد قطعت شوطا للسعى فى هذا الموضوع عن طريق برنامج لتبادل المعلومات للصقارين العرب تم تأسيسه من قبل الجمعية الدولية للصفارة IAF ، أيضا Falco على طريقتها المصغرة قامت بتوعية الصقارين بالعديد من المواضيع المتعلقة بهم ، فى نفس ذات الوقت تقوم بإعلام صانعى القرار على المستويين المحلى و الدولى بالجهود المبذولة من قبل الصقارين للحفاظ على تراث الصفارة و الصقور و كذلك فريستها .



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