

FALCO

The Newsletter of the Middle East Falcon Research Group
Issue No. 41 Spring 2013 ISSN 1608-1544



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 editors:

Dr. Tom Bailey (Email: tom@falcons.co.uk) or
Dr. Andrew Dixon (Email: falco@falcons.co.uk)

International Wildlife Consultants Ltd.,

PO Box 19, Carmarthen,
SA33 5YL, United Kingdom
Tel: (0044) 1267 233864;
Website: www.falcons.co.uk

Cover picture

'Saker Life at Bayan Soum in Töv Province'
painting by B.Dashdavaa, Bayan School

Since the last issue of *Falco* there have been a number of events relevant to falcon conservation efforts. The first Meeting of Signatories to the CMS Migratory Birds of Prey MoU took place in Abu Dhabi on 9-11 December 2012 (see *Raptors in the News* p. 19). At this meeting it was announced that the detailed preparation of the Saker Falcon Global Action Plan (SakerGAP) would begin in early 2013. To fund this effort, the Saudi Wildlife Authority contributed US\$ 60,000 for research in advance of a planned Stakeholders' Workshop (September 2013) and the European Commission granted US\$ 100,000 to fund the Workshop and preparation of the SakerGAP. Subsequently, there was a teleconference meeting of the Saker Task Force on 20 February 2013 to initiate work on the SakerGAP and Working Groups have been established to take this process forward, with a timetable to present the SakerGAP at the CMS Conference of Parties in January 2014.

At the CMS Migratory Birds of Prey MoU Meeting of Signatories in Abu Dhabi, Prof. Colin Galbraith, Chair of the Saker Falcon Task Force, observed that the issue of sustainable use is fundamental to the work of the Saker Task Force and development of the SakerGAP. This is certainly true, as the issue of 'sustainable harvesting' of Sakers, especially by Mongolia, in relation to CMS Appendix I listing was the primary reason that the Saker Task Force was established.

However, after promoting a strategy of conservation management and sustainable use with CITES and CMS, the change of government in Mongolia in the summer of 2012 has resulted in a *volte-face* in this international policy. At a Cabinet Meeting on 12 January 2013 a decision was made to suspend the export of Saker Falcons for commercial purposes for 5-years (see *Raptors in the News* p. 18). This decision came as a surprise for the research teams working on the Mongolian Artificial Nest Project (see *Falco* 40 Pp. 5-7 for latest information), as the rationale of this project is based on the concept of 'conservation through sustainable use' and is being undertaken under a MoU between the Mongolian Ministry of Nature, Environment and Green Development (MNEGD, formerly MNET) and the Environment Agency-Abu Dhabi (EAD).

There is still some ambiguity surrounding this Mongolian announcement, which needs to be cleared up. There are rumours that some falcon trade may still be permitted under the guise of 'diplomatic' links, and

thus not fall within the category of 'commercial trade'.

In our opinion this would be a retrograde step resulting in a lack of transparency and hindering the development of a truly sustainable system with equitable benefits for local communities. Let's hope such fears are unfounded and Mongolia is sincere in its announcement - there should be transparent, regulated trade or no trade at all.

Whilst the recent Mongolian announcement doesn't negate the Artificial Nest Project work, it does mean that there is no longer a way of assessing the proportion of harvested birds that are derived from artificial nests nor for practically developing harvesting policy and methods. Despite this, the project team is still on track for gathering the data required to determine sustainable harvest quotas by 2015. In the absence of funding that could be generated through sustainable use, the Artificial Nest Project team are now focusing on other benefits provided by artificial nests, especially socio-economic values such as education, rodent control and monitoring terrestrial pollution. In the long term there has to be a purpose for putting up artificial nests, it is not enough to simply say we would like to have more Sakers for no particular reason.

In this issue of *Falco* we highlight one socio-economic benefit of the Artificial Nest Project in the development of the associated School Links Programme. In western Mongolia, Kazakh eagle hunters capture the imagination of many foreign visitors, with their culturally unique and highly photogenic form of falconry and in our *Falconry Heritage* section Takuya Soma describes his ethnographic studies of this cultural tradition. In our *Research Biology* section we have an article to illustrate how migratory Peregrines can live in starkly contrasting habitats, breeding in the remote Arctic tundra and wintering in subtropical urban city centres. In our *Avian Health and Management* section, veterinarians at the Souq Waqif Falcon Hospital, Qatar describe the prevalence of endoparasite eggs in falcon faeces samples.

An appeal for contributions

We would like to see more MEFRG subscribers share their opinions, experience and knowledge through *Falco*. We can accommodate articles written in Arabic and English that fit within the subject areas listed opposite.



Worlds apart: Arctic Peregrines wintering in cities

Andrew Dixon¹, Aleksandr Sokolov² and Vasiliy Sokolov³

¹ International Wildlife Consultants Ltd, PO Box 19, Carmarthen, SA33 5YL, United Kingdom (Email: falco@falcons.co.uk)

² Ecological Research Station of Institute of Plant and Animal Ecology, Ural Division Russian Academy of Sciences, 21 Zelenaya Gorka Street, Labytnangi, Yamalo-Nenetski District, 629400, Russia.

³ Institute of Plant and Animal Ecology, Ural Division Russian Academy of Sciences, 202-8 Marta Street, Ekaterinburg, 620144, Russia.

The Peregrine Falcon is one of the most widespread bird species on earth, being found on every continent except Antarctica. This vast global distribution range reflects the adaptability of the Peregrine and they can occupy a wide range of habitat types, though they are generally scarce in densely forested areas and barren deserts. Migratory Peregrines, primarily those inhabiting Arctic regions, can travel huge distances to winter in different continents in very different habitats. The Peregrine satellite tracking project, undertaken on behalf of the Environment Agency-Abu Dhabi,

has revealed that these migratory birds exemplify the adaptability of the species at an individual level - they all breed in the Arctic tundra but can spend the winter in habitats as diverse as mangrove swamps, pasture and arable farmland, desert wadis, savannah, lagoons and lakes, rocky coasts, urban areas and more. Whilst many of the satellite-tagged wintering Peregrines occupied modified human landscapes, in this article we specifically look at those living in close contact with humans in cities, a 'world apart' from their remote Arctic breeding grounds.

Over the period 2009-12 we fitted satellite transmitters to 28 adult and 9 juvenile Peregrines in the Russian Arctic and tracked 26 of these birds to their winter ranges (24 adults and 2 juveniles). Two of the adult birds settled in winter ranges that were centred in major world cities: one in Baghdad, the capital city of Iraq and the other in New Delhi, the capital city of India.

The male of a breeding pair of Peregrines that were tagged on the Yamal Peninsula in the Yamal Nenets Autonomous District of Russia in 2009, travelled a great circle distance of 1488 km from his breeding territory to Baghdad, whilst his mate migrated nearly 700 km further westwards, passing through Turkey, Syria and Jordan before her transmission ceased on the Red Sea coast of Saudi Arabia, a popular falcon trapping region. The male arrived in Baghdad sometime between the 18 and 22 September and was tracked until the 02 January 2010. Subsequently, we continued to receive



Figure 1. Peregrine locations in Baghdad, where different colours reflect the accuracy of the location point (dark blue = LC3, light blue = LC2 and green = LC1).



Figure 2. Peregrine locations distributed either side of the Yamuna River, New Delhi.

occasional signals from the transmitter, including some high quality location signals in the summer, indicating that the transmitter was in Baghdad; it had either fallen off the bird or the bird had died.

Over the 113 days we were actively tracking the bird, it ranged over an area of 12 km², based on 25 high quality signals of Argos location classes 1, 2 and 3 (with a reported location accuracy of 1000 m, 500 m and 250 m respectively). The bird favoured two particular sites in the Mansour district of the city, one being the Al Rahman mosque and the other the 205 m tall Baghdad Tower 1 km away (Figure 1). The Al Rahman mosque was incomplete in 2010 and the tall construction cranes provided high elevation perches in addition to the eight large domes of the mosque itself. It is likely that this Peregrine hunted the domestic pigeons which are raised in rooftop lofts by Iraqi pigeon fanciers, though we had no reported sightings of the bird whilst it was in Baghdad and we are unaware of any records on the behaviour or diet of Peregrines wintering in the city.

Our other city-dwelling Peregrine was a breeding female tagged on the Popigai river in the Taymyrsky Dolgano-Nenetsky District of the Krasnoyarsk Region in 2011. She travelled a great circle distance of 5240 km from her breeding territory to New Delhi, arriving in the city on the 24/25 September and was tracked until 21 February 2012. The signals stopped suddenly with no prior indication of transmitter failure, so it is likely that the bird died.

Over the 150 days we were actively tracking the bird, it ranged over an area of 486 km², based on 26 high quality signals (LC 1, 2 and 3). However, the core area used by the bird covered 41 km², with two outlying location points 14 km and 37 km away. Unlike the male in Baghdad, the female in New Delhi didn't have an obvious preferred site and her locations were scattered either side of the Yamuna river, with several locations in the wetlands along its bank (Figure 2). New Delhi has a bird list of over 450 species making it, after Nairobi in Kenya, probably the second richest city in the world for birds. The city hosts a large number of winter visitors and passage migrants, being well-positioned on one of the major Asian flyways along the north-south flowing Yamuna. Both banks of the Yamuna and its associated wetlands are among the most productive places for birds in the city (www.delhibird.org). Nevertheless, Peregrines are infrequently recorded in New Delhi, with one passage bird that took up residence at an under-construction tower block attracting so much attention from bird-watchers that it was reported in a newspaper (The Indian Express, 20 March 2009). This particular bird was reported to hunt pigeons and other birds. Elsewhere in India, wintering Peregrines are often observed in cities, where they roost and hunt from highrise buildings, communication towers and spires (Naoroji, 2006). In Mumbai, city-dwelling Peregrines have been observed feeding on Common Mynahs and pigeons (Kiran Srivastava).

From our satellite tracking study it is interesting to note that only four adult Peregrines stopped

transmitting whilst in their winter ranges and that two of these were our city-dwelling falcons. It is difficult to draw any meaningful conclusions from such a small sample but perhaps it indicates that city life is particularly difficult for these migrants. Many cities across the world hold resident breeding Peregrines, and studies have shown that these city dwellers have a surprisingly diverse diet, especially during the migration periods of their prey (Cade et al., 1996; Drewitt & Dixon, 2008), but less is known about the diet of the Peregrines that visit cities in winter. In Hungary most city dwelling Peregrines are winter visitors and appear to be faithful to their wintering localities year after year (Prommer, 2009), so in this case there doesn't seem to be an especially high 'turnover' of individuals. There

is plenty of scope for further detailed studies of wintering Peregrines in cities across the world.

References

- Cade T.J. Martell M., Redig P., Septon G. & Tordoff H. 1996. Peregrine Falcons in urban North America. Pp. 3-13 in D. Bird, D. Varland & J. Negro (eds.) Raptors in Human Landscapes. Academic Press.
- Drewitt E.J.A. & Dixon N. 2008. Diet and prey selection of urban-dwelling Peregrine Falcons in southwest England. *British Birds* 101, 58-67.
- Naoroji R. 2006. *Birds of Prey of the Indian Subcontinent*. OM Books International.
- Prommer M. 2009. Peregrines in Hungary breeders, migrants, winter and summer visitors. Pp. 215-228 in J. Sielicki & T. Mizers (eds.) *Peregrine Falcon populations – status and perspectives in 21st century*. Turul/Poznań University of Life Sciences Press.

Public Awareness and Education

The Mongolian Artificial Nest Project School Links Programme

Nicola Dixon

International Wildlife Consultants Ltd, PO Box 19,
Carmarthen, SA33 5YL, United Kingdom (Email:
nicola@falcons.co.uk)

The Mongolian Artificial Nest Project School Links Programme gives an opportunity for children from Mongolia and other countries to exchange knowledge, culture and language using this unique falcon conservation project as a means of introduction. The School Links Programme has had a successful start, with 10 schools participating in the link at the moment. Each school is encouraged to use the educational resources written specifically for this project which are currently available in English, Mongolian and Arabic on the MEFRG website (www.mefrg.org/slpLessons.asp). Presently there are five topics, with new sections planned for the future which will be written by the students themselves. Each topic has a PowerPoint presentation, student worksheet, questions, extension activities and a set of teachers notes which gives extended knowledge; there are also films available and suggested web links. The PowerPoint presentations provided in the educational resources give an introduction to the topics; it is hoped that students will be encouraged to research the topics to further their knowledge.

In this article I provide an update on progress (see also *Falco* 39, Pp. 16-17) and an overview of the topics currently covered in our educational resources together with examples of how schools have been delivering these resources.

Falcons and falconry

This section is a general introduction to falcons and falconry. Students learn the characteristics of different types of birds of prey, focusing especially on falcons. A brief history of falconry is given explaining when and where the pursuit emerged and why falconry declined following the invention of the gun.

Falconry in Mongolia

A film and PowerPoint are available for this topic which describes Mongolian falconry in the past and today. Genghis Khan, Mongolia's most famous son, was an expert falconer as was his great grandson Kublai Khan. The pursuit still flourishes in the West of the country being practiced by ethnic Kazaks who hunt with Golden Eagles.

Falconry in the United Arab Emirates

A brief history of the UAE is given, including a description of the old nomadic way of life and the growth of the country since the discovery of oil. Students learn that falconry is part of Arabian cultural heritage that was practiced by nomadic people for centuries to supplement their diet throughout the winter.



Jade holds a falcon for the first time during a school visit by Craig Hendee and 'Bo'

Falcon conservation

Students learn that conservation is the protection and wise use of natural resources and that without conservation programs many species could become extinct. The teaching resources explain that because falcons are top predators their conservation is important to maintain a balanced ecosystem.

An introduction is given on factors affecting falcons such as habitat loss, electrocution, trapping and persecution with information on the poisoning of falcons by pesticides. Conservation programs such as falcon re-introduction in Bulgaria and the use of electrocution deterrents are highlighted. The use of captive-bred birds to try and reduce the need for trapping wild birds is also explained.

Mongolian Artificial Nest Project

It is important for the longevity of the Artificial Nest Project that all people living near the nests know why they are there. There are two units of work for this section. The first explains the aim of the artificial nests to increase the Saker Falcon population on the Mongolian Steppe in order to underpin a sustainable harvest for falconry. The second unit looks at the possibility of using birds of prey to control the rodents that damage the grasslands of the Mongolian steppe.

Linked schools

Bayan (Töv province, Mongolia) with Glyncoed (Blaenau Gwent, Wales)

Bayan is the town where the artificial nests were made and the students have been able to visit the artificial nests in their district to see the chicks. All the resources have been delivered and the students now have an excellent understanding of why the nests have been erected on the Mongolian steppe. Bayan school does not have Internet, so communication between the two schools has not been easy. Students have prepared a fantastic booklet explaining their school and the activities they are involved in. The students have also written excellent poems and drawn great falcon pictures. To see a copy of the school presentation go to www.mefrg.org/slpBayan.asp

At Glyncoed school 40 year-6 students (10-11 yrs old) are involved in the school link. The resources are being taught as part of their curriculum during an hour-long session each week and an after school club has been set up for students who want to do the extension activities, raise funds and become more actively involved. Over the coming term the students will create PowerPoint presentations to send to Bayan school explaining the town and area in which the students live, begin using

the web-based SmileyTalk forum to send messages to other students in the link and begin fund-raising for Bayan school to get the internet connection installed.



Bayan students learning about falcons and falconry

Tuvshinshiree (Sukhbaatar Province, Mongolia) with Lyngford Park (Somerset, England)

At Tuvshinshiree the lessons have been delivered to a class of 12 years old students. The students are preparing materials to send to their link school and they have displayed the information about Lyngford Park primary on their school notice board. They would like to exchange knowledge and learn more about the area where Lyngford Park is situated.

At Lyngford Park the resources are being delivered to a year-2 class (6-7 yrs old). They have been learning about falcons and have visited a ger and talked to people who have lived in Mongolia. The students have learnt about the wildlife that inhabits Mongolia and have written a PowerPoint presentation on their school and sent it to their link school along with a school prospectus and an after school club has been set up, where parents get involved and help teach the resources.

Uulbayan (Sukhbaatar Province, Mongolia) with Julian Middle School (Illinois, USA)

The educational resources have been taught to a class of 10-11 year old students. Uulbayan is an 'eco-school' which encourages students to celebrate Mongolian heritage. Students wear traditional Mongolian dress to school on a Wednesday. As the programme develops, Uulbayan teachers and students want to exchange knowledge and hope to be able to visit their link school in Illinois. To see a PowerPoint presentation about Uulbayan school go to www.mefrg.org/slpUS.asp

At Julian Middle School there are 80 students involved in the School Links Programme which is taught in science lessons to three classes with students aged 11

and 12. Students are learning about falcons and falconry through lessons and presentations given by Craig Hendee from the International Heritage Conservancy.

Students are well versed in the research and conservation aspects of the Artificial Nest Project and are keen to learn about Mongolia. Students have created a website about their school and birds of prey at <http://mongoliansakerfalcons.weebly.com/index.html>

Buren (Tóv province, Mongolia) with Golf Middle School (Illinois, USA)

Buren school have started using the PowerPoint presentations to teach a class of 10-11 year old students. Students have drawn pictures relating to the artificial nests and with their ICT teacher have created fantastic slideshows. See www.mefrg.org/slpBS.asp to view the slideshows.

A PowerPoint presentation prepared by the students about their school and individual student profiles have been translated and sent to Golf Middle School.

Golf Middle School have prepared personal statements on each of the 54 grade 6 students involved in the school link. These have been translated into Mongolian and sent to Buren School. Craig Hendee has visited the school to give presentations and talks on falcons and falconry.



Teacher at Uulbayan using the resources to explain the Artificial Nest Project

Saintsagaan (Dundgovi Province, Mongolia) with Frederick School (Chicago, USA)

Saintsagaan school have delivered all the lessons to a class of 10-11 year old students (Class 5A). Students have drawn pictures of Saker Falcons, and they have sent information and photographs of their school to their link school. The head teacher said that she will send students from Class 5A to other classes to inform them about the project and falcons. In the future they



Students from the link class at Buren school

want to exchange their knowledge with teachers and students from Frederick school.

Students at Frederick School have learnt about falcons, falconry, Mongolia and the Artificial Nest Project. They have done their own research on Saker Falcons and watched a falconry display and learnt to handle falcons safely. There are two classes involved in the link, and they have watched the Artificial Nest Project and Cultural Heritage videos and talked about Mongolian horse racing and the birds and animals of Mongolia. Students have produced a PowerPoint about their school which has been translated into Mongolian and sent to Saintsagaan School. See www.mefrg.org/slpFred.asp

Organization and participation

The School links Programme has a closed Facebook site, which is only open to personnel participating in the project. The Facebook site is a great way for staff to share ideas, see what's going on in other schools and report on progress. However, not everyone has access to the internet, so we also produce a newsletter three times a year to give an overview of what is happening in each school and keep teachers, parents and students updated.

In order to facilitate communication between schools, the Artificial Nest Project staff in Mongolia have been working hard to translate materials and have helped to deliver some of the resources to schools. All USA schools involved in the School Links Programme have been introduced by Craig Hendee. We are very grateful for his hard work and dedication. Craig has visited

schools with his falcons giving lessons and falconry demonstrations. Rodney Shibu, along with his fellow students Rohan Kamal and Jobin George, has been teaching the resources to a small group of grade 5 and 6 students at his school, the International School of Choueifat in Abu Dhabi.

We hope to be able to bring Abu Dhabi Schools into the School Links Programme in the near future, possibly through the 'eco clubs' as part of the sustainable schools initiative organized by the Environment Agency-Abu Dhabi. Our target is to link a further seven Mongolian schools to international schools in September 2013.



Emma Johnson & Grace Bounds from Frederick school, USA

Ethnographic study of Altaic Kazakh falconers

Takuya Soma

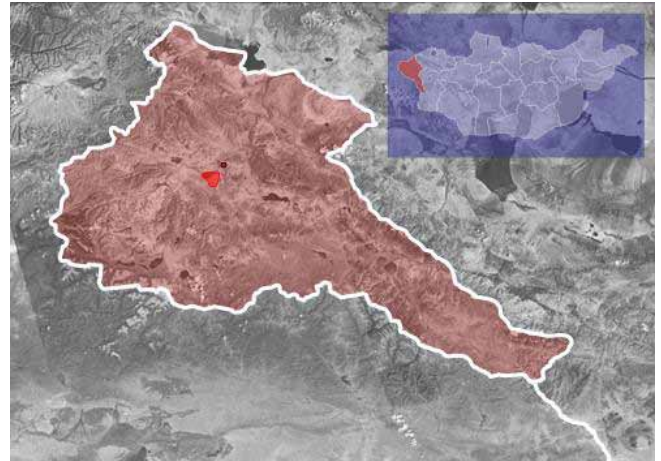
Watercope Project, University of Kassel, Germany
E-mail: takuyasoma326@hotmail.com

Introduction

Classical falconry from horseback is well preserved in the Altaic Kazakh community in Bayan-Ulgii (Bayan-Ölgii/ Баян-Өлгий), western Mongolia (Map.1). In their way of falconry, only the female Golden Eagle (*Aquila chrysaetos*) is tamed. Hunting takes place from horseback targeting the Red Fox (*Vulpes vulpes*) or Corsac Fox (*Vulpes corsac*). In this field of study, only a little information is available, including travel writings by Stephen J. Bodio (2001, 2003), whilst folk studies by K. Bikhmar (1994) together with my own research (Soma 2007, 2008, 2012a-c) give an insight into this traditional hunting. A Japanese TV program produced by NHK in 2006 called “A Winter Story of Golden Eagle and Me (Boku to Inuwashi no Huyu-Monogatari)” is an informative documentary about a local falconer’s livelihood. While UNESCO has inscribed “falconry” on ‘The Representative List of the Intangible Cultural Heritage of Humanity’ in 2010, a definitive description of Altaic Kazakh falconry and falconers has yet to be produced.

Purpose: To establish an academic and scientific basis for further studies and preservation, I carried out anthropological and ethno-zoological research from July 2011 with financial support from The Takanashi Foundation for Arts and Archaeology 2011/12 (founded by Marujin Holdings Company Ltd.). My current research extends until March 2014. One main ethnographic focus is to document the local arts and knowledge of eagle taming and hunting. There is an urgent necessity for documentation due to the disappearance of hunters and experienced elders. In addition, my study will include observation of “Human-Animal Interaction” and “Human-Animal Behaviour” in the process of raptor domestication by eagle hunters.

Method: This research belongs to the ‘classical style’ of ethnological research mostly based on live-in participant observations and semi-structural interviews at Sagsai (Carcaи) village in Bayan-Ulgii Province. In addition, my own experience in taming a Golden Eagle provides a deeper understanding in order that I may produce a holistic ethnographic description of Altaic Kazakh falconry.



Map 1. Bayan Ulgii Prefecture

This article gives a brief introduction with some results from previous research in 2011/12. I will point out the scope and future direction of work for the sustainable preservation of Kazakh eagle falconry in the Altai Regions.

Altaic Kazakh falconry

The Altaic Kazakh community is one of the biggest minority groups in Mongolia with a population of more than 86,000. The people came to stay here mainly from western China in the middle of 19th century (Diener 2009; Barcus & Werner 2010). As a consequence of detachment from other sedentary society, many Kazakh traditions have survived, not only falconry culture, but also homemade embroidery, felt carpet production, seasonal transhumance and horse-riding traditions. However, because of their position as a ‘minority group’ in Mongolia, the Kazakh’s rich intangible customs are not highly evaluated.

According to my basic anthropological survey (Soma 2012e), at least 28 falconers (24 families) were confirmed living in Sagsai and neighbouring winter pastures; 7 (6 families) were settled in the village centre and 21 (18 families) were pastoralists with seasonal transhumance in pastureland. Sagsai village is known for its number of falconers and their excellent techniques. Most of the tamed eagles are aged 2~5 years old. In accordance with the old convention, falconers have to release their eagles when they reach 5 years old.

Throughout my 300 day “homestay” with a falconer family at their Buteu Winter Pasture in Sagsai (R-5 Bag), the actual life and custom of falconers gradually revealed itself.

Brief introduction to local eagle falconry : the Sagsai case

Ancient origin of falconry tradition

The place where falconry first originated is still unclear. On analysis of archaeological evidence and petroglyphs from 1,000 BC, one origin might be in the Altai or Tianshan Mountains (Soma 2012b). A figure of horse mounted falconers was depicted in a bronze buckle from the 3rd century BC found in northeastern China. Later, more concrete images of horse-riding falconers were described on a rock in the west of the Lake Issyk-Kul (Kyrgyzstan) from the 7th century. Hunting with tamed raptors on horseback was undoubtedly practiced no later than the 3rd century BC in North Asia. There is enough evidence to assert a centuries-long tradition and historical depth of falconry culture not only in Altaic Kazakh but also in human history.

Eagle taming with minimum effort

In summertime, from March to September, a master falconer is often absent from home and cannot care for and feed his Golden Eagle (Soma 2012d), so his wife or children roughly put a lump of meat around the eagle's foot instead. This is a unique method of care and taming in falconry. European and Japanese ways of raptor-taming require very strict procedures and modes of feeding and training; many falconry management methods were stated in "De Arte Venandi cum Avibus (The Art of Falconry)" and "The Boke of Saint Albans".

However, this minimum effort for his eagle enables the master falconer to concentrate on animal herding and related work in summer, which is especially important for pastoralist falconers. Furthermore, unlike medieval Europe and Japan, there are no social restrictions regulating eagle possession. In this sense, every local could become an eagle owner and it's relatively easily to find and own one.

Animal herding and the falconry tradition

Transhumance (nomadic) subsistence livestock herding is considered a decisive ecological basis for preservation of falconry tradition (Soma 2012c,d). This "nomadism" and its annual animal reproduction provide food for tamed eagles. It also reduces a burden for horse ownership expenditure. One tamed eagle normally consumes about 60~70 kg of flesh in a year. This amount represents 3~5 local Kazakh sheep (or goats). Further, when hunting, falconers need to climb mountains on horseback to access hunting points. The average running distance in a day reaches about 20 km. Therefore, both sheep (for diet) and horse (for mobility) are inseparable from management of local falconry. It means that the collapse of an animal husbandry ecosystem will lead to the disappearance of eagle falconry.

Decline of actual hunters

In contrast to emotional attachment on falconry as an ethnic identity, falconry culture itself is no longer



"The Golden Eagle Festival" in 2012



"The Golden Eagle Festival" in 2012

anchored in actual hunting activities, unlike its previous original context. Nevertheless, there are nearly 30 falconers in Sagsai village and pasturelands, but the actual practice of hunting is just carried out by 4~5 of them. The others become demonstrative 'eagle-owners' for tourists. Many of the falconers consequently have no hunting experience. Such a decline of hunting practice derives from complex reasons like the expansion of trap-hunting or gun-shooting. The recent decrease of wild foxes also reduces catching rates from falconry nowadays. At the same time, winter hunting is extreme, time consuming and hard work even for locals. Beaters, who are used to flush foxes for eagles, tend to avoid this burden and not to go together. This kind of "decontextualization" of falconry culture is one of the unstoppable concerns now endangering Altaic Kazakh falconry.

Potential "coexistence" with Golden Eagles

Kazakh falconers and Golden Eagles might have been in a cycle of coexistence through local tradition and the 'capture and release custom' (Soma 2012d). Falconers normally capture eaglets from the eyrie directly. A captured nestling is called "Kolbala", and a trapped young bird is called "Juz" in Kazakh. It is the local belief that Kolbala is stronger than Juz. Nest capturing may

contribute to a reduction in the mortality rate due to the feeding and care provided by the falconer. Furthermore, removal of one chick reduces siblicide mortality in the nest and may be another positive effect on productivity. Through the process of 'manning', eagles will acquire a 'non-humanphobic' nature even after they are returned to the wild when 5 years old. Released eagles will not be too afraid of human activities. Through surveys in nest distribution, eagle's eyries are seen everywhere in the mountains and can even be found just behind a pastoralist's winter house and nearby. As a result, it may help to share living spheres with humans. The hunting skills developed by a falconer's eagle may contribute to efficient feeding and breeding for the next generation. It is still theoretical but probable that taming, training and manning of wild Golden Eagles with local Kazakh's rule might have some positive effects on the propagation of eagles.

Modern concepts of falconry in symbolism and identity

Fox-fur for ethnic clothes

Traditional fox-hunting has more symbolic connotations rather than a practical utility in Kazakh communities. One of the significances is that fox-fur is exceptionally important to make Kazakh ethnic clothes. Fox-fur

is an essential material for making ethnic clothes to represent Kazakh masculinity. This also gives ethnic symbolism to eagle falconry. For example, "Pushpak Tomak (fox's leg-fur hat)" is the most symbolic element in Kazakh masculinity. The hat brims are ornamented with 16~25 fox's leg-furs and its hem is also piped by Eurasian Beaver (*Castor fiber*) pelt. In the traditional sense, only front leg-furs are chosen for use. Some elder Kazakhs never use rear leg-furs because of their poor condition due to daily running and jumping. To make one hat requires 8~12 foxes only using leg material. Besides, "Tulk Tomak (fox-fur hut)" is important during extremely cold winters.

The Golden Eagle festival for external utility

One of the biggest ethnic events "The Golden Eagle Festival" was established in 2000 in Bayan-Ulgii city (the Aimag Festival) by local travel companies, the Bayan Ulgii Province and the Mongolian Eagle Hunters' Association (MEA). The Sagsai Festival began in 2002 in Sagsai Village. The events undoubtedly contribute to preserve the eagle-ownership tradition. Both these festivals now assemble 40~50 dressed-up falconers and attract more than 300 overseas tourists every year. These two events have grown to be one of the most fruitful cultural events not only in Bayan-Ulgii Province, but in western Mongolia (The Aimag Festival was enlisted in the National Festival of Mongolia; Soma and Battulga In Press).

However, the events no longer involve many local residents, especially the Aimag Festival. The opening ceremony takes place 15 km from Ulgii city and not so many locals are able to join except those who sell souvenirs and local foods (15~20 families) to tourists. The main aim of the festival is tourism and entertaining foreign travellers. The festivals are clearly functioning for external representation while leaving internal emotions behind.

Ethnic representation with images of falconers

For the past decade, some local falconers and the MEA have tried to establish a firm Kazakh

ethnic representation at the Golden Eagle Festival and in its images of falconers. Falconer motifs are seen everywhere in the Ulgii city such as on advertisements, posters, gates of a park, the emblem of the Province and even on a label of local made vodka.

However, their handling and direction of cultural discourse is not really based on scientific and academic criteria. Altaic Kazakhs have some misinterpretation that simple eagle ownership and establishment of The Golden Eagle Festival will give enough contribution to keep their own distinctiveness as a form of intangible cultural heritage. However, falconry culture depends on a transhumant animal husbandry lifestyle. Besides, participation in eagle-taming and fox-hunting used to be an initiation to Kazakh's adulthood. A loss of hunting leads to the practice becoming only a cultural



A skilled falconer in hunting operation



A 5 year-old tamed Golden Eagle

demonstration based on a template of “heritage-like” structure. Altaic Kazakh falconry has apparently reached a transitional point where it can survive as “a living cultural heritage” and only exist as an attractive re-enactment of a lost way of life”.

Conclusion

It is necessary for falconry to be a “living heritage” for future preservation. In connection to my research results and scope of study, this project needs to focus more on the interaction between transhumant animal herding and eagle falconry. As a further study, foundational knowledge about Altaic Kazakh falconry will lead to a deeper understanding of sustainability and preservation for the future.

I would like to ask all readers for sincere advice and opinions on my project.

Acknowledgements

This research has been carried out with financial support by The Takanashi Foundation for Arts and Archeology in 2011 and 2012. I would like to express my deep gratitude to the Executive Director Seizaburo Takanashi and to all members in charge cooperating to the foundation by Marujin Holdings Company, Limited.

References

- Bodio S.J. 2001. Eagle training in Mongolia - a western perspective. *Falco* 18, 7-9.
- Bodio S.J. 2003. *Eagle Dreams: Searching for Legends in Wild Mongolia*. Lyons Press.
- Diener A.C. 2009. *One Homeland or Two? The Nationalization and Transnationalization of Mongolia's Kazakhs*. Woodrow Wilson Center Press.
- Barcus H & Werner C. 2010. The Kazakhs of Western Mongolia: transnational migration from 1990–2008. *Asian Ethnicity* 11, 209-228.
- Bikhmar K. 1994. Казактын Дәстураи Аншылыгы. *Olgii*.
- Soma T. 2007. Kyrgyz falconry & falconers and its transition. *In Proceedings of Great Silk Road Conference 2006*. Pp. 130-139. Tashkent: Academy of Uzbekistan/ UNESCO,
- Soma T. 2008. Keisho naki Bunkaisan toshitenno Syuryou-Gijyutsu: Kyrgyz-Kyowakoku ssyk-Kul Kogan niokeru Takagariryu no Ethnography. <http://bungakubu.kokushikan.ac.jp/chiri/PDF/2008No16.pdf>
- Soma T. 2012a. Contemporary falconry in Altai-Kazakh in Western Mongolia <http://www.ijih.org/volumeMgr.ijihcmd=volumeView&volNo=7&manuType=02>
- Soma T. 2012b. Ethnoarchaeology of horse-riding falconry. http://iafor.org/acss2012_offprints/ACSS2012_offprint_0271.pdf
- Soma T. 2012c. The art of horse-riding falconry by Altai-Kazakh falconers. <E-Book ISBN: 978-989-95671-8-4>
- Soma T. 2012d. Intangible cultural heritage of arts and knowledge for coexisting with Golden Eagles - ethnographic studies in “horseback eagle-hunting” of Altai-Kazakh falconers. www.analytrics.org/Pages/HSSSubmittingforPublication.aspx>
- Soma T. 2012e. Horse-riding falconry in Altai-Kazakh nomadic society: anthropological researches in summertime activities of falconers and Golden Eagle. *In Japanese Journal of Human and Animal Relation* 32, 38-47. [In Japanese]
- Soma T & Battulga S. (In press) Heritage tourism and Altaic Kazakh falconry in western Mongolia: “The Golden Eagle Festival” as an Axis of Cultural Alteration!. *In Official Proceedings of International Conference of Tourism and the Shifting Values of Cultural Heritage: Visiting Pasts, Developing Futures*. Ed. M Robinson. Ironbridge International Institute for Cultural Heritage, University of Birmingham.

Prevalence of faecal endoparasite ova in falcons in Qatar

Ikdam Al-Kharkhi, Wilson Joseph and Amrita Deb

Affiliation: Souq Waqif Falcon Hospital, PO Box 21497, Doha, Qatar. Email: amritadeb3@gmail.com

Introduction

The Souq Waqif Falcon Hospital (SWFH), Qatar, is a dedicated falcon hospital, established in 2008, to service the falcon shops at the souq, in addition to privately-owned birds. As a government institution, many of the services are heavily subsidized in order to make advanced diagnostics accessible to all falconers. As a result, the hospital receives an average daily case load of 50 falcons (42% Peregrine falcons, 38% Saker falcons, 15% Gyr and Gyr-hybrids, 3% Lanner falcons and 2% Barbary falcons in 2011-12) during the hunting season from September to March. The subsidy on services and treatment is also quite effective in encouraging falconers to screen their birds regularly for endoparasites in faecal samples as a preventive health measure during this stressful period.

Grade	Microscopic Finding (10X) Objective
1+	1-5 ova detected in the smear
2+	6-15 ova detected in the smear
3+	16-25 ova detected in the smear
4+	More than 25 ova in the smear

Table 1. Explanation of grades used for estimating parasite ova abundance in direct smears at SWFH (Note: Only the area under the cover slip is examined)

Methods

During the hunting season from October 2011 to April 2012, 6853 faecal samples from captive falcons were evaluated for endoparasites at SWFH. The routine faecal parasite examination was carried out by the direct examination of wet mount preparations of fresh faecal samples under 100X (10X objective) magnification. The results were recorded under 4 broad categories- Coccidia (Caryosporapp), Capillaria, Serratospiculum, and Trematodes/Others (consisting mainly of trematodes and few ascarids, acanthocephalans, etc). The categories were based on pathogenecity and treatment considerations.

In each sample the parasite abundance was loosely estimated and graded subjectively from 1+ to 4+ (Table 1). Any repeat samples from one bird on a particular day

was recorded as one sample, but the same bird returning another day for a faecal check was recorded as a new case. For the purpose of this study, all faecal samples showing gross abnormalities, including worms, in the absence of parasite ova, were considered negative.

Results

Retrospective analysis of the faecal records revealed that 35.7% (2449/6853) of the samples examined were positive for one or more endoparasite ova. A monthly break-up showed that the prevalence of endoparasites was highest in the month of November, at 40.9%, and lowest in January, at 31.5%. When the relative prevalence of the different categories of parasites recorded at SWFH was analysed, Coccidiosis was by far the most common endoparasitic infestation, with oocysts of Caryospora spp. detected in 53.6% of the positive cases. Prevalence of coccidiosis during the study period was 19.2%. This was followed by Trematodes/Others detected in 29.5%, Serratospiculum in 21.6%, and Capillaria in 13.2% of the positive cases. 519 of the 2449 cases (21.2%) concurrently tested positive for two or more types of endoparasite.

Serratospiculiasis had a prevalence of 7.7% (529/6853 samples). A deeper scrutiny of the Serratospiculum species positive cases revealed a definitive trend over the months examined, with a maximum of 10.8% (129/1188) in the month of November, declining progressively over the next few months to 3.25% (100/307) by April 2012. Records were available for 187 out of 457 samples that were positive for Serratospiculiasis. Of these, 13 were repeat samples from the same bird, therefore 174 record files were analysed. Within the Serratospiculum positive group were predominantly Peregrine falcons (51%), followed by Saker falcons (40%), Lanner falcons (5%), Gyr and Gyr-hybrids (3%), and Barbary falcons (1%). During the examination period, only 14 birds were recorded as having a heavy infestation of Serratospiculum spp. (4+), of which 57% (8/15) were Saker falcons.

Discussion

Endoparasites, a common finding in free-living raptors, assumes a greater clinical significance in captive birds, especially under compromised management conditions, concurrent disease and stress (Forbes, 2008). At a falcon hospital in Saudi Arabia, endoparasitism was a major contributor to morbidity in captive falcons, with a prevalence of 32.9% (Naldo and Samour, 2004). Of the common endoparasites in raptors, nematodes are the most common, potentially pathogenic, group (or phylum) of endoparasites, with the notable exception

of protozoa. In fact, a number of different studies in the Middle East have established Serratospiculiasis as the most widespread parasitic disease of captive falcons (Al-Tamimi, 1987; Samour and Silvanose, 2000; Samour and Naldo, 2001).

With the percentage of endoparasite positive samples at 35.7%, the findings of this study corroborate those of previous ones on the prevalence of endoparasites in captive falcons. The maximum prevalence recorded (40.9% in November) coincided with the peak hunting season period in Qatar, most likely a result of the extreme demands placed on the birds by the rigours of hunting. In contrast to published literature, the most common endoparasite encountered in this study was coccidia or Caryospora species, not serratospiculiasis. The pattern of monthly prevalence of Coccidia mirrored that of total

endoparasite prevalence with increasing prevalence rising to 21.6% by December before decreasing again to 15.9% by April.

This study also recorded the lowest prevalence (7.7%) of serratospiculiasis to date. The fact that data from only one part of the year has been analysed might account for this, although a seasonal variation in prevalence of serratospiculiasis has not been reported so far. Alternatively, the detection method used in this study was examination of a direct smear, a less sensitive technique than faecal flotation for the detection of parasite ova. Despite these limitations, these results appear to follow an interesting trend apparent in recent publications on the prevalence of serratospiculiasis in captive falcons. A review of published literature on the subject, especially in the Middle East, published between 1984 and 2001 reveals a prevalence ranging from 35-70% (Greenwood et al., 1984; Al-Tamimi, 1987; Samour and Silvanose, 2000; Samour and Naldo, 2001), whereas studies published in the last decade report much lower prevalences of 8.7% (Tarello, 2006) and 18.9% (Al-Tamimi et al., 2009), in Kuwait and Saudi Arabia, respectively.

The probable reasons underlying this apparent decline in the prevalence of Serratospiculum species include the increasing use of captive-bred falcons in falconry and, more likely, especially in Qatar, the widespread and unregulated use of anti-parasitic drugs like ivermectin by falconers and falcon traders. Although Peregrine falcons accounted for most of the Serratospiculum positive cases in our study, in contrast to Saker falcons reported elsewhere (Al-Tamimi, 1987; Samour and Naldo, 2001; Forbes, 2008), caution must be exercised before drawing any conclusions from this data since records with species information were not available for all the faecal samples examined in this study. The results may well be a reflection of the relative numbers of these species received at the hospital.

In conclusion, the results of this study, albeit preliminary, have yielded some interesting findings that highlight areas for further research. Narrower categories for recording results of faecal examination have been introduced at SWFH, especially since the Trematode/ Others group was found in 29.5% of positive cases. In addition, there appeared to be a close association between incidence of Trematodes and Serratospiculiasis (approaching 40% in some months) that needs further investigation. Further, given the volume of samples examined at the hospital, analysis of year-round data and comparison of season and out-of-season data, as well as the sensitivity of faecal examination methods over time studies at SWFH will definitely augment the existing body of knowledge on the subject.

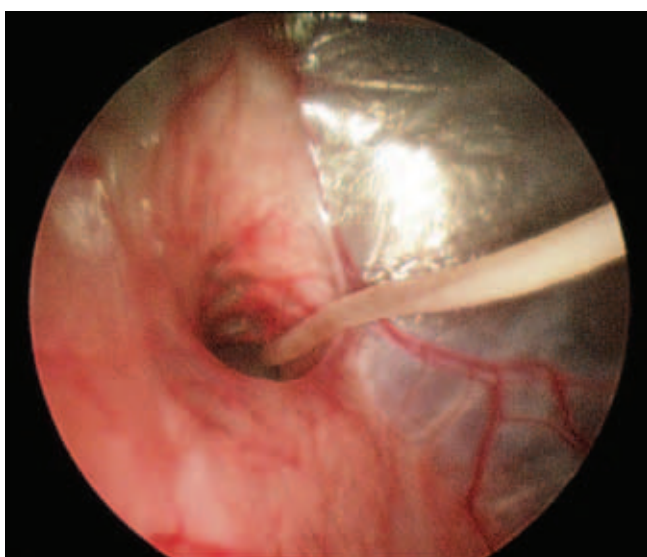


FIGURE 2. Endoscopic view of a larva of Serratospiculum species in the airsac and ostium of a Saker Falcon.

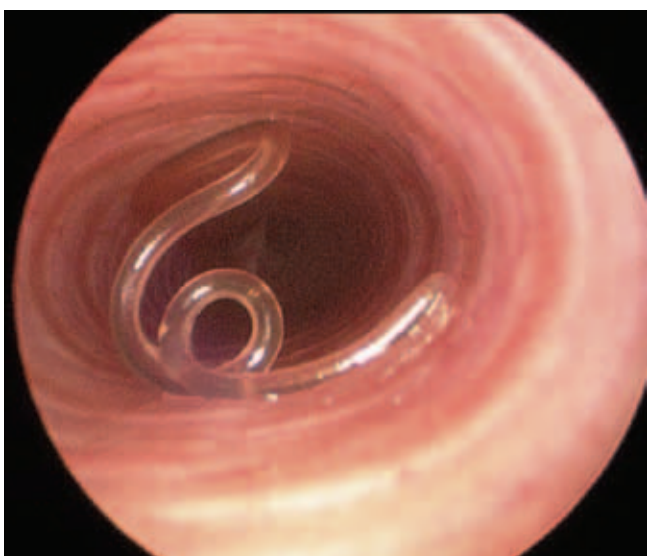


FIGURE 3. Endoscopic view of the same larva (in fig. 2) from the trachea.

References

Al-Tamimi, F.A. 1987. *Falcons and Falconry in Qatar*. Ali Bin Ali Printing Press, Doha, Qatar. Pp 153.

Al-Tamimi, F. Nolosco, P. and Al-Tamimi, B. 2009. Incidence and treatment of serratospiculosis in Saudi Arabia. *Veterinary Record* 165:408-409.

Forbes, NA. 2008. Raptors: parasitic diseases. In: Chitty, J and Lierz, M(eds). *BSAVA Manual of Raptors, Pigeons and Passerine Birds*. British Small Animal Veterinary Association, Gloucester, United Kingdom. Pp 202-211.

Greenwood, A.G., Furley, C.W. and Cooper, J.E. 1984. *Intestinal trematodiasis in falcons* (order Falconiformes). *Veterinary Record* 114:477-478.

Naldo, J. and Samour, J.H. 2004. *Causes of Morbidity and Mortality in Falcons in Saudi Arabia*. *Journal of Avian Medicine and Surgery* 18:229-241.

Samour, J.H. and Silvanose, C. 2000. Parasitological findings in captive falcons in the United Arab Emirates. In: Lumeij, J.T., Remple, J.D., Redig, P.T., Lierz, M. and Cooper, J.E. (eds). *Raptor Biomedicine III*. Zoological Education Network. Lake Worth, Florida, USA. Pp117-124.

Samour, J.H. and Naldo, J. 2001. Serratospiculiasis in Captive Falcons in the Middle East: A Review. *Journal of Avian Medicine and Surgery* 15:2-9.

Tarello, W. 2006. Serratospiculosis in falcons from Kuwait: incidence, pathogenecity and treatment with melarsomine and ivermectin. *Parasite* 13:59-63.

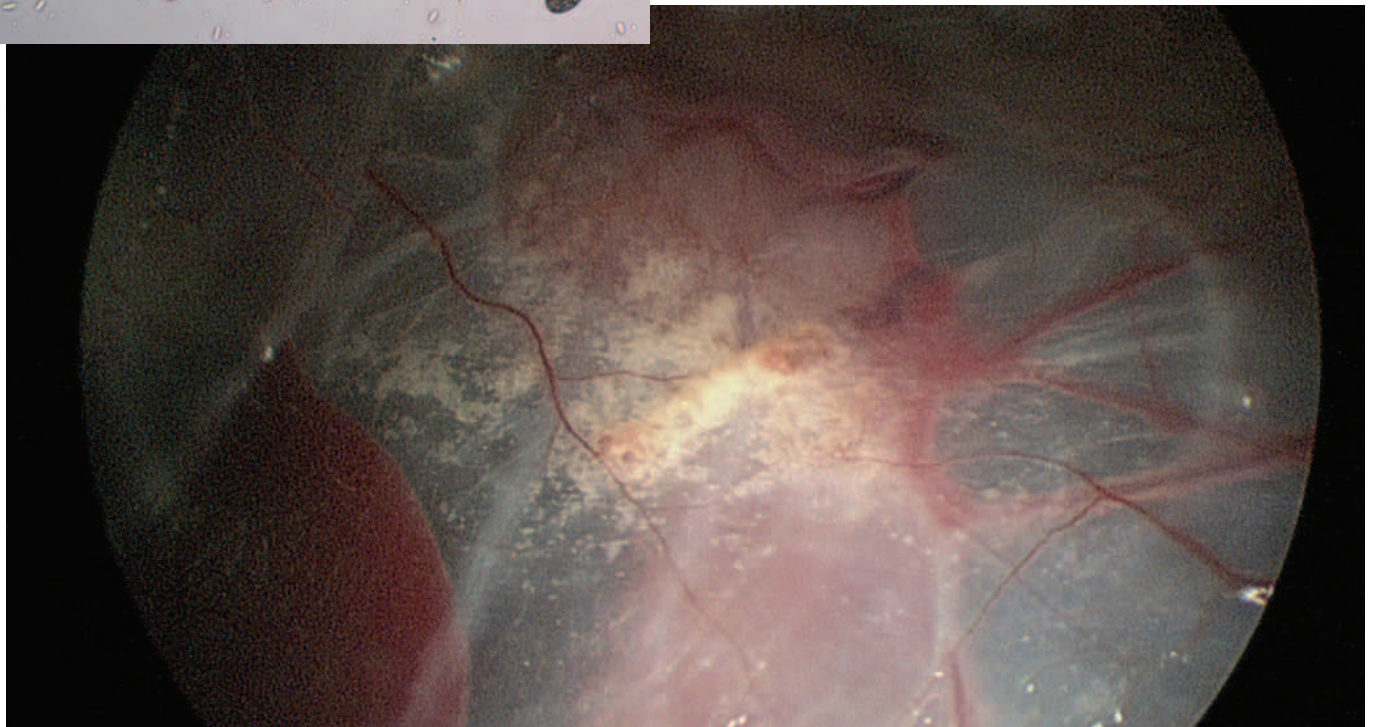


FIGURE 4. Endoscopic picture of *Serratospiculum* ova in the airsac of a Gyr-Peregrine hybrid falcon. Inset: Cytological examination of a swab from the area showing ova of *Serratospiculum* species with numerous erythrocytes in the background (10x Objective)

Raptors in the News

Raptors in the News Mongolian government announces a 5-year suspension of 'commercial trade' in Saker Falcons

The regular meeting of the Mongolian Cabinet was held on 12 January 2013 and discussed more than 20 issues. At this meeting they decided to suspend the commercial export of Saker Falcons from Mongolia for a period of 5-years. The cabinet considered that this decision will contribute greatly to increasing the Mongolian population of Saker Falcons, a species which holds an important place in the history and culture of the people of Mongolia, and to promote public awareness of the ecological value of Saker Falcons.
www.pmis.gov.mn



The Qatar International Festival of Falcons and Hunting

The Qatar International Festival of Falcons and Hunting is one of the largest festivals in the region. The last two previous events were marked by unlimited support, strong competition and mass attendance.

A wide range of falconers from the Gulf Region participated in the festival. This Festival is organized annually by Algannas (the falcons and saluki section of the Katara Cultural Foundation) under the patronage of His Excellency Sheikh Joan bin Hamad bin Khalifa al-Thani since its inception in 2010.

The 2013 event has been an unqualified success and this Festival is going from strength to strength every year.

Also under the auspices of Katara and running at the same time was the fantastic Al Galaya Festival, a



televised "reality TV" show where teams of traditional falconers are placed in a wilderness area 12km sq or larger and have to set up camp in a traditional way, with no modern aids like vehicles or mobile phones or electricity and hunt from their camels and horses with falcons and salukis and are judged by senior falconers acting as referees.

www.iaf.org

Environmental education within Abu Dhabi schools

The Environment Agency – Abu Dhabi (EAD) and the Abu Dhabi Educational Council (ADEC) organised a workshop on a pilot programme that will embed environmental education within schools' curricula. Through the programme, EAD and ADEC aim to develop a society that is environmentally aware in order to be able to contribute positively to the Abu Dhabi Vision 2030.

The workshop focused on the importance of embedding local-specific environmental issues in the school curricula, which will help promote sustainable development aspects across the school community. With this new addition to the curricula, the two organisations hope to broaden students' knowledge and promote a positive environmental behaviour, paving the way for a more sustainable future for the Emirate of Abu Dhabi.

HE Dr. Mugheer Khamis Al Khaili, ADEC's Director General, explained that "Environmentally friendly initiatives



help encourage a positive learning environment in classrooms, as well as bringing about positive behavior among students”.

HE Jaber Al Jaber, Deputy Secretary General of EAD, said: “Today, school students constitute over a quarter of the total population in the Emirate of Abu Dhabi. It is very important that they be equipped with the right critical thinking abilities, problem solving skills and the right mind set to be able to innovate, contribute and develop leadership skills to work towards a sustainable future”.

www.ead.ae

Over 40 countries work together to improve the conservation status of migratory birds of prey

Over 100 representatives from more than 40 countries gathered in Abu Dhabi from 9- 11 December 2012 for the 1st Meeting of Signatories to the Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia (Raptors MoU), convened under the auspices of the UNEP Convention on Migratory Species. The Raptors MoU covers 76 migratory species of birds of prey and owls, which occur in 130 Range States in Africa and Eurasia.

HE Mohammad Ahmad Al Bowardi, Managing Director, Environment Agency–Abu Dhabi (EAD), said in his opening speech, delivered on his behalf by Dr. Shaikha Al Dhaheri, EAD’s Executive Director of the Terrestrial and Marine Biodiversity Sector: “It is very satisfying to see that this agreement, which became a reality here in Abu Dhabi in 2008, is moving forward. Birds of prey are particularly important in our culture and our local heritage, and we, with the support of the leadership in the United Arab Emirates, have been committed to, and for many years, the preservation and protection of these birds. We know, from our experience, that the protection of migratory species requires a lot of effort and participation from the different stakeholders and range states.”

“The MoU on Birds of Prey not only provides a clear road map to conserve key migratory raptors, but also offers new opportunity to network, forge new partnerships and compensate for variable institutional and financial capacities across the range states. I am really encouraged to see that nearly 100 delegates from nearly 40 countries including key international NGOs are here. Your presence here is a clear indication of the importance attached to conserve migratory birds of prey in Africa, Europe, Middle East and Asia. Conserving

migratory birds in general and birds of prey in particular is a real challenge, however our collective efforts and clear plans can make this happen.”

“The UAE is strongly committed to the conservation of migratory birds of prey and our signing of the agreement, supporting and hosting the CMS Co-ordinating Unit is a clear indication of the commitment and leadership shown by the UAE.”

Some migratory raptors have suffered major population declines in recent years, for example, Egyptian Vulture, Saker Falcon and Sooty Falcon. The CMS Co-ordinating Unit is working to develop and facilitate international collaborative projects to help conserve these and other migratory birds of prey. It oversees the Saker Falcon Task Force, established in 2012 to develop a Global Action Plan to conserve the species, including creating mechanisms to allow long-term sustainable use for falconry purposes – a practice where falcons are trained to hunt quarry for food which has a long and cherished tradition, particularly in the Gulf States.



Participants convened in a session chaired by Colin Galbraith, Chair of the Saker Falcon Task Force. Nick Williams provided an introduction to the Saker Falcon Task Force, the rationale behind its establishment, including the 47% rapid decline of the saker falcon between 1993 and 2012. He highlighted the next steps: preparatory analyses and a Saker Global Action Plan (SakerGAP) workshop leading up to the development of the SakerGAP; stakeholders’ awareness raising; and fundraising for the implementation of the SakerGAP. He asked participants to consider how they can engage with the preparatory work. Saudi Arabia stressed the importance of outreach.

www.ead.ae

www.iisd.ca/cms/raptors/mos/2012

Peregrine and saker falcon genome sequences provide insights into evolution of a predatory lifestyle

X. Zhan, S. Pan, J. Wang, A. Dixon, J. He, M.G. Muller, P. Ni, L. Hu, Y. Liu, H. Hou, Y. Chen, J. Xia, Q. Luo, P. Xu, Y. Chen, S. Liao, C. Cao, S. Gao, Z. Wang, Z. Yue, G. Li, Y. Yin, N.C. Fox, J. Wang and M.W. Bruford. 2013. *Nature Genetics*. doi:10.1038/ng.2588



As top predators, falcons possess unique morphological, physiological and behavioral adaptations that allow them to be successful hunters: for example, the peregrine is renowned as the world's fastest animal. To examine the evolutionary basis of predatory adaptations, we sequenced the genomes of both the peregrine (*Falco peregrinus*) and saker falcon (*Falco cherrug*), and we present parallel, genome-wide evidence for evolutionary innovation and selection for a predatory lifestyle. The genomes, assembled using Illumina deep sequencing with greater than 100-fold coverage, are both approximately 1.2 Gb in length, with transcriptome-assisted prediction of approximately 16,200 genes for both species. Analysis of 8,424 orthologs in both falcons, chicken, zebra finch and turkey identified consistent evidence for genome-wide rapid evolution in these raptors. SNP-based inference showed contrasting recent demographic trajectories for the two falcons, and gene-based analysis highlighted falcon-specific evolutionary novelties for beak development and olfaction and specifically for homeostasis-related genes in the arid environment-adapted saker.

Pathogenesis of West Nile virus lineage 1 and 2 in experimentally infected large falcons.

U. Ziegler, J. Angenvoort, D. Fischer, C. Fast, M. Eiden, A.V. Rodriguez, S. Revilla-Fernández, N. Nowotny, J.G. de la Fuente, M. Lierz and M.H. Groschup. 2013. *Veterinary Microbiology*. 161:263-73.

West Nile Virus (WNV) is a zoonotic flavivirus that is transmitted by blood-sucking mosquitoes with birds serving as the primary vertebrate reservoir hosts (enzootic cycle). Some bird species like ravens, raptors and jays are highly susceptible and develop deadly encephalitis while others are infected subclinically only. Birds of prey are highly susceptible and show substantial mortality rates following infection. To investigate the WNV pathogenesis in falcons we inoculated twelve large falcons, 6 birds per group, subcutaneously with viruses belonging to two different lineages (lineage 1 strain NY 99 and lineage 2 strain Austria). Three different infection doses were utilized: low (approx. 500 TCID₅₀), intermediate (approx. 4 log₁₀ TCID₅₀) and high (approx. 6 log₁₀ TCID₅₀). Clinical signs were monitored during the course of the experiments lasting 14 and 21 days. All falcons developed viremia for two weeks and shed virus for almost the same period of time. Using quantitative real-time RT-PCR WNV was detected in blood, in cloacal and oropharyngeal swabs and following euthanasia and necropsy of the animals in a variety of neuronal and extraneuronal organs. Antibodies to WNV were first time detected by ELISA and neutralization assay after 6 days post infection (dpi). Pathological findings consistently included splenomegaly, non-suppurative myocarditis, meningoencephalitis and vasculitis. By immunohistochemistry WNV-antigens were demonstrated intralysionally. These results impressively illustrate the devastating and possibly deadly effects of WNV infection in falcons, independent of the genetic lineage and dose of the challenge virus used. Due to the relatively high virus load and long duration of viremia falcons may also be considered competent WNV amplifying hosts, and thus may play a role in the transmission cycle of this zoonotic virus.

الطلاب بأنفسهم. تتضمن الموارد لكل موضوع عرضاً تقديمياً باستخدام برنامج باوربوينت وأوراق عمل للطلاب وأسئلة وأنشطة إضافية ومجموعة من الملاحظات التي تعطي للمعلمين معرفة موسّعة، وهناك أيضاً أفلام ودليل لمواقع مقترحة على شبكة الانترنت. تعطي عروض باوربوينت المتوفرة ضمن الموارد التعليمية مقدمة للمواضيع التي يأمل أن تشجع الطلاب على البحث فيها لتعزيز معارفهم. أقدم في هذه المقالة تحديثاً عن التقدم الذي أحرز (انظر أيضاً العدد 39 من *فالكو*، ص 16-17)، ونظرة عامة على الموضوعات التي يتم تناولها حالياً في مواردنا التعليمية إضافة إلى أمثلة على كيفية تقديم المدارس لهذه الموارد. نأمل أن نضمّ مدارس في أبوظبي إلى برنامج الروابط المدرسية في المستقبل القريب، وربما من خلال "النوادي البيئية" كجزء من مبادرة المدارس المستدامة التي نظمتها هيئة البيئة - أبوظبي. نهدف أيضاً إلى ربط سبع مدارس منغولية إضافية بشبكة المدارس الدولية بحلول سبتمبر 2013.



دراسة إثنولوجية للصقارة في المجتمع الكرخي-الألطي

تاكويا سوما

ما زال المجتمع الكرخي الألطي في بيان-ألجي بمنغوليا الغربية يحافظ بشكل جيد على تقاليد الصقارة بالنسور من على ظهور الخيل. يتضمن أسلوب صقارة الكرخ ترويض أنثى النسور ويستهدف الثعالب كطرائد. كان تركيزي الرئيسي على توثيق فنون ومعارف ترويض النسور واستخدامه في الصيد. هناك ضرورة ملحة لهذا التوثيق بسبب تناقص الصيادين والشيوخ من ذوي الخبرة. المجتمع الكرخي-الألطي هو أحد أكبر الأقليات في منغوليا، وقد جاء هؤلاء الناس في الأساس من غرب الصين للاستقرار هنا في منتصف القرن التاسع عشر. ما زالت العديد من التقاليد الكرخية حيّة، ليس في ثقافة الصيد بالنسور فحسب ولكن أيضاً في تقاليد التطريز المحلي وحياسة السجاد من الشعر والارتحال الموسمي وركوب الخيل. تعتبر الرعاية المرحلة للماشية كمورد للرزق أساسية للحفاظ على تقاليد الصقارة. يستهلك كل نسور مروّض حوالي 3 ~ 5 من أغنام الكرخ المحلية في السنة، ويحتاج الصقّارون في صيدهم إلى تسلق الجبال على ظهور الخيل للوصول إلى نقاط الصيد. لذلك، لا يمكن فصل الأغنام والخيول على حد سواء عن الصقارة المحلية. إن انهيار تربية الحيوانات في ارتحالهم يعني أنه سوف يؤدي إلى اختفاء تقاليد الصقارة بالنسور. إن لصيد الثعالب التقليدي دلالات رمزية أكثر من الفوائد العملية في المجتمعات الكرخية، ذلك لأن فرو الثعالب مهم بشكل استثنائي لصنع الملابس الكرخية القومية. إن أحد أكبر المناسبات القومية هو "مهرجان النسور الذهبي" الذي تأسس في عام 2000 من قبل مقاطعة بيان-ألجي وشركات السفر المحلية وجمعية صقّاري النسور المنغولية MEA. الهدف الرئيسي من المهرجان هو السياحة وتسليية الزوار الأجانب. لقد بلغ الصيد الكرخي-الألطي بالنسور على ما يبدو إلى نقطة مفصلية حيث يمكن له أن يعيش كـ "تراث ثقافي حي" أو أن يموت كـ "شيء ساحر من الماضي".

بين عالمين متباعدين: صقور الشاهين القطبية تقضي الشتاء في المدن

أندرو ديكسون وألكسندر سوكولوف وفاسيلي سوكولوف

يمكن لصقور الشاهين المهاجرة، وبالدرجة الأولى تلك التي تقطن المناطق القطبية الشمالية، أن تقطع مسافات كبيرة للتشتية في قارات مختلفة وفي بيئات متباينة للغاية. كشف مشروع متابعة صقور الشاهين بالأقمار الصناعية، التي نضطلع بها نيابة عن هيئة البيئة - أبوظبي، أن هذه الطيور المهاجرة تقضي فصل الشتاء في مختلف الموائل. ننظر في هذا المقال على وجه التحديد إلى تلك الصقور التي تعيش على اتصال وثيق بالتجمعات البشرية في المدن، على بعد عوالم من أماكن تكاثرها القطبية النائية. استقر طيرين بالغين في نطاقهما الشتويين في مدن عالمية رئيسية: أحدهما في بغداد عاصمة العراق، والآخر في نيودلهي عاصمة الهند. ارتحل ذكر زوّد بمرسل للأقمار الصناعية من شبه جزيرة يامال في روسيا في عام 2009 من منطقة تكاثره إلى بغداد التي وصلها في وقت ما بين 18 و 22 سبتمبر قاطعا مسافة دائرية بلغت 1,488 كم ، وتتبعنا على مدى 113 يوما نشاطه الذي غطى مساحة 12 كم². من المرجح أن هذا الشاهين كان يصيد الحمام المنزلي الذي يربيه هواة تربية الحمام العراقيين على أسطح المنازل. صقر الشاهين الآخر كانت أنثى تحمل مرسلا ثبت عليها عند نهر بويباجي في عام 2011 ارتحلت من أراضي تكاثرها هناك إلى نيودلهي لتصلها في 25/24 سبتمبر، قاطعة مسافة دائرية بلغت 5,240 كم واستمر تعقبها إلى فبراير 2012. تتبعنا على مدى 150 يوما نشاط هذه الأنثى الذي غطى مساحة 486 كم²، علما بأن المنطقة الأساسية التي غطتها كانت 41 كم²، مع نقطتين تبعدان مسافة 14 كم و 37 كم منها.



برنامج الروابط المدرسية التابع لمشروع الأعشاش الاصطناعية المنغولية

نيكولا ديكسون

يقدم برنامج الروابط المدرسية، التابع لمشروع الأعشاش الاصطناعية المنغولية، فرصة للأطفال من منغوليا ودول أخرى لتبادل المعرفة والثقافة واللغة مستخدمين هذا المشروع الفريد لصون الصقور كوسيلة للتعرف. كانت بداية برنامج الروابط المدرسية ناجحة للغاية، وترتبط به الآن 10 مدارس. تُشجّع كل مدرسة على استخدام موارد تعليمية معدة خصيصا لهذا المشروع وتتوفر الآن باللغات الإنجليزية والعربية والمنغولية على موقع مجموعة الشرق الأوسط لأبحاث الصقور MEFRG (www.mefrg.org/slpLessons.asp). هناك في الوقت الحاضر خمسة مواضيع، مع أقسام جديدة مخططة للمستقبل سيعدّها

شأنه، في رأينا، أن يكون خطوة إلى الوراء ستؤدي إلى انعدام الشفافية وإعاقة تطوير نظام مستدام حقيقي مع منافع عادلة للمجتمعات المحلية. دعونا نأمل أن هذه المخاوف لا أساس لها وأن منغوليا صادقة في اعلانها - ينبغي أن يكون هناك إما تجارة منظمة شفافة أو لا تجارة على الاطلاق.

في حين أن الإعلان المنغولي الأخير لا يلغي العمل بمشروع الأعشاش الاصطناعية، فإنه يعني أنه لم يعد هناك وسيلة لتقييم نسبة الطيور التي يتم حصدها من الأعشاش الاصطناعية ولا لتطوير سياسات وأساليب الحصاد بشكل عملي. لا زال فريق المشروع، رغم ذلك، يتابع جمع البيانات المطلوبة بالشكل الصحيح لتحديد حصص الحصاد المستدامة بحلول عام 2015. في غياب التمويل الذي يمكن أن ينتج من خلال الاستخدام المستدام، فإن فريق مشروع الاعشاش الاصطناعية يركز جهوده الآن على الفوائد الأخرى التي تقدمها الأعشاش الاصطناعية، وخاصة المردودات الاجتماعية والاقتصادية مثل مكافحة القوارض والتعليم ورصد التلوث الأرضي. على المدى الطويل لا بد من وجود هدف لإقامة الأعشاش الاصطناعية، ولا يكفي أن نقول ببساطة نود الحصول على مزيد من أعداد الصقر الحر دون سبب معين.

نسلط الضوء في هذا العدد من فالكو أيضا على أحد المنافع الاجتماعية والاقتصادية لمشروع الأعشاش الاصطناعية وهو تطوير برنامج روابط المدارس المتعلق به. في قسم تراث الصقارة يصف لنا تاكويوما دراسات الإثنوغرافية عن صيادو النسر الكرخيون وهو تقليد ثقافي في منغوليا الغربية بأسر خيال العديد من الزوار الأجانب بفضل أسلوب الصقارة الفريد ثقافيا والجذاب فوتوغرافيا. لدينا مقال في قسم بحوث علم الأحياء لتوضيح كيف يمكن لصقور الشاهين المهاجرة أن تعيش في موائل متباينة بشكل صارخ، فهي تتكاثر في مناطق التندرا القطبية النائية ثم تقضي فصل الشتاء في مراكز المدن الحضرية شبه الاستوائية. في قسم صحة وإدارة الطيور، يصف لنا أطباء بيطريون من مستشفى سوق واقف للصقور في قطر انتشار بيض الطفيليات الجوانية في عينات براز الصقور.

دعوة لتلقي المساهمات

نود أن نرى المزيد من المشتركين في مجموعة الشرق الأوسط لأبحاث الصقور MEFRG يشاطروننا آرائهم وخبراتهم ومعارفهم من خلال فالكو. يسعدنا تلقي المقالات المكتوبة باللغتين العربية والإنجليزية التي تتعلق بالمواضيع المدرجة في الصفحة المقابلة.

جرت أحداث كثيرة ذات الصلة بجهود صون الصقور منذ إصدارنا للعدد الأخير من فالكو. عقد الاجتماع الأول للدول الموقعة على مذكرة تفاهم الطيور الجارحة المهاجرة، المنبثقة عن اتفاقية الأنواع المهاجرة CMS، في أبو ظبي من 09-11 ديسمبر 2012 (انظر Raptors in the News ص 19). أعلن في هذا الاجتماع أن إعداد خطة العمل العالمية للصقر الحر SakerGAP سيبدأ في أوائل عام 2013. دعما لهذا الجهد، ساهمت الهيئة السعودية للحياة الفطرية بمبلغ 60,000 دولار أمريكي مقدما لتمويل ورشة عمل أصحاب المصلحة المخطط انعقادها في سبتمبر 2013، كما قدمت المفوضية الأوروبية منحة بمبلغ 100,000 دولار أمريكي لتمويل ورشة العمل وللإعداد لخطة العمل العالمية للصقر الحر. تلى ذلك عقد مؤتمر باستخدام الاتصال الهاتفي لفرقة عمل الصقر الحر في 20 فبراير 2013 لبدء العمل في خطة العمل العالمية للصقر الحر، كما أنشئت مجموعات العمل لدفع هذه العملية إلى الأمام، مع جدول زمني لتقديم خطة العمل العالمية للصقر الحر SakerGAP في مؤتمر الدول الأطراف في اتفاقية الأنواع المهاجرة في يناير 2014.

أشار البروفيسور كولن غالبريث، رئيس فرقة عمل الصقر الحر، في اجتماع موقعي مذكرة تفاهم الطيور الجارحة المهاجرة CMS في أبو ظبي، أن مسألة الاستخدام المستدام أمر جوهري لعمل فرقة عمل الصقر الحر ولتطوير خطة العمل العالمية للصقر الحر. هذا بالتأكيد قول صحيح، إذ أن مسألة "الحصاد المستدام" للصقر الحر، ولا سيما من جانب منغوليا، فيما يتعلق بالإدراج في الملحق الأول لاتفاقية الأنواع المهاجرة CMS كانت السبب الأساسي الذي أنشئت فرقة عمل الصقر الحر من أجله.

مع ذلك، وبعد تشجيعها ودعمها لإستراتيجية إدارة الصون والاستخدام المستدام مع سايتس و CMS، أدى تغيير الحكومة في منغوليا في صيف عام 2012 إلى انقلاب تام في هذه السياسة الدولية. تم في اجتماع لمجلس الوزراء في 12 يناير 2013 اتخاذ قرار بوقف تصدير الصقر الحر لأغراض تجارية لخمس سنوات (انظر Raptors in the News - ص 18). وجاء هذا القرار بمثابة مفاجأة لفرق الأبحاث العاملة ضمن مشروع الأعشاش الاصطناعية المنغولية (انظر فالكو العدد 40، ص 5-7 لأحدث المعلومات)، إذ أن الأساس المنطقي لهذا المشروع يستند إلى مفهوم "الصون من خلال الاستخدام المستدام" و يجري في إطار مذكرة تفاهم بين وزارة الطبيعة والبيئة والتنمية الخضراء المنغولية MNEGD (MNET سابقا) وهيئة البيئة - أبو ظبي.

لا يزال هناك بعض الغموض الذي يحيط بهذا الإعلان المنغولي الذي يحتاج الى ايضاح. هناك شائعات أنه سيسمح ببعض الاتجار بالصقور تحت غطاء الروابط "الدبلوماسية" والذي لا يقع، بالتالي، ضمن فئة "التبادل التجاري". إن هذا شيء من



Editorial

Research Biology

Worlds apart : Artic Peregrines wintering in cities.....4

Public Awareness and Education

The Mongolian Artificial Nest Project School Links.....6

Falconry Heritage

Ethnographic study of Altaic Kazakh falconers.....10

Avian Health and Management

Prevalence of faecal endoparasite ova in falcons in Qatar.....15

Raptors in the News

Mongolian government announces a 5-year suspension of 'commercial trade' in Saker Falcons.....18

The Qatar International Festival of Falcons and Hunting18

Environmental education within Abu Dhabi schools18

Over 40 countries work together to improve the conservation status of migratory birds of prey.....19

Whats New in Literature

Peregrine and saker falcon genome sequences provide insights into evolution of a predatory lifestyle20

Pathogenesis of West Nile virus lineage 1 and 2 in experimentally infected large falcons.....20



Produced by
International Wildlife Consultants Ltd.
sponsored by the Environment Agency - Abu Dhabi

