

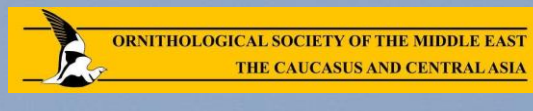
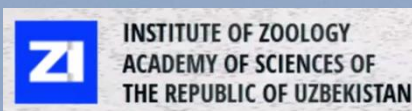
Identifying migration routes and wintering sites of Egyptian Vultures breeding in Uzbekistan

FINAL REPORT 2021/22

Anna Ten, Dr Vladimir Dobrev, Dr Robert J. Burnside, Valentin Soldatov



**Oriental
BIRD CLUB**





SUMMARY

The aim of this project was to identify for the first time the migration routes and wintering sites of the Egyptian vulture *Neophron percnopterus* in central Asia. Four juvenile Egyptian vultures from Uzbekistan were tagged in their nests with GPS transmitters between 26th July 2021 – 6th August 2021. Three of the transmitters successfully transmitted data and three birds started to migrate from Uzbekistan between 5-15th September. Each bird took a different route with two migrating via Turkmenistan, Afghanistan and Pakistan and ultimately wintering in India (Rajasthan and Haryana) from late September. The third bird took a very different route making a long journey with several stops through Turkmenistan, Iran, Iraq, Kuwait, Saudi Arabia and finally arriving in Yemen in late November 2021. These are the current locations of these birds as of the submission of this report (January 2022). During the migration, we identified (using satellite photos and ground visits by local collaborators) several refuse dumps and slaughter sites used by Egyptian Vultures in each country. Notably, the data shows an important complex relationship of the Egyptian vulture populations breeding in central Asia with their wintering locations overlapping with both European/Balkan and Oriental Asian Egyptian vulture sub-populations.

PRIORITY SPECIES AND GEOGRAPHICAL SCOPE OF THE PROJECT: Egyptian vulture (*Neophron percnopterus*) in central Kyzylkum desert, Uzbekistan

INTRODUCTION

The Egyptian vulture is an Endangered species with a distribution across Europe, Africa and Asia and the global population is declining across most of its range (BirdLife International 2022). The factors behind this decline are diverse and in most of the cases regionally specific (Oppel et al. 2021). The distribution, numbers and trend are well studied across most of the range of the species and considerable conservation efforts have been undertaken respectively (BirdLife International 2022). Nevertheless, almost nothing is known for the Central Asian population of the species which is poorly studied in many aspects and for which mostly broad population estimates exist (Abuladze & Shergalin 1998, Kashkarov & Lanovenko 2011, Sklyarenko & Katzner 2012). Our project was focused on the Egyptian vulture (EV) population in Uzbekistan where it is also classified as Endangered (Uzbekistan Red Data Book 2019). There is little data available on the status of breeding (or passage) of EVs in Uzbekistan, while there is currently no data on the migration routes or wintering sites used by the birds, and thus the types and number of threats present in Uzbekistan and the wintering grounds remain unidentified. It is unknown how important the breeding population in Uzbekistan is for the species, however, Uzbekistan itself is a very important part of the Central Asian Migratory Corridor and it is likely to be a key area for not only breeding EVs but also passage EVs.

STUDY AREA

The work was carried out in the Kyzylkum desert, Uzbekistan between 28-30 May and 27 July-4 August 2021 (Figure 1). Kyzylkum desert covers a wide area in Uzbekistan and Kazakhstan and it is located between the Amu Darya and Syr Darya rivers. It is mostly a flat desert with a number of depressions and low mountain ranges. Most of its area is covered with dunes and clay, and vertical slopes with cliffs are typical for the low mountain ranges spreading across the desert.

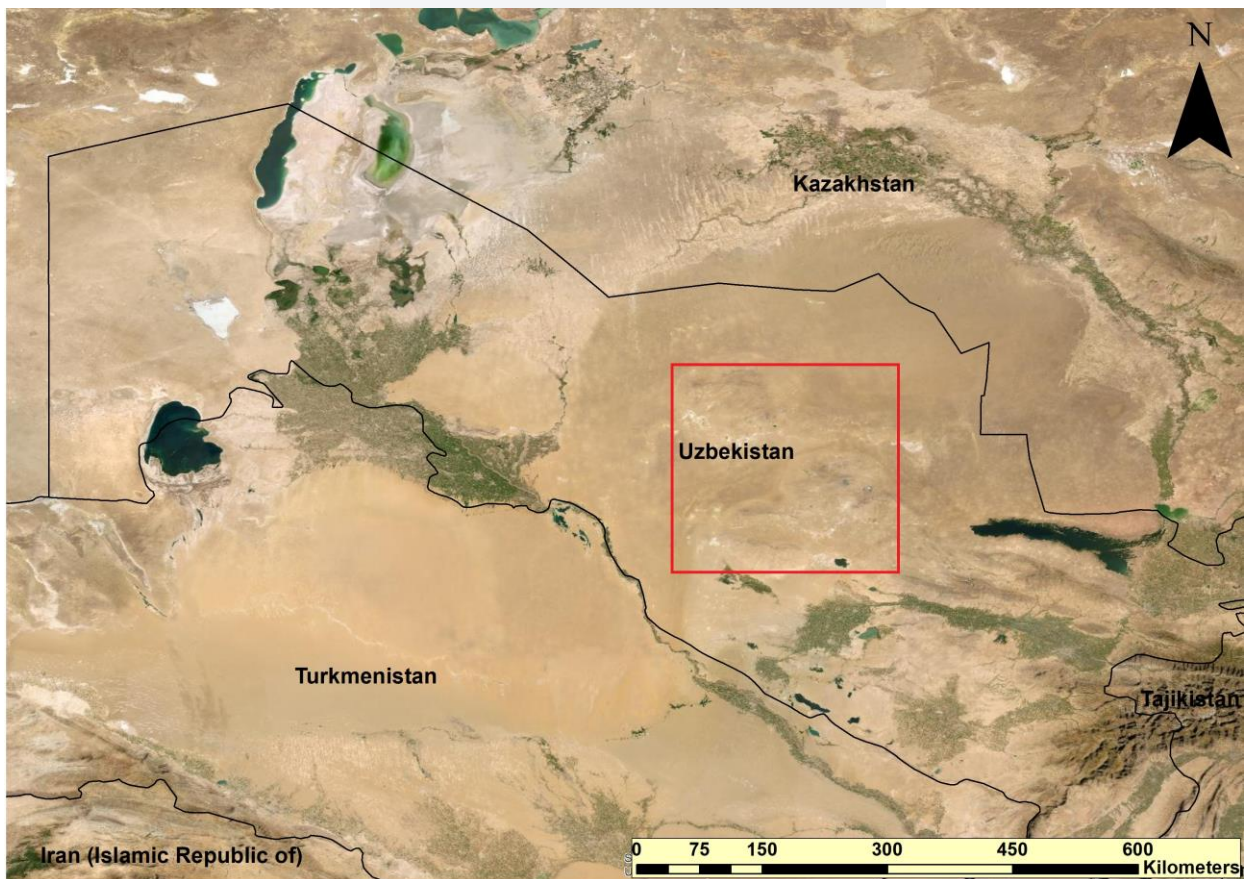


Figure 1. Study area of the project (in red square)

MATERIALS AND METHODS

Legal procedures

To carry out the work, permission to tag the EV was obtained. According to the legislation of Uzbekistan, this permit is necessary for carrying out any manipulations with rare species included in the Red Book of Uzbekistan (2019). The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan supported the implementation of these works and prepared the necessary documents for filing an application for catching the EV in April 2021. In July 2021, before carrying out the work, we prepared additional letters for obtaining a permit in The State Committee for Ecology and Environmental protection of the Republic of Uzbekistan, which, in accordance with the procedures, issued a permit No. 000045 (Appendix 1) to carry out work on tagging EVs in the Central Kyzylkum Mountains on the basis of the application of the Institute of Zoology No. 01-09397 dated July 14, 2021 and the conclusion of the Academy of Sciences No. 01-09 / 409 dated July 26, 2021.



Figure 2. Two chicks of EV , 5-7 and 9-11 days old, Arystantau, 30.05.2021. (V.Soldatov)

Monitoring

Before tagging, it was important to determine the number of nests available and the optimal time of tagging. For this purpose, six EV nests were checked between 28-30 May 2021, two of which were observed to have chicks on top of them (two chicks and one chick, respectively) (Figure 2). On three other nests females sat tightly (nests were inaccessible for one observer) and one nest was abandoned (the pair continued to stay near the nest). Vladimir Dobrev determined the age of the chicks to be 5-7 and 9-11 days old (Figure 2), and accordingly, tagging was scheduled for the end of July and the beginning of August. In addition, our colleagues (Ph.D. Elena Bykova and Ph.D. Roman Kashkarov) provided information on two nests with chicks which they observed in June and July in Central KyzylKum. Two further accessible nests from a more remote area – Bukantau were also included. In total before tagging, we had information on 10 nests of EV, three of which contained chicks.

Tagging and measurements

The necessary equipment was purchased for the installation of 4 transmitters and bird measurements (Figure 3).



Figure 3. Equipment

Tagging was carried out as planned at the end of July, when the age and size of the chicks corresponded to the requirements for the installation of transmitters (aged > 60 days).

We used GPS/GSM transmitters with teflon ribbon harness in a leg loop configuration to attach the device to the bird. The transmitter with the harness did not exceed 3% of the body mass of the bird and thus was unlikely to affect the survival of the migrating bird (Klaassen et al. 2014). We also took standard measurements from each bird, namely weight, tail length, cranium, and tarsometatarsus.

RESULTS

From July 27 to August 31, 2021, the team surveyed 10 vulture nests on Arystantau, Muruntau, Bukantau and Ayakagitma (Central part of Kyzylkum) (Figure 4). Seven of the nests were successful and we registered nine juveniles, whereas three nests were found to be empty, either due to nest failure or because the chicks had fledged prior to our arrival.

Four juveniles from three nests were taken outside of the nest for tagging and measurements. All birds were measured, tagged and ringed with a metal ring on the left leg (Figure 5).

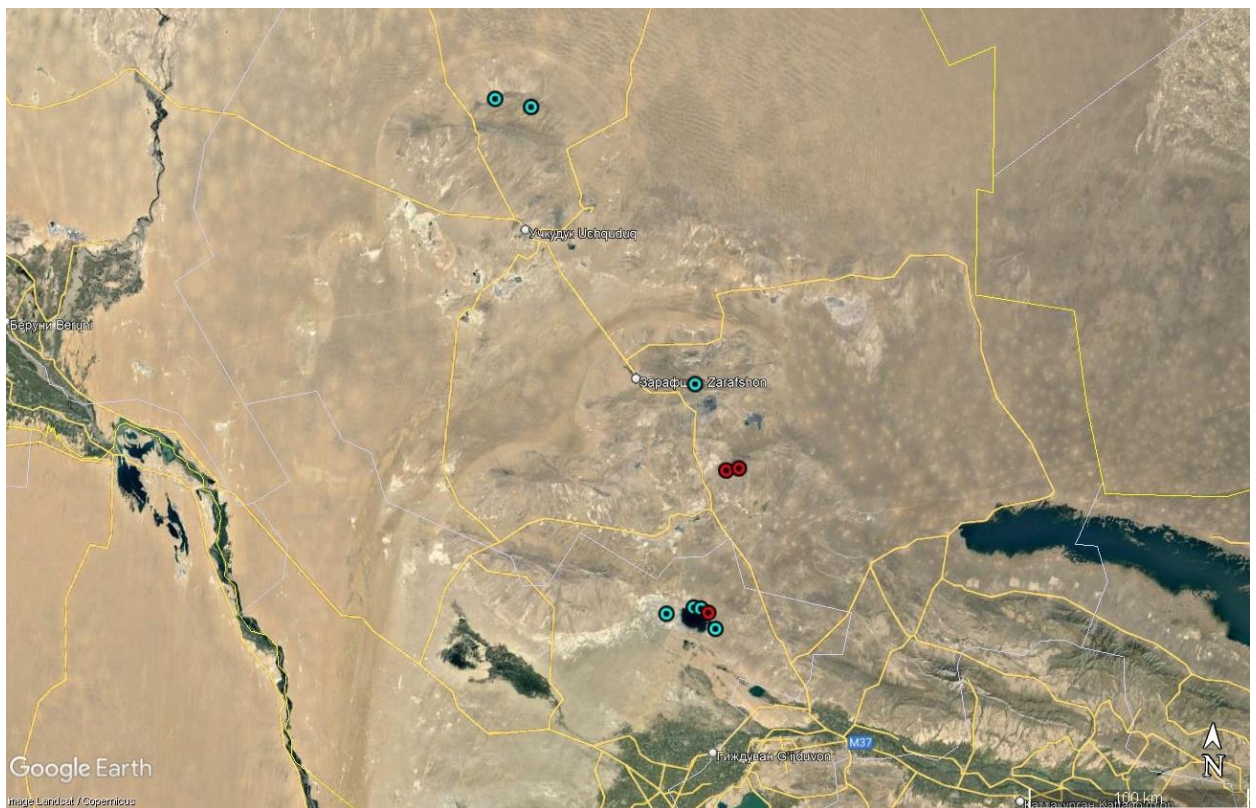


Figure 4. Surveyed nests: we checked 10 nests, of which transmitters were installed on 4 juvenile EVs from 3 nests (red dots). Among others (blue dots) 4 nests were hard to reach or inaccessible, 3 nests were empty.



Figure 5. Measuring of juvenile EV (a,b), installing the transmitter on a vulture chick 65 days old (c), tagged bird in nest (d).

The field team tagged three solar-powered Ornitela GPS/GSM and 1 Flectrax backpack transmitters to juvenile EVs prior to fledgling (Table 1). These tags give high temporal resolution (locations every hour over 3 years). We tagged four individuals in order to characterize the migration route, phenology and wintering sites for EVs and potentially identify priority sites in central Asia. We will publish this work and disseminate the findings to local and national agencies.

Table 1. Tagged birds

| Name | Place | NE | TAG | Ring | Notes |
|---------|------------|---------------------------|------------------------|-------|------------------------------------|
| Arys | Arystantau | N 41.23159 E 64.74726 | Ornitela 212859 | K5050 | Arys |
| Anya | Arystantau | N 41.22191 E 64.68213 | Ornitela 212860 | K5052 | Anya |
| Timur | Ayakagytna | N 40.65013 E 064.60738 | Ornitela 212861 | K5054 | Timur and Bukhara from one nest |
| Bukhara | Ayakagytna | N 40.65013 E 064.60738 | Flectrax 1B50 E 192 | K5053 | Timur and Bukhara from one nest |

RESULTS ON MIGRATION AND WINTERING GROUNDS

Three out of four transmitters successfully transmitted and the birds started migration between the 5th and 15th of September, 2021. Two of the birds reached India where they spent the winter (Arys and Anya), whereas the 3rd bird settled in Yemen in late November (Figure 6).

All three birds initially flew south over Turkmenistan before subsequently taking very different routes. Timur covered more than 3,800 miles (6200km), passing through Iran, Iraq, Kuwait and Saudi Arabia before settling in Yemen. Anya crossed into Iran and moved south through Afghanistan and Pakistan before stopping to winter in northern India having flown around 1400 miles (2300km). Arys travelled



approximately 930 miles (1500km) south through Afghanistan and Pakistan before also settling in northern India.

Anya followed a traditional route south from Uzbekistan and made a fairly direct migration south, avoiding mountain crossings, until she reached the Rann of Kutch, north of the Indus near Karachi in Pakistan. The Rann of Kutch (which spans parts of Pakistan and India) is known for its populations of Egyptian Vultures. Anya, however, only remained here for a few weeks before crossing the Indus to enter the Thar Desert in Rajasthan (India) on the 29th Sept 2021, where she stayed west of Barmer. Judging from satellite photos, she has largely remained in remote areas and not utilised human refuse sites or dumps. She has remained in this area, covering 100 km² and west of Shiv and Barmer since her arrival, sometimes crossing the border into Pakistan. She has remained a desert loving vulture.

In contrast, Arys has shown quite a different migratory behaviour. Arys' route was much farther east and took him right over the Hindu Kush Mountain range in Afghanistan/Pakistan (Fig. 1). He then followed the ridge of the Sulaiman range in Pakistan all the way south, after which he directly crossed the Indus into the Thar Desert. He crossed the border into Rajasthan (India) on 18th September 2021, arriving in Bhadriya (60 km east of Jaisalmer). In India, Arys has used man-made habitat several times, in the forms of slaughter areas and carcass dumps. Notably, his first arrival point in India, Bhadriya, was near a livestock facility, after which he moved east to the town of Bikaner. He moved to Bikaner on 25 September and stayed there until 20 Oct 21. Bikaner is famous for its carcass dump which attracts thousands of vultures and steppe eagles during the winter months. He travelled directly to New Delhi by 21 Oct and then spent 1 month south of Delhi mainly near Faridabad and Nuh. During this time he took a 2 day trip in a loop south to Jaipur, passing directly over the city at a height of 1.5km on the 29th October. He is a real tourist, as by the end of December he had visited all three cities making up the famous Golden Triangle, New Delhi, Jaipur and Agra. Arys arrived in Agra on the 29th December 2021. On his journey he flew over the India Gate in New Delhi and within 200 m of the world-famous Taj Mahal where he has remained until the time of writing.

Timur took a very different strategy from the other two, ultimately flying 6,200 km southwest to arrive in Yemen in November 2021. From Uzbekistan Timur made a very direct, clear migration south over the course of 7 days, where upon he "hit" the Iranian coast. He happened upon an area known to have resident Egyptian Vultures and frequented by Omani Egyptian Vultures. We thought he might remain there, but he then started to wander east in Pakistan before returning west along the Persian Gulf coast. Perhaps he was reluctant to attempt to fly over the Strait of Hormuz. Flying over open water can be risky for inexperienced vultures. Continuing west, he finally flew far enough to bypass the water and then continued southwest through Iraq, Kuwait and into Saudi Arabia over the course of several weeks. These areas of the Middle East are known passage areas for Egyptian Vultures. Timur arrived in southwest Saudi Arabia and then moved into Yemen in November where he has since remained. This area is a known important passage and wintering area for Egyptian Vultures migrating from Europe and the Balkans.

These results confirmed what we had expected, namely that the migratory populations in Central Asia would join resident Egyptian Vulture populations in the Indian sub-continent during winter. However, we did not expect the birds to migrate to Yemen in the Middle East. This establishes for the first time that the central Asian populations show connectivity to the European/Balkan, Arabian and Oriental Asian populations and therefore may encounter similar threats during their migration and wintering. Migration of European populations has been shown to be particularly dangerous with juvenile migrants susceptible to a high mortality from a range of threats, including drowning, hunting, poisoning and



electrocution. These threats mainly exist in Africa and the Mediterranean, but also in Yemen. In contrast, accidental poisoning by diclofenac and other veterinary drugs is the main threat in India and this is potentially ongoing although much effort is being put into actively tackling this recognised problem.

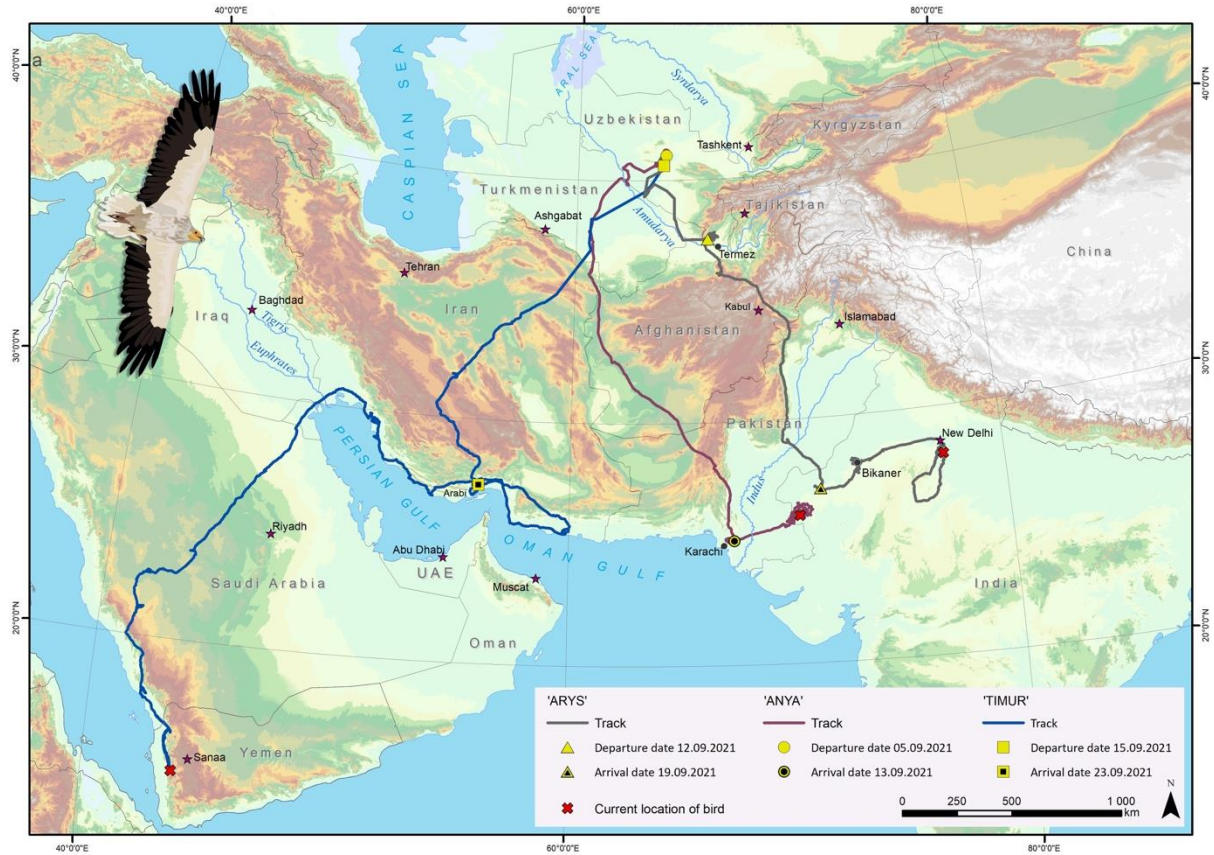


Figure 6. Migration routes and wintering grounds of the three juveniles from Uzbekistan

VIDEO: A video of the migration is available at: https://www.youtube.com/watch?v=FcJJA1mK_4

OBSERVATIONS AT DUMPS

In early August 2021 we visited one large dumpsite in Uzbekistan, situated in Pamiro-Alai (Gissar, Turkestan and Zarafshan ridges), where we counted 105-120 EVs. Amongst them, we aged 77 of the birds: 55 adults, 8 juveniles, 6 two years old, 2 three years old, 5 four years old, 1 five years old. This is a potentially important EV congregation site which warrants further study.

PUBLIC AWARENESS WORK

On 5th August 2021 we conducted an online meeting for specialists from The Institute of zoology and State Committee for Ecology and Environmental protection. The Project Team gave three presentations: one demonstrating the results of the field work on tagging EV in Uzbekistan (Anna Ten); another presentation on work on survey and telemetry of Asian Houbara in Uzbekistan (Dr. John Burnside); and a final presentation on EV protection in Europe and EV's threats (Dr. Vladimir Dobrev).

In late September 2021 we launched the website www.CentralAsianVultures.org dedicated to our work and the future development of the Egyptian and other vulture species work in the region.

On 2nd December 2021, Anna Ten presented the first migration results at the annual SAVE meeting (Saving Asia's Vultures from Extinction). SAVE is a consortium of 24 partners working together to



implement actions for the recovery of globally endangered vultures. The presentation can be found online at: <https://save-vultures.org/saving-asias-vultures-from-extinction-save-agm-2-copy/>.

Anna Ten also presented the migration results at the OSME wintering meeting online on 28th January 2022.

By the end of January 2022, we had implemented a large online awareness-raising campaign resulting in:

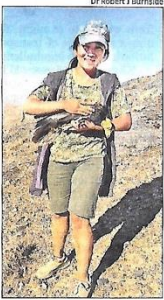
- 12 News articles describing the project, including a story in the Times of India (Fig. 7).
- Four published blog posts.
- A Twitter Post illustrating migration with a video: >1000 watches.
- Facebook posts on the following groups:
 - Ornithology in Middle East, the Caucasus and Central Asia: 131 Likes, 13 comments and 19 shares
 - Birds of Saudi Arabia and Neighbours: 18 Likes and 1 comment
 - Wildlife of Pakistan: 102 Likes, 6 comments and 4 Shares
 - Bird Ringing and Banding: 49 Likes

Watch out, this Egyptian Pharaoh may be an Uzbek!

Vikramjit Singh
@timesgroup.com

Chandigarh: The catastrophic decline in certain vulture species has not affected to that extent the smallest of the vultures found in India, the endangered and quaintly named, Egyptian vulture or Pharaoh's Chicken. Bird photographers encounter them in the Tricity hinterland, as close as the Sahetri scrublands and Panchkula's dumping grounds. It would come as a surprise to bird enthusiasts that a component of this vulture species is not resident but migrates to India from Central Asia to winter here, as revealed by a first-ever study using satellite tags. The study tracked a specimen from Uzbekistan who wandered over Haryana, Delhi and Uttar Pradesh, savouring the richness of waste dumps associated with tourism's Golden Triangle. The Uzbek guest even ogled India Gate and the Taj Mahal by flying low over the iconic monuments!

This juvenile vulture, nicknamed Arys by a multinational team of researchers, was tracked closely. "Arys travelled 1,500 km from southern Uzbekistan to India. He crossed the border into Rajasthan on September 18, 2021, arriving at Bhadriya (60 km east of Jaisalmer). He moved to Bikaner on September 25 to the famous carcass dump, and stayed there till October 21. He travelled to Delhi by October 21. He then spent a month south



Dr Robert J Burnside

Researcher Anna Ten while fitting Arys with a satellite tag in Uzbekistan

of Delhi near Faridabad and Nuh, Haryana. During this time, he took a two-day trip in a loop south to Jaipur, passing directly over the city at a height of 1.5 km on October 29. Arys arrived at Agra on December 29 flying 600 m above the Taj Mahal," researcher, Dr Robert J Burnside from the University of East Anglia, the UK, told the TOI.

His colleagues, Anna Ten and Valentin Soldatov from the Institute of Zoology, Uzbekistan, and Vladimir Dobrev from the Bulgarian Society for Protection of Birds, receive four updates every day on their cellphones pinpointing the location of Arys and two other tagged vultures, Anya and Timur, who are wintering in the Thar desert and Yemen, respectively. The Egyptian vulture is the smallest of the nine vulture species encountered in India. It can be sighted at spots such as the Siswan dam backwaters, patiently waiting its turn at the sambar carcasses in deference to larger vultures such as the Eurasian griffon, Himalayan vulture and the White-rumped vulture. It is so named because they were worshipped by Egyptian civilizations. The queer, alternative common name, 'Pharaoh's Chicken', stems probably from the yellow mane around the neck, lending them a Pharaoh's bearing.

Profiling the objectives of the pioneering study, researchers, Anna Ten and Valentin Soldatov, told the TOI: "The Egyptian vulture is a Red Data book species and available evidence suggests it is declining in Uzbekistan. We need to understand the movements and migration of birds from Uzbekistan to better plan for its future in Asia. Migration is an extremely dangerous time for birds; Egyptian vultures face a range of threats when flying across sea and land such as drowning, hunting, poisoning and electrocution. So far, we have learnt that the picture is much more complex than we anticipated. Although these three birds are just the beginning, the results from this ground-breaking research are absolutely invaluable for their future conservation."

Since the three satellite-tagged juvenile vultures (just about three months old each) made it to their wintering sites flying long distances in the year of their birth, the question arises: did they accompany adults who knew the routes or did they fly alone utilising evolved, embedded knowledge in their genes? Dr Burnside offered a perspective to the TOI, "It is known that some Egyptian vulture juveniles follow adults in small groups. But the degree to which innate programming of migration routes vs learned routes prevails, is a matter still under investigation. Juveniles can migrate alone, but don't benefit from the prior experience adults have. This is the experience from people tracking these vultures in Europe/Africa."

The Times of India, Chandigarh, of January 19, 2022

Figure 7. Times of India article.

FUTURE WORK

The next steps of the project in 2022/23 are to continue the tagging work to increase the sample size and to add free-flying mature individuals. This will allow us to start quantifying the variation in individual migration patterns and differences between age groups, and hopefully identify the most important wintering areas. We will continue our public awareness work and building collaborations in the flyway of the Egyptian vulture.

DATA AVAILABILITY

The tracking data from this study is archived at MOVEBANK.ORG. This data will be made publicly available on completion of the study. The project name is: "Egyptian vulture Neophron percnopterus Uzbekistan" and the Movebank ID is: 1613108054.





ACKNOWLEDGEMENTS

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We also thank Dr. Roman Kashkarov, Director of UzSPB, for the organizational support; Dr Elena Bykova, Maria Gritsyna and Timur Abduraupov for their help in providing information on the location of vultures and their nests in 2021.

REFERENCES

1. Abuladze, A. & Shergalin, J. (1998) The Egyptian vulture *Neophron percnopterus* in the former USSR. In: Chancellor, R.D., Meyburg, B.U., Ferrero, J. (Eds.) Holarctic birds of prey. ADENEX-WWGBP, Badajoz, pp. 183-195
2. BirdLife International (2019). *Neophron percnopterus*. *The IUCN Red List of Threatened Species* 2019: e.T22695180A154895845. <https://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T22695180A154895845.en>. Downloaded on 31 August 2021.
3. BirdLife International (2021). *Neophron percnopterus*. *The IUCN Red List of Threatened Species* 2021: e.T22695180A205187871. <https://dx.doi.org/10.2305/IUCN.UK.2021-3.RLTS.T22695180A205187871.en>. Accessed on 11 January 2022.
4. Kashkarov, R. D. & Lanovenko, E. N. (2011) Action Plans on Conservation of the World's Endangered Bird Species in Uzbekistan: Saker Falcon and Egyptian Vulture. Uzbek Society for Protection of Birds, Tashkent, 56 p. [in Russian]
5. Klaassen, R.H.G., Hake, M., Strandberg, R., Koks, B.J., Trierweiler, C., Exo, K.-M., Bairlein, F. & Alerstam, T. (2014). When and where does mortality occur in migratory birds? Direct evidence from long-term satellite tracking of raptors. *J. Anim. Ecol.* 83: 176–184.
6. Oppel, S., Arkumarev, V., Bakari, S., Dobrev, V., Saravia, V., Adefolu, S., Aktay Sözüer, L., Apeverga, P.T., Arslan, Ş., Barshep, Y., Bino, T., Bounas, A., Çetin, T., Dayyoub, M., Dobrev, D., Duro, K., El-Moghrabi, L., ElSafoury, H., Endris, A., Ghazal Asswad, N., Harry, J.H., Ivande, S.T., Jbour, S., Kapsalis, E., Kret, E., Mahamued, B.A., Manu, S.A., Mengistu, S., Moussa Zabeirou, A.R., Muhammad, S.I., Nakev, S., Ngari, A., Onoja, J., Osta, M., Özuslu, S., Petrovski, N., Popgeorgiev, G., Pourchier, C., Qaneer, T., Ruffo, A., Shobrak, M., Sidiropoulos, L., Skartsi, T., Sözüer, Ö., Stara, K., Tesfaye, M., Topi, M., Vavylis, D., Veleviski, M., Vorpsi, Z., Wondafrash, M., Xeka, E., Yenyiyurt, C., Yordanov, E. & Nikolov, S.C. 2021. Major threats to a migratory raptor vary geographically along the eastern Mediterranean flyway. *Biological Conservation* 262: 109277. <https://doi.org/10.1016/j.biocon.2021.109277>
7. Sklyarenko, S. L. & Katzner, T. (2012) Status of the populations of scavenging birds of prey in Kazakhstan. In: Kovshar, A. F et al. (Eds.) *Ornithological journal of Kazakhstan and Central Asia*. Vol. 1. MOO-SOPK-ASBK. Pp: 178-185. [in Russian]
8. Uzbekistan Red Databook (2019). Vol II. Animals. Tashkent, 2019.



Appendix 1: Permissions document from Gosbiokontrol to catch and tag four vultures.

O'ZBEKISTON RESPUBLIKASI
EKOLOGIYA VA ATROF-
MUHITNI MUHOFAZA QILISH
DAVLAT QO'MITASI



ГОСУДАРСТВЕННЫЙ КОМИТЕТ
РЕСПУБЛИКИ УЗБЕКИСТАН
ПО ЭКОЛОГИИ И ОХРАНЕ
ОКРУЖАЮЩЕЙ СРЕДЫ

RUXSATNOMA
 Qizil kitobga kiritilgan yovvoyi hayvonlarni tabiiy
 hududdan ajratib olishga

РАЗРЕШЕНИЕ
 на изъятие из природной среды диких животных,
 занесенных в Красную книгу
 Институт зоологии Академии наук Республики Узбекистан

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Berildi _____
 Выдано _____

Ovlash maqsadi _____ мечение птиц _____, Ovchilik guvohnomasi _____
 Цель добычи _____ разрешение на охоту _____
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 Территория охоты _____

| Tur nomi Название вида | Miqdori Количество | Muddati Срок охоты |
|---|-----------------------|-------------------------------|
| Стервятник (<i>Neophron percnopterus</i>) | 4 голов | 26.07.2021 г. - 05.08.2021 г. |

XX
 Птицы отлавливаются с последующим выпуском в природу на месте отлова.
 Мероприятия производить под контролем сотрудников Госкомэкологии.

Ruxsatnoma hududiy ekologiya va atrof-muhitni muhofaza qilish organlarida ro'yxatdan o'tgan taqdirda haqiqiy doylardagi ekologiya va atrof-muhitni muhofaza qilish organlariga taqdim etilishi lozim. Amal qilish muddati tugagandan so'ng ovlangan hayvonlar to'g'risidagi hisobot bilan birga berilgan joyga 10 kun ichida qaytariladi.

Разрешение действительно при отметке в территориальных органах по экологии и охране окружающей среды. Подлежит предъявлению органам по экологии и охране окружающей среды на местах. По окончании срока действия (в течение 10 дней) с отчетом о добытых животных возвращается по месту получения.

Asos: Заявление №01-09397 от 14.07.2021г. Заключение АНРУз №01-09/409 от 26.07.2021г.

Основание: _____

Tashkilot rahbari:
 Руководитель организации: _____

ГОСКОМЭКОЛОГИИ
 № 00213



Имя (Подпись) _____
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"DAVLAT BELGISI" DICHIB TSHF, 2019