Central Asian Vultures Annual Report

2023/24

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Report prepared by:

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Funders:

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SUMMARY

The aim of the Central Asian Vultures (CAV) project is to 1) identify the migration routes, wintering sites, threats and population status of the Egyptian vulture *Neophron percnopterus* in central Asia, 2) to promote the conservation of vultures in central Asia and 3) to develop local capacity in the field of conservation. During 2023/24 the CAV team conducted fieldwork to tag an additional four Egyptian vultures (EVs) and track their migrations. We continue to see that India is the main non-breeding site for most EVs while some individuals migrate to the Middle East. Counts within Uzbekistan continue to show the congregations of several hundred EVs in the country and emphasis this as a globally significant population for this endangered species. Within this report we detail the project outcomes on migration, mortality, outreach and project development for the year 2023/24.

INTRODUCTION

When the Central Asian Vultures (CAV) project started in 2020, our aim was to shed light in the population status, migration routes, wintering sites and threats facing the Egyptian vulture (EV) in Central Asia. At the time when the project started, almost nothing was known for these populations which were poorly studied in many aspects and only broad population estimates existed (Abuladze & Shergalin 1998, Kashkarov & Lanovenko 2011, Sklyarenko & Katzner 2012). During the period of 2021-2022, the CAV team carried out two successful field seasons, identifying that Uzbekistan contains large internationally important congregations of EVs numbering in the several hundred; that the Egyptian Vultures are obligate migrants with most individuals from eastern Uzbekistan migrating to India, and a minority of birds to the Middle East. This work is already contributed new information that is informing the conservation planning of the species in Uzbekistan and its range states.

The objectives for 2023/24 were three-fold: 1) continue tagging vultures to improve our understanding of individual variation of migratory behaviour; 2) continue population monitoring at key sites in Uzbekistan, and 3) develop, train and share knowledge with regional partners and stakeholders interested in vulture conservation.

Fieldwork 2023

Vulture Tagging

Trapping, tagging and surveys were carried out at an open dump site called Qitab (Kashkadarya region) in the eastern side of the Kyzylkum desert, Uzbekistan between 31 July-4 August 2023 (Table 1). Trapping and tagging permissions were granted by the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan and a permit obtained from The State Committee for Ecology and Environmental protection of the Republic of Uzbekistan (Appendix 1). Following the successful trapping methodology implemented in 2022, leg-traps were placed in areas within the refuse that were observed to be frequently used by EVs. After the trap was placed, the point was observed from a distance suitable not to disturb the vultures. Each trap was monitored continuously and once an EV was caught in the trap it was immediately approached and removed. Birds were hooded to reduce stress. We used Ornitela Ornitrack-30 GPS/GSM transmitters (30g) with ¼ '' 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: weight, tail length, cranium, and tarsometatarsus.

In 2023, the Central Asian Vulture team was joined by several collaborators including, Alyona Kaptyonkina and Genriyetta Pulikova from the Biodiversity Research and Conservation Center (BRCC) in Kazakhstan; Nodirijon Azimov from the Uzbek Ministry for Environment and Krishna Busal, a vulture expert from Nepal (Fig. 1).

Figure 1. Egyptian Vulture field team in 2023, left to right: Valentine Soldatov, Alyona Kaptyonkina, Genriyetta Pulikova, Krishna Busal, Nodirijon Azimov and Dr Vladimir Dobrev.

Four male Egyptian vultures, one sub-adult and three adults, were trapped and released without injury (Table 1). The birds were named: Nodir.adult.234407, Alay.adult.234408, Tuson.adult.234409 and Quvvat.adult.234410. Images of the birds are shown below. This brings the total number of individuals tagged as part of this program to 13, however, only twelve have transmitted data as one transmitter from 2021 failed to transmit. All individuals are listed in Table 1.

Figure 2. Tagging Nodir.adult.234407

Table 1. All the Egyptian vultures tagged in 2021 (three juveniles), 2022 (five sub-adults), 2023 (one sub-adults and three adults).

Name (tag ID)	Sex	Date Tagged	Age Tagged	Place	Ring
Sofia.adult.224008.2022	Female	29/07/2022	5 years	Dump Qitab	K5055 right
Shirin.adult.224010.2022	Female	30/07/2022	2 year	Dump Qitab	K5057 right
Johny.adult.224011.2022	Male	30/07/2022	4 year	Dump Qitab	K5056 right
Guzar.adult.224012	Male	31/07/2022	3 years	near Guzar	K5058 right
Hissar.adult.224009	Male	01/08/2022	2 years	near Guzar	K5059 right
Arys.212859a.2021	Male	28/07/2021	65 days	Arystantau	K5050
Anya.212860a.2021	Female	28/07/2021	70 days	Arystantau	K5052
Timur.212861.2021	Male	01/08/2021	60 days	Ayakagytma	K5054
Nodir.adult.234407	Male	03/08/2023	adult	Dump Qitab	K5060 right
Alay.adult.234408	Male	03/08/2023	adult	Dump Qitab	K5066 right
Tuson.adult.234409	Male	03/08/2023	subadult	Dump Qitab	K5067 right
Quvvat.adult.234410	Male	04/08/2023	subadult	Dump Qitab	K5068 right

Figure 3. *Tuson.adult.234409.*

Dump site counts in 2023

During Summer 2023, the CAV field team managed to check eight different dumpsites in Kashkadarya and Surhandarya regions of Uzbekistan. The dumpsites were selected in advance based on the data from the GPS/GSM tags of the birds from previous years. The dumpsites were visited between the 2nd and 6th August 2023. Counts were performed in the early morning hours or late afternoon when birds gather to feed. Table 2 presents the maximum number of birds counted at each site and our estimation based on previous information or data collected from the guards of these landfills.

Table 2. Egyptian Vulture dumpsite counts during August 2023 in Uzbekistan.

Dumpsite	Date	Max number of birds	Estimated number of birds
Kitob	2/8/2023	138	138-160
Kamash	5/8/2023	4	5-6
Guzar	5/8/2023	135	135-150
Kashkadarya1	5/8/2023	9	20-25
Surhandarya1	5/8/2023	250	250-300
Surhandarya2	6/8/2023	6	6-10
Surhandarya3	6/8/2023	41	41-50
Surhandarya4	6/8/2023	15	15-30

Migration and Wintering

Autumn Migration in 2023

Of the 11 tagged vultures, including the four birds tagged in 2023, all individuals undertook autumn migration (Fig. 4). The mean migration start date was 15/09/2023 (range 24 Aug – 2 Oct) and the mean arrival date to their non-breeding area was 23/09/2023 (range 3 September – 9 October) with a mean duration of 7.7 days (2.9 SD, range 5-14 days).

Of the seven individuals previously tracked on migration, all individuals returned via similar routes through Afghanistan, crossing the Hindu Kush and Pakistan to reach India with all birds stopping in Rajasthan. Anna, the female vulture took a more western route compared to the other birds and avoided crossing the Hindu Kush. Of the four new individuals tagged, three followed the similar route to the previously mentioned birds and arrived to India. Alay.adult.234408 migrated to the Middle East following the similar route to the juvenile, Timur.212861, in 2021, but adopting a more direct route than the juvenile most likely because Alay was an adult and had prior experience of this route. Alay arrived to the western coastal escarpments of the Asir mountains and Tihamah coastal plain in south-western Saudi Arabia south of Al Bahah.

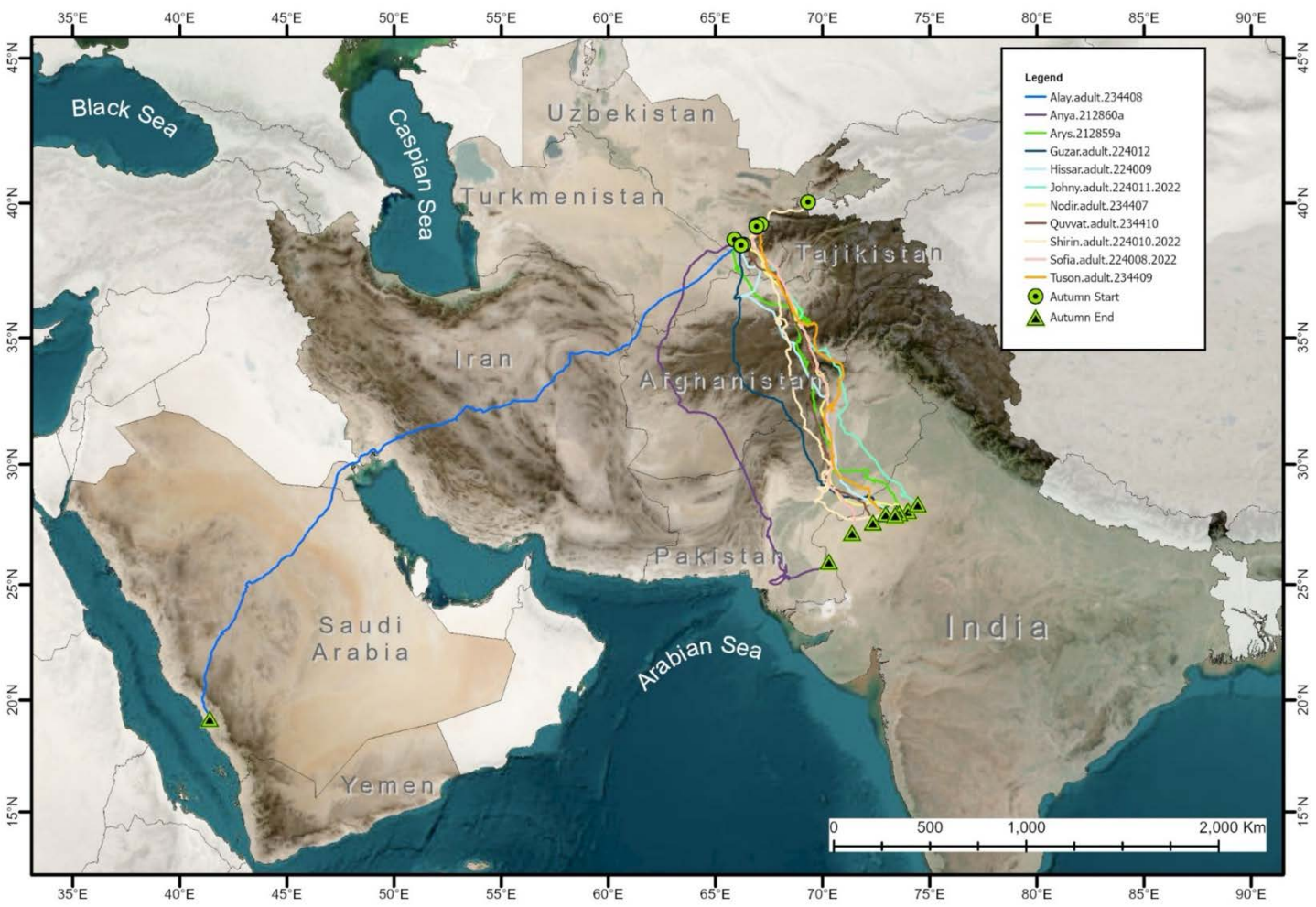

Figure 4. *Autumn migration routes of Egyptian vultures from central Asia in 2023.*

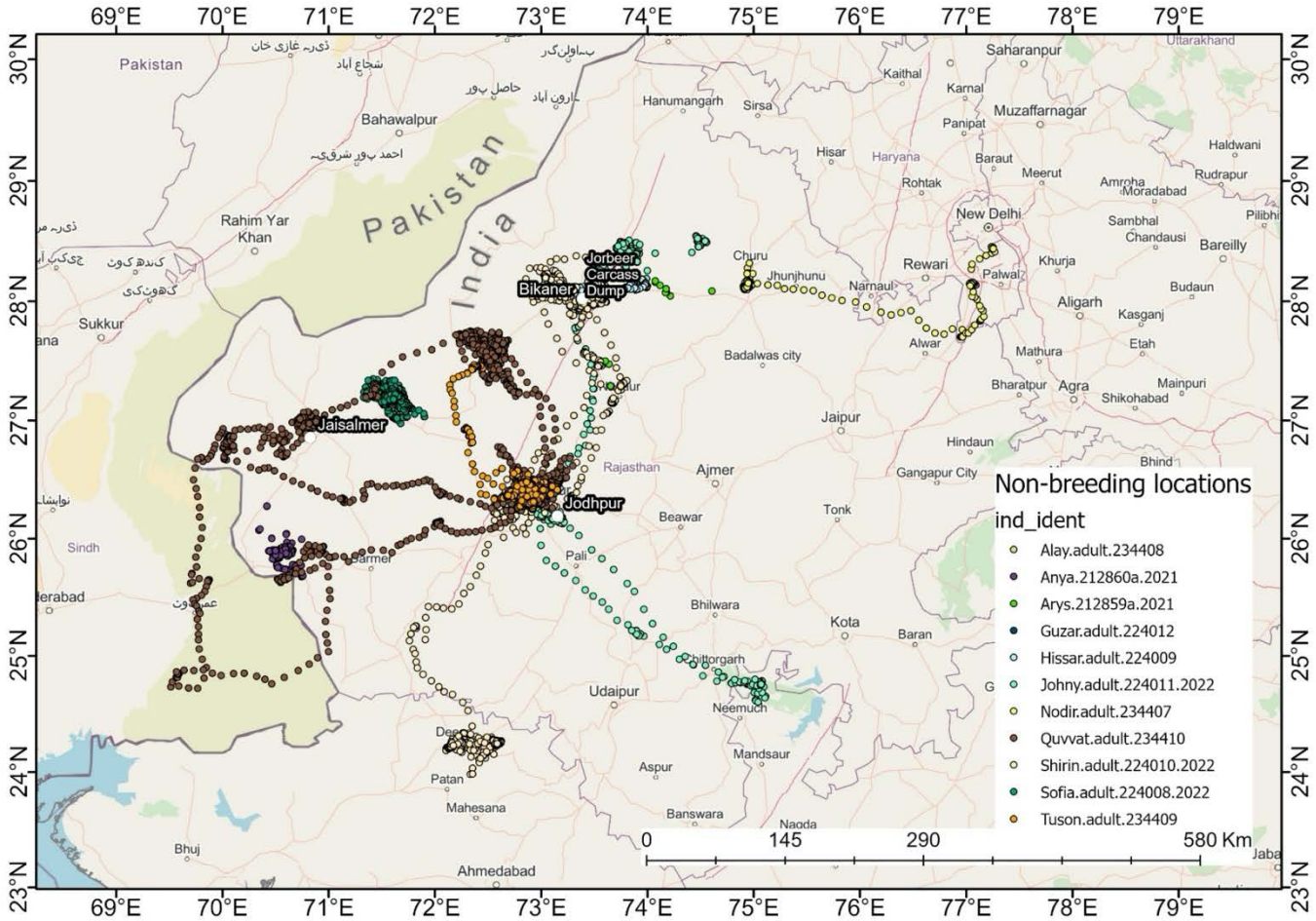

***Figure 5**. Non-breeding sites and movements during the winter period of 2023-2024 for Egyptian vultures originatin in central Asia.*

Indian Non-Breeding Sites in 2023/24

Ten of the 11 vultures passed the non-breeding period in India. Nine birds remained predominantly in the semi-desert regions of Rajasthan while one individual moved to Gujarat region and one individual to Haryana near New Delhi. There was individual variation in movements with some individuals being more mobile and other more sedentary. Again, like in 2022/23 season, the Jorbeer Carcass dump and Bikaner were visited by five individuals. What is clear is that most individuals are gathering near human settlements. Overall, the newly tracked birds continue to support the hypothesis that most central Asian Egyptian vultures are migrating to India and appear to be doing well in this area.

Spring Migration 2024

Nine of the eleven vultures survived (mortality details in next section) to make return migrations in spring 2024. All tracked birds departed from India (Fig. 6) with a mean migration start date of 02/04/2024 (range 11 March – 24 April) and mean arrival date of 11/04/2024 (range 18 March– 5 May). The mean duration was 8.8 days (SD 3.8, range 4-17). The two vultures (Anya and Arys) tagged as juveniles in 2021 in Zarafshan (Navoi region) returned to their natal area. The other sub-adults and adults that were tagged on dumpsites in south-east Uzbekistan returned to these areas except for Shirin that stopped migration in the Tian Shan mountains on the border areas of Uzbekistan and Kyrgyzstan. The return migrations show range countries for the vultures include India, Pakistan, Afghanistan, Iran, Tajikistan, Kyrgyzstan and Uzbekistan.

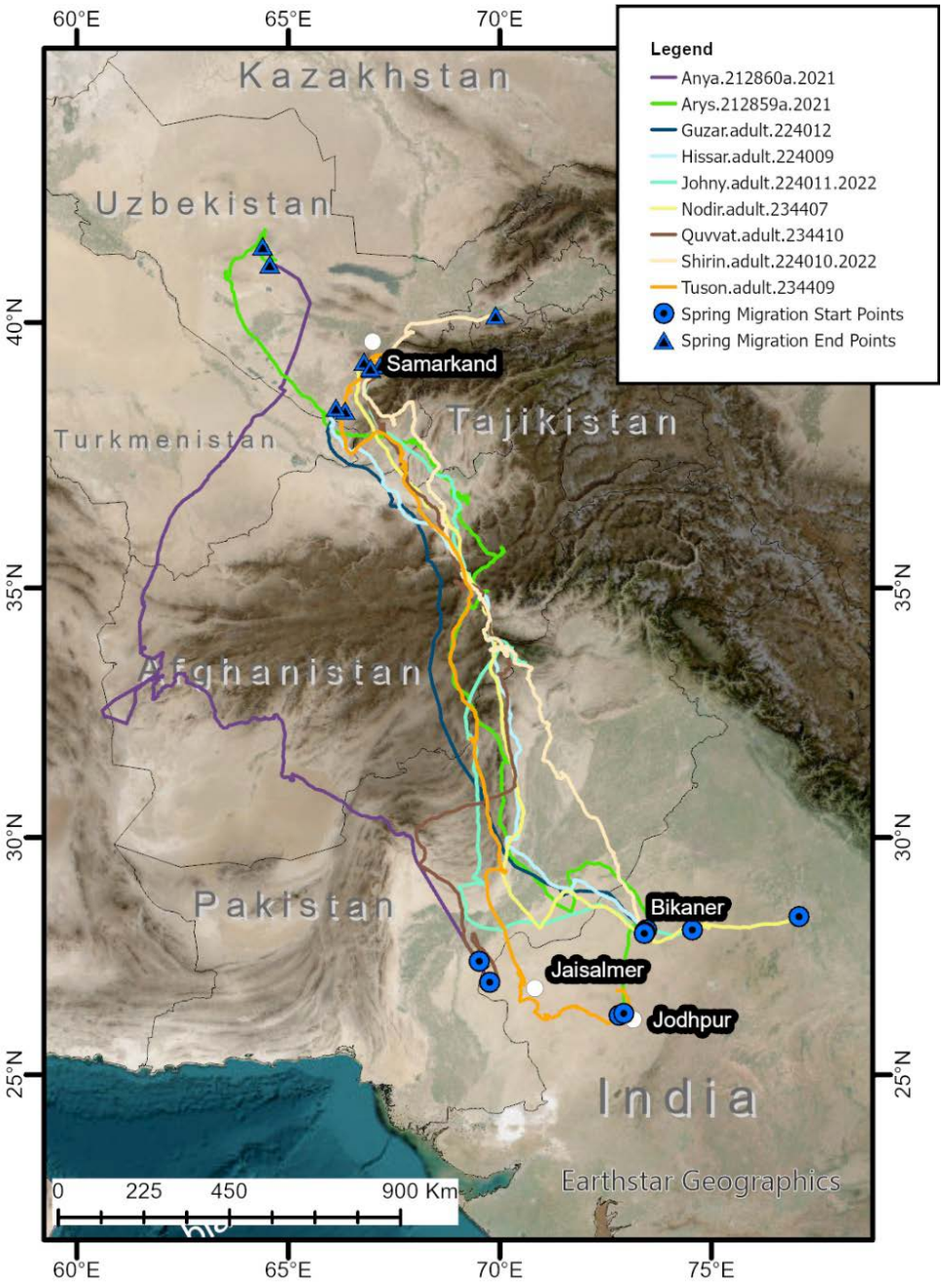

Figure 6. *Spring migration routes during 2024 for Egyptian vultures passing the non-breeding period in India.*

Mortality Report

So far, the CAV project has observed surprisingly low mortality compared to the European populations, however, during winter 2023/24 one confirmed and one suspected mortality were recorded (Table 3). Unfortunately, one of the mortalities was a male that was only tagged in 2023, Alay.adult.234408. The mortality of Alay.adult.234408 was evident from the GPS movements becoming static. Examination of Google Earth images gave no indications of the potential cause. We contacted the National Centre for Wildlife (NCW) in Saudi Arabia and they kindly sent a ranger to investigate the mortality. The ranger found the vulture dead under a transmission pylon and evidently the bird was electrocuted (Fig. 7). Electrocution is a common cause of anthropogenic mortality. Including Alay, we have now tracked two EV migrating to the Middle East (Timur tagged in 2021) and both those individuals died in the Middle East. It was suspected Timur was poisoned but this was never possible to confirm.

Figure 7. *Alay.adult.234408 the Egyptian vulture found electrocuted under the pylon in Saudi Arabia.*

The second suspected mortality was of Sofia.adult.224008.2022, a female that had been tagged in 2022 and tracked on two migration journeys to India. Her transmitter stopped suddenly, and examination of the engineering data showed the transmitter had been functioning perfectly with no evidence of failure. The mortality occurred in Rajasthan in an area the female had spent several weeks. The area appeared quite rural and being rural and Google Earth imagery gave no evidence of powerlines or human infrastructures. Unfortunately, it was not possible to visit this site to confirm the mortality. Since the transmitter stopped there has been no more transmissions. In total from the twelve vultures that have been tagged, three have died. Two of those in Middle East and one in India. Both mortalities in Middle East were anthropogenic (electrocution and suspected poisoning) and the one in India is uncertain. The sample sizes of tracked individuals are still too low to make a robust estimate of survival rates.

Table 3. Mortalities of Egyptian Vultures during 2023/2024.

Bird ID	Date Tagged	Mortality Date	Days monitored	Cause	Mortality Location
Alay.adult.234408	03/08/2023	11/11/2023	166 Days	Electrocution	Saudi Arabia 19.3876 N 41.472942 E
Sofia.adult.224008.2022	29/07/2022	19/01/2024	462 Days	Unknown, transmitter suddenly stopped	India 27.179543 N 71.609879 E

Outreach

- The first peer-reviewed report from the CAV project was published in 2023:
    - Burnside, R.J., Ten, A., Soldatov, V. and Dobrev, V. (2023) First identification of the migration routes and wintering sites of Egyptian Vultures breeding in Uzbekistan. *Vulture News* 85 (1), 15-24

Vulture News 85 November 2023

First identification of the migration routes and wintering sites of Egyptian Vultures breeding in Uzbekistan.

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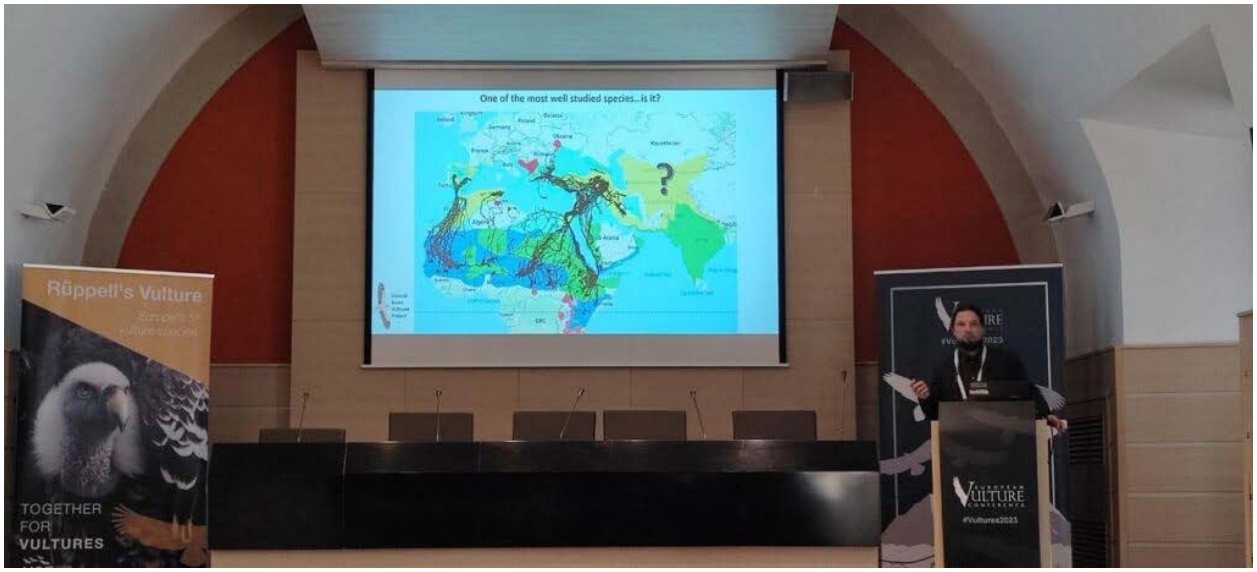
- The website www.CentralAsianVultures.org is dedicated to our work and the future development of the Egyptian and other vulture species work in the region. We continue to publish news posts and updates on the website.
- Ubuntu, an online magazine reporting on conservation stories has written an article on the project in their Spring 2024 issue. The magazine can be accessed here: https://issuu.com/ubuntumagazine/docs/ubuntu_magazine_spring_2024

- A Facebook page for the project was started to continue to share the project news on social media: https://www.facebook.com/CentralAsianVultures

- Dr Vladimir Dobrev presented the project at the 2nd EUROPEAN VULTURE CONFERENCE (14-17 November 2023) in Spain (photo below):



- Anna Ten and Vladimir attended 14th Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species of Wild Animals (CMS COP14) in Samarkand, Uzbekistan (12th-17th February 2024). They contributed to the discussions on vulture conservation and raised awareness of the issues for Egyptian Vultures.

CONVENTION ON MIGRATORY SPECIES
COP 14
SAMARKAND
UZBEKISTAN 12-17 FEBRUARY 2024

CONCLUDING REMARKS

The migration data presented here confirm and support the conclusion that the majority of central Asian Egyptian vultures do winter in India, and that India is a critical wintering location for this species. The project has seen surprisingly little mortality in the birds in comparison to the migratory European populations. It is again important to maintain this good survival status of the central Asian population. Lastly, it is becoming clear that Uzbekistan is host to a larger population of Egyptian vultures than previously thought. It is important that we investigate this further to quantitatively establish the current population size and confirm the countries global significance for 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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Appendix 1: Permissions to catch and tag four vultures.

O‘ZBEKISTON RESPUBLIKASI EKOLOGIYA, ATROF-MUHITNI MUHOFAZA QILISH VA IQLIM O‘ZGARISHI VAZIRLIGI
100043, Toshkent sh., Chilonzor t., Bunyodkor shoh k., 7a-uy.
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2023 - yil "31" - iyul **03-04/2-3335-son**

O‘zbekiston Respublikasi
Fanlar akademiyasi
Zoologiya institutiga

2023-yil 14-iyuldagi
01-09/279-sonli xatga javoban

O‘zbekiston Respublikasi Ekologiya, atrof-muhitni muhofaza qilish va iqlim o‘zgarishi vazirligi xatingizni atroflicha o‘rganib quyidagilarni ma’lum qiladi.

O‘zbekiston Respblikasining 2019-yil 19-sentyabrdagi “Hayvonot dunyosini muhofaza qilish va undan foydalanish to‘g‘risida”gi Qonunining 40-moddasiga asosan respublikamizning Markaziy Qizilqum (Buxoro va Navoiy viloyatlari), Samarqand, Qashqadaryo va Samarqand viloyatlari hududida OSME “Identifying migration routes and wintering sites of Egyptian Vultures breeding in Uzbekistan” loyihasi doirasida O‘zbekiston Respublikasining Qizil kitobiga kiritilgan **4 bosh** jo‘rchi (Обыкновенный стервятник/lot. *Neophron percnopterus*) qushlariga zarar yetkazmagan holda hamda muhofaza etiladigan tabiiy hududlardan tashqarida bo‘lgan joylarda transmitter o‘rnatish va ularni tabiiy yashash joylariga qayta qo‘yib yuborish sharti bilan amalga oshirish mumkinligini ma’lum qilamiz.

Ilmiy tadqiqot ishlari ishtirokchilari:

1. *PhD Vladimir Dobrev* – IUCN Vultures Working Group va Bolgariya qushlarni muhofaza qilish jamiyati a’zosi.
2. *PhD John Burnside* – IUCN Bustard Working Group (Buyuk Britaniya).
3. *Anna G. Ten* – Zoologiya institutining kichik ilmiy xodimi.

Kuzatuvchilar:

1. *PhD Azimov Nodirjon* – O‘zbekiston Respublikasi Fanlar akademiyasining Zoologiya instituti Zoologiya institut Umurtkali xayvonlar лабораторияси mudiri.
2. *Valentin Soldatov – Mutaxassis zoolog.*

Transmitterlarni o‘rnatish ishlari olib borilishi ko‘zda tutilgan **vaqti va hududi** to‘g‘risida Ekologiya, atrof-muhitni muhofaza qilish va iqlim o‘zgarishi vazirligining hududiy bo‘linmalarini xabardor qilgan holda va inspektorlar nazorati ostida olib borilishi lozim.

Shuningdek, amalga oshirilgan ishlar yuzasidan vazirlikka ma’lumot kiritishingiz so‘raladi.

Ilmiy tadqiqot ishlari doirasida yuqorida keltirilgan talab va shartlarga qat'iy amal qilmaslik tegishli javobgarlik choralariga sabab bo'lishi bildiriladi.

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