

FLAMINGO Gujarat

Bulletin of Gujarat Birds

ISSN: 2583 - 2050

RAPTOR SPECIAL



Vol. VI 2 Apr - Jun 2023

FLAMINGO *Gujarat* - Bulletin of Gujarat Birds issue: Vol. VI 2 April - June, 2023

Editor-in-chief:	Raju Vyas (Guest Editor)
Assistant Editor:	Ashok Mashru
Consulting Faculty:	Anika Tere; Anuj Raina; Arpit Devmurari; Bharat Jethva; Devesh Gadhvi; Dhaval Vargiya; Dishant Parasharya; Gaurang Sindhav; Geeta Padte; Hiren Soni; Indra Gadhvi; Jagruti Rathod; Ketan Tatu; Kunan Naik; Maulik Varu; Nirav Bhatt; Raju Vyas; Ranjit Devkar; Shantilal Varu; Sunil Kini; Uday Vora; Viral Joshi; V. C. Soni
Managing Editor:	Bakul Trivedi
Assistant Managing Editor:	Devvratsinh Mori
Layout and design:	Pugmark Qmulus Consortium, Ahmedabad

- Views expressed by the contributors in 'Flamingo Gujarat' are not necessarily those of BCSG.
- No part of this publication may be reproduced or transmitted in any form or by any means, without permission in writing from Bird Conservation Society, Gujarat (BCSG).
- Author will be held responsible for any act of plagiarism.

Cover Photo: Red-naped Shaheen by Devvratsinh Mori (Nal Sarovar Bird Sanctuary outskirts)

Illustrations: Bhagyashri Patwardhan.

The Flamingo Gujarat - Bulletin of Gujarat Birds team would like to express heartfelt gratitude to Ms. Bhagyashri Patwardhan for creating these illustrations for Raptor special edition.

ISSN: 2583 - 2050

Date of publication: 5th August, 2023



bcsg Bird Conservation Society, Gujarat

Governing body:

President:	Bakul Trivedi
Vice President:	Ashok Mashru
Secretary:	Uday Vora
Organization Secretary:	Anuj Raina
Treasurer:	Prashant Shah
Exe. Committee:	Devvratsinh Mori; Dishant Parasharya; Jayendra Bhalodiya; Kailash Jani; Maulik Varu; Pankaj Maheria; Ramde Bhatia; Yashodhan Bhatia

Regd. Address : 19/414, Satyagrah Chhavni, Satellite Road, Ahmedabad-380015, Gujarat.

Email: devvratsinhji.flamingogujarat@gmail.com, **Web:** www.bcsng.co.in

To download all previous issues please visit www.flamingogujarat.com

CONTENTS

- 1** Notes on a breeding pair of Black-shouldered Kite *Elanus caeruleus* in Ahmedabad District, Gujarat
- 15** Sighting of Laggar Falcon *Falco jugger* in South Gujarat
- 17** Owls versus Snakes
- 20** Eastern Imperial Eagle *Aquila heliaca* preying on Western Marsh Harrier *Circus aeruginosus*
- 23** Eurasian Hobby *Falco subbuteo* in Bopal, Ahmedabad
- 25** Sighting of European Honey Buzzard *Pernis apivorus* x Oriental Honey Buzzard *Pernis ptilorhynchus* hybrid from Bharuch, and notes on its identification
- 28** Western Marsh Harrier *Circus aeruginosus* unique way of hunting prey by drowning
- 30** Birding in Banaskantha related to Egyptian Vulture *Neophron percnopterus*
- 38** An unusual Steppe Buzzard *Buteo buteo vupinus* in Little Rann of Kachchh
- 41** Observation of 26 Red-necked Falcons *Falco chicquera* in one day
- 44** Golden Eagle *Aquila chrysaetos* near Shakoor Lake, Vighakot, Kachchh
- 47** Sightings of Laggar Falcon *Falco jugger* in Anand and Kheda districts
- 50** Breeding record of Laggar Falcon *Falco jugger* from Great Rann of Kutch, Gujarat, India
- 54** Observation of a Leucistic female Shikra *Accipiter badius* at a nest near Pavagadh Hill, Gujarat
- 61** Growth stages of Red-necked Falcon *Falco chicquera* nestlings
- 65** Saker Falcon *Falco cherrug* preying on Black-winged Kite *Elanus caeruleus* with notes on observation of prey of Saker falcon and on raptors feeding other raptors





- 67** Note on Aggressive behaviour of White-eyed buzzard *Butastur teesa* at Gir National Park, Gujarat, India
- 69** Some Interesting Birds of Prey reported from Sabarmati Riverfront, Ahmedabad
- 72** Laggar Falcon *Falco jugger* and Common Kestrel *Falco tinnunculus* - a probable case of Interspecific competition
- 74** A Short-toed Snake Eagle *Circaetus gallicus* was rescued and released at Dharmaj, Gujarat
- 77** Birds of Prey on Indian Stamps: - A tale of philatelic error's!
- 80** The Falconry in the Princely State of Bhavnagar
- 84** Short Birding Notes
- 88** Feather Frame: Flight at the Feather Tips



From the Editorial Desk: About the Raptors of Gujarat

This issue of Flamingo, Gujarat, is a special issue titled '**Raptors of Gujarat**' brought together by the team of Flamingo, Gujarat, BCSG. I hope the readers enjoy this issue, with various articles discussing different observations and aspects of raptors from Gujarat.

I am genuinely grateful to the members of our editorial team for accepting the suggestions and theme by Mr. Devratsinh Mori. It has been an exciting experience to compile comprehensive studies by different authors/submitters, enriching this issue with diverse observations, methodologies, and documentation for many a species of raptors.

Etymologically, '**raptor**' is derived from its Latin root '*rapio*,' meaning '*plunderer, robber, beast or a bird of prey*,' from the verbiage of '*rapere*,' which refers to the action of seizing and carrying away by force. Raptor refers to a group of birds known as 'Birds of Prey.' These birds have extremely powerful eyesight, strong wings, sharp talons, and strong beaks for hunting and discerping. Raptors are generally medium or large-sized and prey on other smaller animals, including small birds, fishes, mammals, lizards, and insects. These birds typically hunt live prey and carry it away with their beaks, though occasionally, raptors consume fresh carcasses in scarce situations. Globally, raptors are widely distributed across all the continents except Antarctica. There are over a dozen different groups of birds categorized as raptors or birds of prey, namely Eagles, Hawks, Buzzards, Kites, Harriers, Vultures (Old & New World), Ospreys, Owls, Falcons, Secretary birds, Seriemas, and Caracaras.

Within Gujarat:

India's westernmost state, Gujarat, is one of the country's most biodiverse regions. Its political boundaries encompass a uniquely diverse

geographical region comprising various habitat types, ranging from moist deciduous forests to deserts and freshwater wetlands to saline gulfs with mudflats

and mangroves. A majority of peninsular India's mountain ranges, such as the Aravallis, Vindhya, and Satpura, as well as the Western Ghats (Sahyadris), culminate in Gujarat, creating a rich hotspot of various habitats which harbor unique and diverse flora and fauna, especially avian fauna.

Gujarat's rich, diverse bird fauna features over 615 species of birds, including 75 species of raptors, including resident, migratory, vagrant, diurnal, and nocturnals (Ganpule et al. 2022) belonging to four families; Pandionidae, Accipitridae, Tytonidae, and Strigidae. Birds of Prey are known for their charisma and dynamism, being the apex predators and keystone avians impacting their ecosystems fundamentally. Thus, raptors play an ecologically and culturally significant role, serving as an overarching umbrella or flagship species for conservation programs, benefiting other species multivalently.

Vanishing Vultures:

We know that within the last few decades, an entire genus of Gyps Vulture has catastrophically declined from the Indian Subcontinent (Markandya et al. 2018). Similarly, in Gujarat, vultures have continued to vanish. In the early eighties, Indian White-rumped Vultures (*Gyps bengalensis*) were a common sight, often found soaring uncountably in the skies of Gujarat. However, the species is on the verge of extinction four decades later. I have myself observed and noted substantial numbers of vultures, roosting and breeding right



in the middle of dense urban areas of Gujarat; in Bhavnagar (Gadhadiya Maidan), Jamnagar (Jam and Lal Bungalows), Ahmedabad (Gujarat University Campus and IIMA, Vastrapur), and Vadodara (Sayaji Garden and Zoo) (Vyas 2004 & 2006). Anecdotal to my personal experiences, I have regularly witnessed a small number of injured vultures; almost every year during Uttrayan (kite-flying festival). These vultures were rescued by locals and brought to Sayaji Baug Zoo for treatment and rehabilitation, retained in captivity in the zoo facilities (Walker 1992). Eventually, an entire population of vultures has disappeared, with a handful of rare sightings being recorded now.

The decline of the vultures in the state is, in many ways, a wake-up call, calling our attention to addressing raptor conservation on common grounds. To assess the situation and plan organized action, BCSG declared a workshop, "Current Status of Vultures, Gujarat," on September 19th, 2004, in Anand, with the help of Anand Agriculture University. The workshop, in turn, proved to be a milestone event with a time-sensitive conservation agenda, calling forth an urgent need for awareness, monitoring, and habitat assessment, ultimately helping the vultures recover from regional extinction.

Every year, BCSG members, university researchers, and enthusiastic bird-watchers now come together and monitor the vulture populations, across Gujarat, with the help of the GEER Foundation and State Forest Department. These sincere and proactive efforts have yielded crucial information about the Vultures of Gujarat, revealing important aspects that lead to this epochal decline. Indeed, the catastrophic decline of vultures across the Indian subcontinent was a prolonged result of diclofenac's introduction as a common veterinary drug, especially for cattle, during the '90s (Oaks et al., 2004). Many cases documenting vultures facing severe health issues emerged with the widespread use of diclofenac (Green et al. 2004). In no time, it was unmistakably accepted that

this culprit drug was mainly responsible for the sudden sharp decline of *Gyps bengalensis* and Indian Vulture *Gyps indicus* populations (Prakash et al. 2005). Also, parallelly other two species of vultures are declining throughout India, including the Egyptian Vulture *Neophron percnopterus* and Red-headed Vulture *Sarcogyps calvus* (Cuthbert et al. 2006).

A situation like this is a classic example where indirect anthropogenic threats impact wildlife and thus require active awareness and consistent conservation measures. Often, ruptures reveal resilience and opportunities. Likewise, this situation required novel solutions and concepts to ensure that the wild vulture populations were consuming diclofenac-free foods. Hence, the concept of 'vulture restaurants' caught momentum, and dedicated vulture-feeding sites were found across the vulture distribution range. Surat Nature Club started a vulture restaurant in Gujarat at Hajira in 2009, helping vultures feed on diclofenac-free food with conscious human-led efforts. More than 100 vultures thrived in the vicinities of the Hajira restaurant. In 2012, the experiment could no longer sustain itself as the number of visiting vultures diminished. So, within three years, the Vulture restaurant had to shut down, ending a wonderful experimental initiative.

On the other hand, the State Forest Department has been running a captive breeding facility for Gyps Vultures at the Sakkerbaug Zoo, Junagadh, with a constant hope to reintroduce and rehabilitate captively bred vultures back into Nature. However, as far as the efforts of the breeding center are concerned, very little has been documented and published. We continue to tread into the future with a blur promise and a firm hope, marveling if our future generations would be fortunate enough to spot vultures circling the Gujarat skies, as we once did in the recent past. Across the state, there still are a few places where the vulture populations have managed to survive despite significant shrinkage; near Girnar, Khambhat, Pavagadh, Kadana, Kutch, and small

pockets of North Gujarat. Somehow, this dismal premise only accounts for a specific group of raptors, leaving a lot to be desired for other raptor birds. A veil of obscurity and a lack of real-time monitoring of other raptor groups, such as Eagles, Hawks, Buzzards, Kites, Harriers, Falcons, and Owls, only adds to our concerns about these species and their chances of survival.

Numbers:

A total of 557 extended species of birds from various groups considered raptors by BirdLife International (2017) are known to occur in India, of which 98 species belong to four families of birds (Praveen et al., 2016; Praveen & Jayapal, 2023). 75 raptor species (diurnal & nocturnal) have been reported from Gujarat (Ganpule et al., 2022). Discrepancies with these reported numbers may occur due to the consideration of some vagrant species or the discretion of a few ornithologists not to consider specific species as raptors.

Of the 557 extant raptor species assessed by BirdLife International (2017), 103 (18%) were considered threatened (Vulnerable, Endangered, or Critically Endangered), with a further 70 (13%) classified as Near Threatened. Over half the species (n=292, 52%) had declining population trends, and only 9% of species (n=49) had increasing population trends, with a 3% having unknown population trends (n=15: five owls and 10 hawks and eagles). Among the 142 Least Concern species, 38% had declining population trends. A comparison of the proportion of threatened or declining species among the raptor groups showed that the old-world vultures were disproportionately threatened (McClure et al., 2018).

Status:

Old World vultures are the most threatened group of raptors, with 12 of 16 species listed as Endangered or Critically Endangered, and over 80% of species declining steadily. The global loss of raptors per se is worrying, not just because of their charismatic presence and flagship role

in our ecosystems but also because a reduced abundance of raptors bears cascading effects on an entire ecosystem. Shrinking raptor populations imply reduced prey availability and changes in prey's behavioral attributes. The present scenario and research results indicate that raptors are more endangered than birds in general, with 52% of raptor species in decline and 18% currently classified as threatened with extinction.

Threats:

Like other forms of wildlife, all raptor species are affected by various threats. Threats to raptor populations include habitat loss and alteration, direct and indirect poisoning, electrocution, climate change, collision or entanglement with handmade kites/threads, contagious diseases, and wildlife trade. Raptors are often understudied because they occur in low densities over large ranges and can be elusive and, thus, difficult to detect. A recent study (Mahananda et al. 2022) shows that raptors still need to be studied more. Thus, it can be stated unequivocally that inadequate information on the regional status and ecology of birds of prey predominantly hinders the development of effective conservation measures.

The loss of Vulture populations signals the first warning, hinting to us to reconsider our approach and action toward other groups of raptors, who are more or less following similar trends. The clock is ticking, and the more we hesitate or remain dormant toward these shrinking populations, the closer we approach a disastrous future.

References:

- BirdLife International, 2017. IUCN red list for birds. <http://www.birdlife.org> (on 10 June, 2023).
- Cuthbert, R., Green, R.E., Ranade, S., Saravanan, S., Pain, D.J., Prakash, V. & Cunningham, A.A. 2006. Rapid Population Declines of Egyptian Vulture (*Neophron percnopterus*) and Red-headed Vulture (*Sarcogyps calvus*) in India. *Animal Conservation* 9(3): 349–354.
- Ganpule, P. 2022. Fourth update to the Gujarat checklist: Dec. 2022. *Flamingo Gujarat* 5(4): 8-10.

- Ganpule P., Varu, M., Trivedi B., & Raina, A.D. 2022. *A Field Guide to the Birds of Gujarat*, BCSG. 488 pp.
- Green, R.E., Newton, I., Shultz, S., Cunningham, A.A., Gilbert, M., Pain, D.J. & Prakash, V. 2004. Diclofenac poisoning as a cause of vulture population declines across the Indian subcontinent. *Journal of Applied Ecology* 41: 793–800.
- Mahananda, P., Jelil, S.N. & Saikia, M.N. 2022. Raptor research in India: Inadequate data and species' status uncertainty for many species. *Journal of Raptor Research* 56(2):201–211.
- Markandya, A., Taylor, T., Longo, A. 2008. Counting the cost of vulture declines – economic appraisal of the benefits of the Gyps vulture in India. *Ecology & Economy* 67: 194–204.
- McClure, C. J. W., Westrip, J.R.S., Johnson, J.A., Schulwitz, S.E., Virani, M.Z., Davies, R., Symes, A., Wheatley, H., Thorstrom, R., Amar, A., Buij, R., Jones, V.R., Williams, N.P., Buechley, E.R., Stuart H.M. & Butchart, S.H.M. 2018. State of the world's raptors: Distributions, threats, and conservation recommendations. *Biological Conservation* 227:390–402.
- Muralidharan, S. & Dhananjayan, V. 2010. Diclofenac residues in blood plasma and tissues of vultures collected from Ahmedabad, India. *Bulletin Environmental Contamination Toxicology* 85(4):377-80. doi: 10.1007/s00128-010-0109-7. Epub 2010 Sep 24. PMID: 20865242.
- Oaks, J.L., Gilbert, M., Virani, M.Z., Watson, R.T., Meteyer, C.U., Rideout, B.A., Shivaprasad, H.L., Ahmed, S., Chaudhry, M.J.I., Arshad, M., Mahmood, S., Ali, A., & Khan, A.A., 2004. Diclofenac residues as the cause of vulture population decline in Pakistan. *Nature* 427: 630–633.
- Ogada, D.L., Keesing, F. & Virani, M.Z. 2012. Dropping dead: causes and consequences of vulture population declines worldwide. *Ann N Y Academic Science* 2012 Feb;1249:57-71. doi: 10.1111/j.1749-6632.2011.06293.x. Epub 2011 Dec 16. PMID: 22175274.
- Prakash, V., Green, R.E., Rahmani, A.R. Pain, D.J., Virani, M.J., Khan, A.A., Baral, H.S., Jhala, Y.B., Naoroji, R. Shah, N., Bowden, C.G.R., Choudhury, B.C., Narayan, G. & Gautam, P. 2005. Evidence to support that diclofenac caused catastrophic vulture population decline. *Current Science* 88 (10): 1533-1534.
- Praveen J., Jayapal, R. & Pittie, A., 2016. A checklist of the birds of India. *Indian BIRDS* 11:113-170.
- Praveen J., & Jayapal, R. 2023. Checklist of the birds of India (v7.0). <http://www.indianbirds.in/india/> [Date of publication: 28 February 2023].
- Vyas, R. 2004. Disappearance of the *Gyps bengalensis* from a small pocket of urban area of Vadodara City: 9. **In:** Inputs from bird watchers for the workshop on “Current status of vultures in Gujarat” 19th September, 2004, Ananad. Eds. Jani, J.J., Kher, R.H., Patel, D.J., Tere, A. & Rank, D.N. Bird Conservation Society, Gujarat.
- Vyas, R. 2006. The fate of a small population of Indian White-backed Vultures *Gyps bengalensis* in Vadodara (Gujarat, India). *Indian BIRDS* 2(5): 140-141.
- Walker, Sally. 1992. Status and management report on vulture species in Indian zoos: Sayaji Baug Zoo, Baroda, Gujarat. *Zoo Zen* 7(8): 34–37.

Raju Vyas
Guest Editor
Flamingo Gujarat

Notes on a breeding pair of
Black-shouldered Kite *Elanus caeruleus*
in Ahmedabad District, Gujarat



Devratsinh Mori: Ecology, Environment and Climate change cluster, School of Arts and Science, Ahmedabad University, Ahmedabad 380009. devratsinhmori@gmail.com

Raju Vyas: Sashwat Apartment, BPC-Haveli Road, Nr. Splatter Studio, Alkapuri, Vadodara 390007, Gujarat, India. razoovyas@gmail.com [corresponding author]

Abstract

The Black-shouldered Kite *Elanus caeruleus* is a medium-sized long-winged raptor belonging to Family Accipitridae. It is found in different habitats in India and the same as in Gujarat, from forests, grasslands, and arid scrublands to agricultural fields. In this note, we present detailed observations on a breeding pair of black-shouldered kites located in an agricultural field in Aniyari village, Sanand Tehsil, Ahmedabad District, Gujarat. The nest was built on a *Prosopis cineraria* tree with eight types of nesting materials, the three weeks incubation periods, 100% hatching success, and six weeks of growth and plumages of hatchling, feeding behaviors, and associated bird fauna were studied. A total of 207 feeding flights were recorded in six weeks, with 4.92 feeding flights/day. The prey delivered by the adults to the chicks consisted of vertebrates belonging to three classes (93.23 % mammals, 4.83% reptiles, and 1.93% birds). Both parents took part in the nesting building, incubation, and rearing of the neonates.

Key Words

Accipitridae, Black-shouldered Kite, Breeding, Diets, Growth, Neonates, Raptor.

Introduction

The black-shouldered kite *Elanus caeruleus* (now BSK) is a medium-sized, long-winged raptor with a short tail belonging to the Family: Accipitridae. This kite is widely distributed across the Afrotropical and Indo-Malayan regions, with marginal occurrence in the Western Palearctic and northern Australasia (Lawicki & Perlman, 2017). In recent decades, BSK has experienced a range extension in Europe and the Middle East (See Appendix 1: Lawicki & Perlman 2017: 11-12). In some newly colonized areas, the breeding population is multiplying, increasing vagrancy in adjoining countries (Balbontin et al. 2008). This species is a resident of India and Sri Lanka and has been sighted in the small atoll islands of Lakshadweep off the southwestern coast of India (Ali & Ripley 1987).

Information available in the literature on the breeding biology of this species, especially in the context of the Indian population is limited and anecdotal (Pittie 2023). The information on the breeding data (breeding season, nesting and diet) of this species is available in a few publications (Dharmakumarsinhji 1955; Ali & Ripley 1983; Naoroji 2006; Grimmett et al. 2011; Yasmin & Aju 2021; Bhatia 2021). The species does not exhibit a high degree of Reversed Sexual Dimorphism (RSD) like other highly predatory raptor species; the male is slightly smaller in size than the female (Bhatia 2021). The black-shouldered kite is commonly distributed in Gujarat and occurs in grasslands, arid scrublands, and agricultural fields (Ganpule et al. 2023). This species is globally categorized as 'Least Concern' under the IUCN Red List criteria (BirdLife International 2019). This species is listed under the 'Schedule I' category under the Indian Wildlife Protection Act 1972 (Amendment 2022).

Here, we present new and detailed observations based on the monitoring of a breeding pair of BSK with the aid of 'Stealth Cam Digital,' supplemented by photographs through direct observation.

Study Area

The study area is located near Aniyari village, Sanand Tehsil, Ahmedabad District, Gujarat, and is close to the Nalsarovar Wildlife Sanctuary. The entire area is an agricultural field with scattered human habitation. The nest site is surrounded by paddy fields and scrub lands with a few tall *Prosopis cineraria* trees, '*Capparis decidua*, and Neem trees *Azadirachta indica* within a five km radius.

Methodology

We studied an active nest and a successful breeding attempt by pair of BSKs for a total of ten weeks between 10th October 2022 - 18th December 2022. These were visually monitored from sunrise to sunset using binoculars (Nikon 10*50 Aculon A211 & Hawke Nature-Trek 12*50) and documented with the help of digital cameras, a point-and-shoot 360 (Nikon P900), and DSLR

(Canon 7D and Nikon D850). Also, we evaluated behaviours of parental care and consumption of prey/food by identifying the number and variety of prey brought to the nest by the breeding pair of BSK.

Automatic cameras

The nest monitoring was carried out using a motion-sensor/time-lapse camera (three minutes long) using 'Stealth Cam SKU: STC-DS4KU' for ten weeks. On 12th October 2022 (after four eggs were noted in the nest), we fixed 'Stealth Cam,' an auto camera to continue monitoring the nest. The intention of using telephoto cameras for direct observation during the breeding, especially during the hatching phase, was to reduce the possibility of any disturbance to the parent birds. The cameras were mounted on a nearby branch about two meters above the nest level, ensuring the breeding pair was never disturbed. The camera's field of vision was adjusted to capture any activity around the nest without causing hurdles or visual obstruction. We also confirmed the safety of the nest, took all measures to minimize the disturbance to birds, and followed

the stipulated guidelines for research on nesting birds (Barve et al. 2020).

All photographs recorded on camera were carefully scrutinized to identify the prey brought to the nest by the parents. The prey species were identified with the help of published literature; for rodents (Wilson & Reeder 2005; Menon 2014), birds (Girmmitt et al. 1998), and reptiles (Daniel 2002) and in addition, also, we examined a few pellets (collected below to the nesting tree). Additionally, we recorded observations of behaviours of the parent and the chick in real time in the context of other relevant information. Based on the image/footage records from the stealth cam and direct observation, we compiled detailed observations on the behaviour and the stages of growth of the chicks. During the study, we avoided further invasive methods to record other details viz. egg and hatchling measurements. We listed other forms of life around the life, along with BSK nest monitoring, including birds, reptiles, and mammals, from the surrounding vertebrates' fauna.

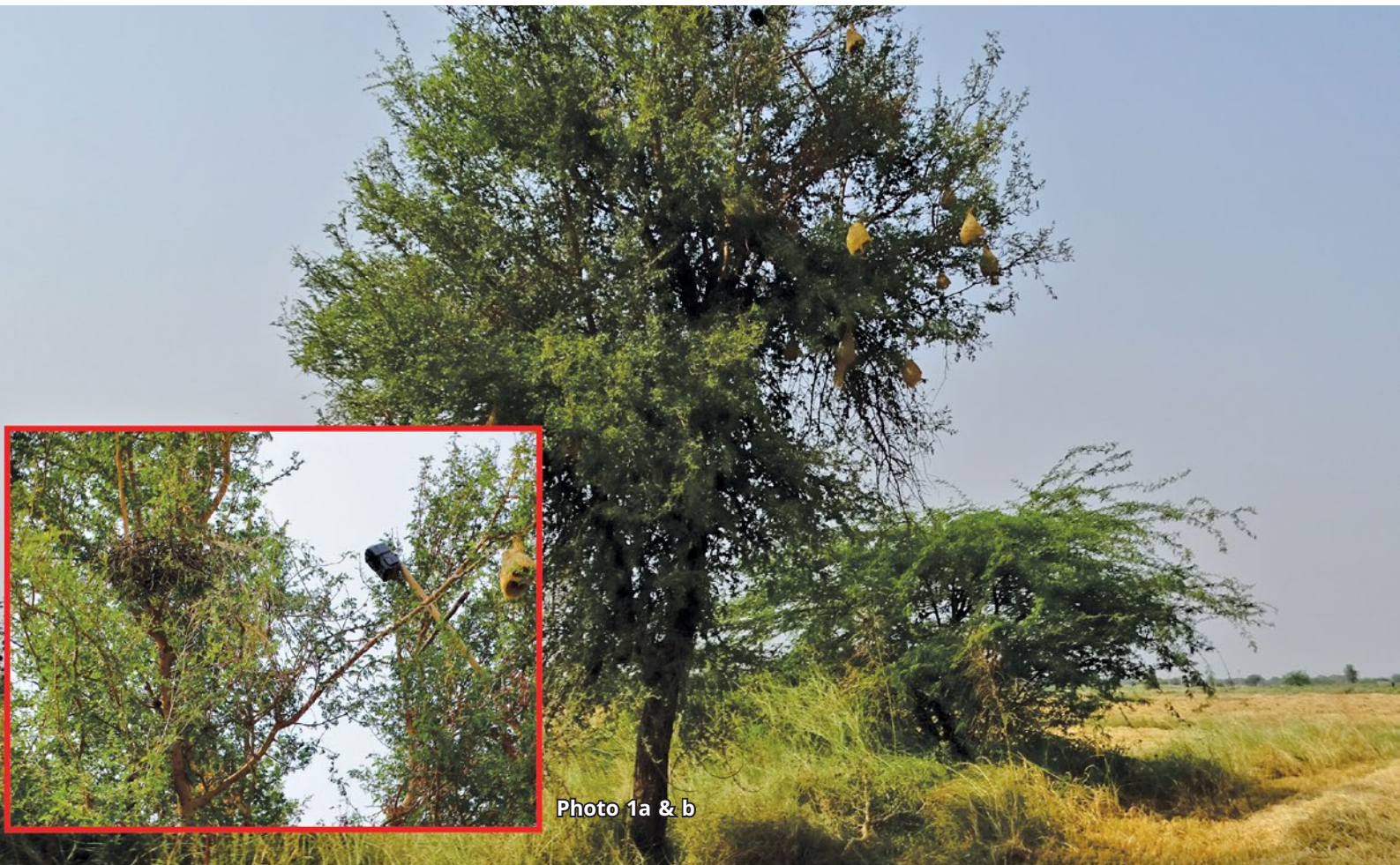


Photo 1a & b

Observations and Results

Nest and Nest Site:

The nest was located on an 8.5 m high *Prosopis cineraria* tree (Photo 1a & b) surrounded by agricultural fields. The nest was placed 6.5 m above ground level on the upper canopy on a fork 20 cm in circumference. It was exposed by one side and shaded with branches on the other. The nest was bowl-shaped, size 38 x 32, with a depression of 6.5 cm. The nesting material comprised eight types of nesting materials (feathers, sticks, plant roots), with the inner lining made of fine grasses (Table 1).

Eggs and Incubation:

The clutch size was four and the eggs were light-marbled brown in colour, oval-shaped and approximately the size of pigeon eggs. Both adults shared the incubation duties and the eggs were left unattended only during the change of duty between the adults. The change of duty usually preceded a parent bird landing on an upper branch and making a screaming call; as soon as it receives a call from another parent, the seated parent who left the nest from incubation. Such observation was noted, especially during the changing of duty for incubation. On a few occasions, we observed one of the adult birds bringing a half-eaten rodent to the nest (Photo 2) and offering it to its mate that was incubating. The adults continued to bring nesting materials and repaired the nest throughout the incubation period. During the entire incubation period, an adult parent bird that wasn't incubating always roosted on the uppermost tree branch of the nest tree.



Photo 2



Photo 3

Hatching successes and early stages of the chicks

All four eggs hatched successfully. Two freshly hatched chicks were observed on 1st November 2022, morning (between 08:45 to 09:20 h.). The third (Photo 3) and fourth chicks hatched on 2nd November 2022. All hatchlings were covered in pink coloured down, active and healthy. The present incubation period was recorded over three weeks/22 days. The incubation period was calculated from the first notice of the nest on 10th October 2022 to the date hatchlings emerged from eggs.

Table 1 - Nesting materials used by Black-Shouldered Kite *Elanus caeruleus*

No.	Types of nesting materials	No.	Types of nesting materials
1	Straws and Bark pieces of <i>Prosopis cineraria</i>	5	Grass blades (Unidentified)
2	Sticks of <i>Vachellia nilotica</i>	6	Roots of plants (Unidentified)
3	Twigs of <i>Azadirachta indica</i>	7	Hair (Unidentified)
4	Leaves & Roots of Paddy <i>Oryza sativa</i>	8	Bird Feathers (Unidentified)

Table 2: Weekly growth and plumages description of Black-shouldered Kite chicks

Date to Date	Age	Growth and Plumage	Body Colors	Behaviours
2nd Nov. 2022	1st Day old (Photo 5a)	Completely pink in colour	Light greyish eyes, beak, and light yellowish feet with black claws	Hardly raised their heads
1-7 Nov. 2022	1st Week old (Photo 5b)	Body was covered with down	Egg-tooth till appears on the upper beak	Raising the heads and begging for food
8-14 Nov. 2022	2nd Week Old (Photo 5c)	Numbers of pin feathers developing on the wings, nape, back and tail	Pink Greyish colour on wings due to feathers buds. Egg-tooth goes from the upper beak	While begging for food, the neck now strong and able to pick morsels of meat from the parent's beak
15-21 Nov. 2022	3rd Week Old (Photo 5d)	Body colour black with brown specks		Low-pitched screams. Chicks capable of holding and tearing food. Also, stealing food from other chicks. Also capable of standing and sitting on the tarsi. Showing aggression in response to intruders
22-28 Nov. 2022	4th Week Old (Photo 6a)	Numbers of black-brown feathers on the wings, back, and head. Size half of the adults	Beak black colour with yellow cere	All chicks were alert and responded to intruders. Wing and foot stretching behaviours were observed in chicks. Jumping and hopping behaviours began
29-5 Dec. 2022	5th Week Old (Photo 6b)	Chick has grown sizably, almost 80-90 % of the adults	Body colour grey-black with cream markings. Beak in jet black and feet yellow with dark black claws	Chicks playing, exercising and started independently tearing prey brought by the adults
6-12 Dec. 2022	6th Week Old (Photo 6c)	Body part is covered with feathers. It has grown almost 90-95 % in size in comparison to the parents		Chicks now capable of swallowing and tearing prey entirely. Chicks at branching stage
13-19 Dec. 2022	7th Week old	Body colour is much like an adult, except for back feathers colour and eye, and beak		Chicks left the nest and leave the nesting tree during the day time





Unfortunately, a chick died on 25th November and the cause was unknown (Photo 4), and hatchling successes were 75% noted. During the incubation period, one of the adult roosted on the nest tree, always while the other was brooding. By 17th November (end of the third week) both the adults roosted on top of the nest tree leaving the chicks alone in the nest.

Growth and Plumages:

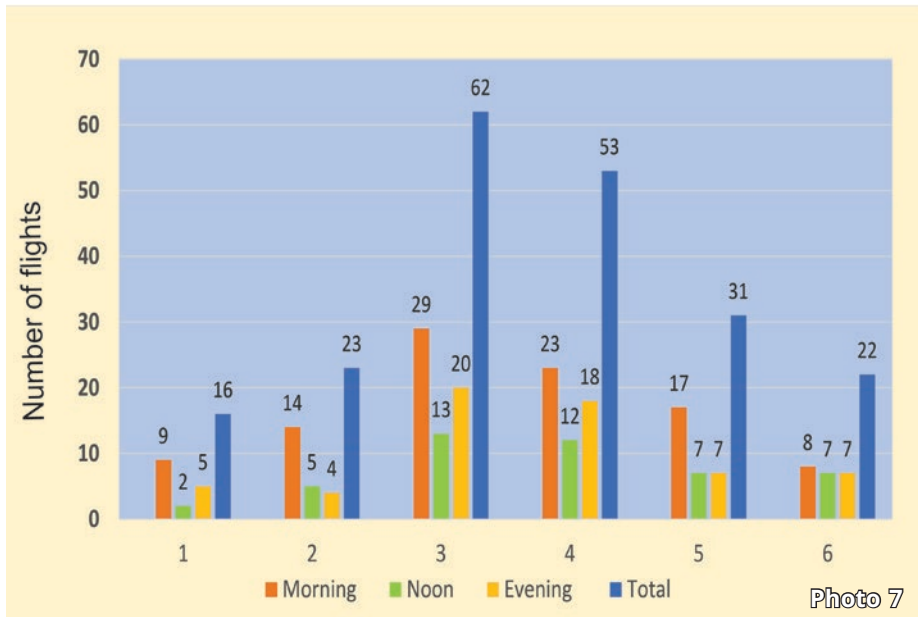
The changes in plumage colour and growth of the neonates right from the day of hatching to the sixth week, were noted. The weekly growth of the chicks and description of plumages are given in Table 2 (Photo 5 & 6). By the end of the seventh week, the chicks had fully fledged and were similar in size to an adult. They differed from the adults in plumage markings, colour of the beak, feet, and eyes. Also, fledglings fly well and leave the nest for forage foods independently.

Feeding Frequency:

Both adults took 207 prey deliveries for feeding to neonates, in six weeks, with 4.92 deliveries/day (Photo 7). Both the adults took part in feeding the chicks. Morning prey deliveries were between 06:36 to 09:45 hrs., and the last deliveries were recorded between 1748 to 1822 hrs. Prey delivery frequency was highest in the mornings (48.30%) compared to the evenings (29.46%) hours.

Diet:

A total of seventeen prey species belonging to vertebrate classes (mammals, avians, and reptiles) were delivered to the chicks (Table 3). The prey species were identified to the species level: two insectivores, ten rodents, one bird, and three lizards. 77 prey deliveries were unidentified, including rodents (Photo 8), birds (Photo 9), and a few reptiles (Photo 10). Prey species were identified based on images from cameras and also an examination of pellets (n=67). On a few



occasions, the rodents brought by the parents were half-eaten and we also observed on a few occasions the adults bringing partially alive prey. Both parents regurgitated pellets under trees within a radius of 1000 m of the nesting tree, usually used as perching posts before landing at or after leaving the nest.

Feeding Behaviours:

Both adults participated equally in feeding the chicks which involved tearing the prey into tiny morsels that were manageable for the chicks to swallow. Both adults also equally shared other parental nest-related activities viz. nest cleaning, like removing pellets and prey remains from the nest. It was challenging to differentiate the sexes of the adults, but often both birds were at the nest together or soon after one another, enabling us to tell apart the sexes based on their sizes. Whenever the adults brought larger prey (rodents/big shrews), a considerable amount of time was spent tearing it up. While the adults brought food alternatively, sometimes they both came simultaneously. In such cases, one adult feeds the chicks and the other perched on a nearby tree or on the nesting tree’s top branch and called.



Bird diversity in the nesting area:

During the study period 45 bird species belonging to 32 families (Table 4), including three species of nocturnal birds were recorded. A total of seven species of diurnal raptors (Falconidae: n=1 and Accipitridae: n=6) were recorded within a radius of one km from the

Table 3: List of prey species brought to the nest by Black-Shouldered Kite *Elanus caeruleus*

Class	No.	Order / Family / Common & Scientific Species Name		Total (%)
Mammals		Mammals – Insectivores		
		Family: Soricidae	10	04.83
	1	Asian House Musk Shrew <i>Suncus murinus</i>	4	
	2	Pygmy Shrew <i>Suncus etruscus</i>	6	
		Mammals - Rodent		
		Family Muridae	183	88.40
	3	Desert Jird or Gerbill <i>Meriones hurrianae</i>	4	
	4	Indian Gerbil <i>Tatera indica</i>	48	
	5	Pygmy Gerbil <i>Gerbillus nanus</i>	14	
	6	Indian Hairy Footed Gerbil <i>Gerbillus gleadowi</i>	2	
	7	Co. House Rat <i>Rattus rattus</i>	17	
	8	Norway Rat <i>Rattus norvegicus</i>	5	
	9	Little Indian Field mouse <i>Mus booduga</i>	19	
	10	House mouse <i>Mus musculus</i>	3	
11	Unidentified Rodent	71		
Avian		Bird - Quail	4	01.93
		Family: Turniciadae		
	12	Barred Buttonquail <i>Turnix suscitator</i>	2	
	13	Unidentified Bird	2	
Reptiles		Reptiles Lizards / Squamata	10	04.83
		Family: Agamidae		
	14	Indian Garden Lizard <i>Calotes cf versicolor</i>	2	
		Family: Mabuyidae		
	15	Co. keeled Skink <i>Eutropis carinata</i>	2	
	16	Grass Skink <i>Eutropis macularia</i>	2	
	17	Unidentified Lizard	4	
		Grant Total	207	

nest tree. The twelve species belonging to eleven bird families visited the nest tree for perching, foraging, and some unknown reasons (see: Table 4). Three species (Indian Silverbills *Euodice malabarica*, Black Drongo *Dicrurus macrocercus*, and Shikra *Accipiter badius*) had direct interactions with the breeding pair of BSKs. The first one was stealing the nesting materials from the nest (Photo 11), and the latter two species were noted as food competitors of the breeding pair.

Discussion

The breeding season of the BSK seems to be quite variable from, September to November (Dharmakumarsinhji 1955), Grimmett et al. (2011) mentioned breeding round the year, and Naoroji (2006) notes that the species' breeding season is very flexible, usually May and October, but varies from area to area. Food availability is probably one of the factors (Ramli & Fauzi 2018), and this could also be a reason for double-brooding reported in the species (Ferrero et al 2003; Ferguson-Lees &

Black-shouldered Kite....

Christie 2005). While in this study, the nesting period was between October and December, the variation in the breeding season reported by other authors needs a more thorough investigation with data spread across its range in India.

This species selects the nesting site and nesting-tree to depend again on the safety and availability of prey (Ramli & Fauzi 2018). The nesting site observed in this study was located in an agriculture field, and the nest was built on a moderately tall 8.5 meters *Prosopis cineraria* tree. Dharmakumarsinhji (1955) notes that the species prefers open country and solitary thorny tree species are selected. In our study, the selection of nesting trees is quite similar to those described



by Faanes & Howard (1987) in their study of habitat suitability index models of BSKs. However, BSKs selected different tree species for nesting, including native trees same as ornamental trees (Dharmakumarsinhji 1955; Ławicki & Perlman 2017; Ramli & Fauzi 2018; Yasmin & Aju 2021).

Black-shouldered Kite nests are bowl-shaped and made up of sticks and twigs, and are lined with grasses, straws, or mammal fur (Anderson & Batchelder 1990). The size of the nest is also variable; in Washington, USA, BSK's nest size was 50 cm in diameter and 12 cm in depth (Anderson & Batchelder 1990). In Peninsular Malaysia, the nest dimension was 30 cm across and 20 cm across deep (Renganathan 1984). In this study, a nest was observed of 38 (wide) x 32 (height) and 6.5 cm in depth. Both parents continued to repair the nest throughout the breeding season. This could possibly be due to the strong winds in the area and also because the nest material was constantly being stolen by Indian Silverbills *Euodice malabarica*.

The clutch size of this kite is also variable, ranging from 2 to 4 eggs and sometimes three eggs (Vosogi et al. 2012), but also rarely even a clutch of seven eggs have been recorded in a nest in Portugal (Collar 1978). The clutch size recorded in this study was four eggs. Such variation in clutch size in birds is dependent on the age and health status of the female (Tapia & Zuberogoitia 2018).

Mendelsohn (1984) recorded BSK, the breeding success when the food supply was abundant. Erichen et al. (1996), recorded most nests-site in corridors of natural vegetation that comprise agricultural and human settlement areas. In the present study, we record similar nesting sites in support of earlier observations of Mendelsohn (1984) and Erichen et al. (1996).

In this study, we recorded 17 prey species being brought to the nest by the adults. A major portion of their diet consisted of rodents (88.40%) and reptiles (4.83%) and birds (1.93%) formed a very minor part of their diet. Diet studies in Fars



Photo 11



a



b

Photo 12

Province study in Iran (Vosoghi et al. 2012) have also shown rodents as a significant portion (84%) of the prey, with two species of rodents (House Mouse *Mus masculus* and Steppe Field Mouse *Apodemus cf witherbyi*) forming the majority of the rodent prey. Ferguson-Lees & Christie (2001) state that the BSK is a habitual predator of rats and small reptiles, and the present study corroborated similar observations. It would be interesting to see how variable their diets are across their range in India and if the diet variation has any impact

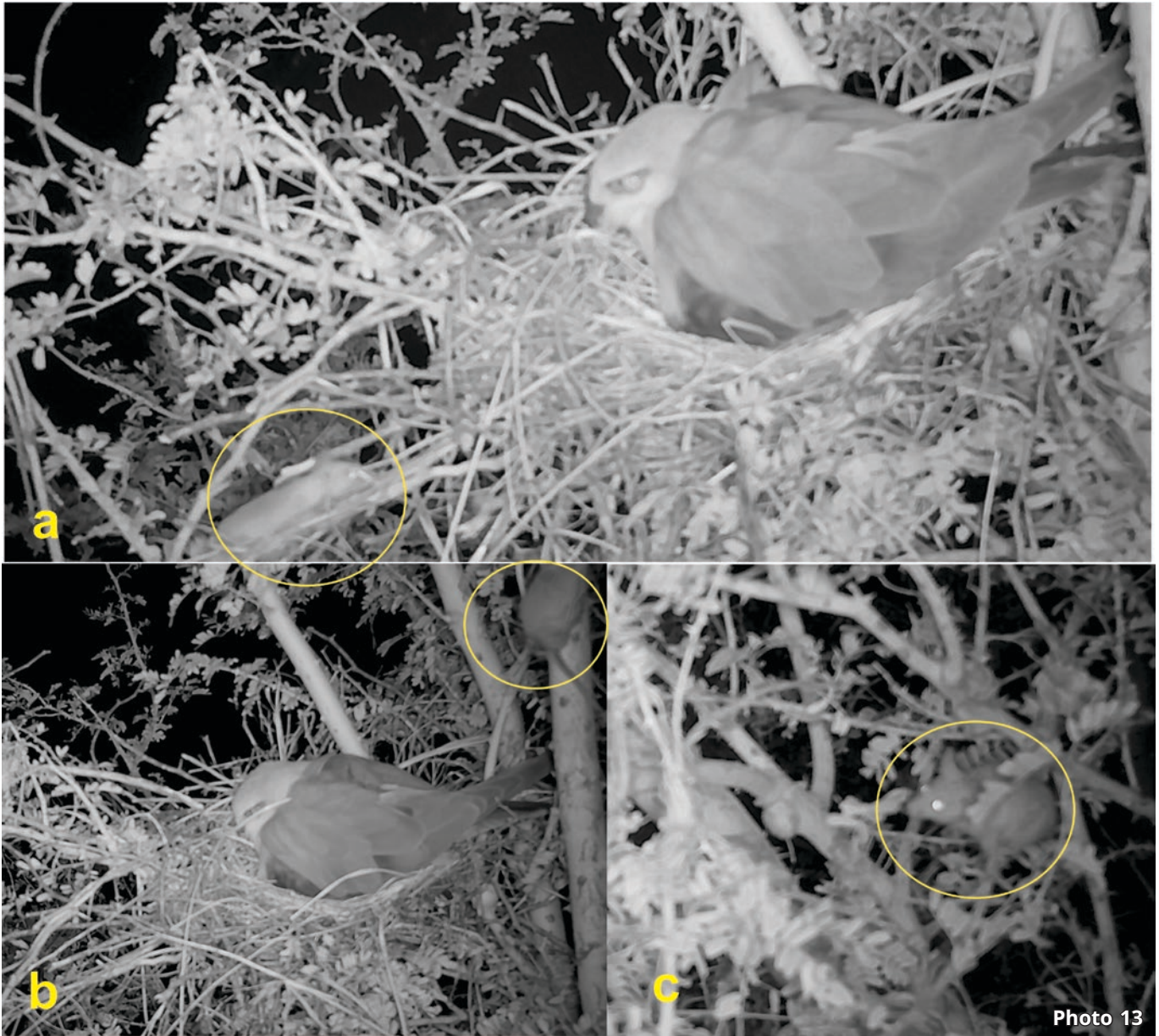
on the breeding success of this species. The various types of diets are due to the probabilities of availability of prey in the surroundings of the agricultural fields.

Peak foraging and feeding activities recorded during the study were in the morning (48.30%) and evening times (29.46%), and the activity in the noon periods was at 22.22%. This gives an indication that BSKs are predominantly crepuscular and their foraging activity coincides with activities of their primary prey species - rodents (Yasmin & Aju 2021).

Our observations on the plumages and growth of the chicks are more comparable to the hatchling growth study of nearer co-genera member *Elanus axillaris* (Debsus et al. 2006). At the end of six weeks, chicks took short-distance flights and left the nest. The juveniles were observed for two weeks after leaving the nest and during this time they were completely dependent on the adults for food. Further post-fledging observations could not be made during this study.

Both parents equally took part in incubation, brooding, hunting and prey deliveries, feeding, guarding, and also keeping the nest tidy. Both adults aggressively attacked intruders and defended the nest from potential predators such as a Shikra (Photo 12). The female was observed uttering threat calls while in the nest in response to Indian Silverbills coming to the nest to steal nesting material during the incubation period. It was also observed that the female bird during incubation at night was not bothered by nocturnal ants. On a few occasions, these ants were moving on all over the incubating female, it seemed unperturbed. These numbers of ants were attracted might be due to the smells of pallets.

A total of 12 species of birds were observed directly interacting with the nest tree and nest, either for perching or foraging. These included Indian Silverbills, Black Drongo (*Dicrurus macrocercus*), and Shikra (*Accipiter badius*). We also observed a



rodent (Muridae) visiting the nest at night (Photo 13); twice during the incubation (on 24th and 29th October), and once during the hatchlings stage (22nd November). However, the reason for these visits is unclear, rodents are recorded predators of eggs and hatchlings of birds (Smith et al. 2016; Barve et al. 2020).

Acknowledgment:

We are thankful to the Gujarat Forest Department for their essential support. We convey heartfelt thanks to Ahmedabad University, Mr. Bhavanisinhji Mori (Former member of Gujarat State wildlife board and former honorary wildlife warden of Surendranagar District and Shomen Mukherjee (Associate professor, Ahmedabad

University) for their support and motivation. We thank Kartik Upadhyay, and Chirag Parmar, for their assistance during the fieldwork. We want to express our gratitude to Kasam Sama, Ramzan Sama, and Kanti (bird guide at Nal Sarovar), whose constant support is integral to our study of the species. We are very grateful to Dr. Pranay Rao Juvvadi (General Secretary, Raptor Conservation Foundation, Hyderabad, Andhra Pradesh, India) for reviewing the manuscript and comments on some constructive suggestions.

Table 4: The list of bird species recorded within one kilometer of the study area

(Species marked as * are Nest Tree Visitor and species marked as ** are ones that directly Interacted with the breeding pair of Black Should Kites).

No	Common Name of Birds (Species Name)
	Family: Turnicidae
1	Barred Buttonquail (<i>Turnix suscitator</i>)
	Family: Phasianidae
2	Grey Francolin (<i>Ortygornis pondicerianus</i>)
3	Indian Peafowl (<i>Pavo cristatus</i>)
	Family: Anatidae
4	Bar-headed Goose (<i>Anser indicus</i>)
5	Greylag Goose (<i>Anser anser</i>)
	Family: Threskiornithiae
6	Indian Red-napped Ibis (<i>Pseudibis papillosa</i>)
	Family: Ardeidae
7	Cattle Egret (<i>Bubulcus ibis</i>)
	Family: Falconidae
8	Common Kestrel (<i>Falco tinnunculus</i>)
	Family: Accipitridae
9	Black Kite (<i>Milvus migrans</i>)
10	Short-toed Snake Eagle (<i>Circaetus gallicus</i>)
11	Western Marsh Harrier (<i>Circus aeruginosus</i>)
12	Shikra (<i>Accipiter badius</i>)**
13	Eurasian Sparrowhawk (<i>Accipiter nisus</i>)
14	Indian Spotted Eagle (<i>Clanga hastata</i>)
	Family: Gruidae
15	Common Crane (<i>Grus grus</i>)
	Family: Charadriidae
16	Red-wattled Lapwing (<i>Vanellus indicus</i>)
	Family: Columbidae
17	Eurasian Collared-Dove (<i>Streptopelia decaocto</i>)*
	Family: Tytonidae
18	Barn Owl (<i>Tyto alba</i>)
	Family: Strigidae
19	Spotted Owlet (<i>Athena brama</i>)
	Family: Caprimulgidae
20	Indian Nightjar (<i>Caprimulgus asiaticus</i>)
	Family: Coraciidae
21	Indian Roller (<i>Coracias benghalensis</i>)*
22	European Roller (<i>Coracias garrulus</i>)

	Family: Upupidae
23	Common Hoopoe (<i>Upupa epops</i>)
	Family: Alcedinidae
24	White-throated Kingfisher (<i>Halcyon smyrnensis</i>)
	Family: Meropidae
25	Asian Green Bee-eater (<i>Merops orientalis</i>)
	Family: Laniidae
26	Bay-backed Shrike (<i>Lanius vittatus</i>)
	Family: Dicruridae
27	Black Drongo (<i>Dicrurus macrocercus</i>)**
	Family: Corvidae
28	House Crow (<i>Corvus splendens</i>)
	Family: Pycnonotidae
29	White-eared Bulbul (<i>Pycnonotus leucotis</i>)*
	Family: Cisticolidae
30	Plain Prinia (<i>Prinia inornata</i>)
31	Zitting Cisticola (<i>Cisticola juncidis</i>)
	Family: Acrocephalidae
32	Booted Warbler (<i>Iduna caligata</i>)
	Family: Phylloscopidae
33	Common Chiffchaff (<i>Phylloscopus collybita</i>)
	Family: Sturnidae
34	Rosy Starling (<i>Pastor roseus</i>)
	Family: Muscicapidae
35	Siberian Stonechat (<i>Saxicola maurus</i>)*
	Family: Nectariniidae
36	Purple Sunbird (<i>Cinnyris asiaticus</i>)*
	Family: Passeridae
37	House Sparrow (<i>Passer domesticus</i>)*
38	Yellow-throated Sparrow (<i>Gymnoris xanthocollis</i>)*
	Family: Poloceidae
39	Baya Weaver (<i>Ploceus philippinus</i>)*
	Family: Estrildidae
40	Indian Silverbil (<i>Euodice malabarica</i>)**
41	Red Avadavat (<i>Amandava amandava</i>)
	Family: Motacillidae
42	Paddyfield Pipit (<i>Anthus rufulus</i>)
43	Tree Pipit (<i>Anthus trivialis</i>)
	Family: Emberizidae
44	Black-headed bunting (<i>Emberiza melanocephala</i>)*
45	Red-headed bunting (<i>Emberiza bruniceps</i>)*

References

- Ali, S., & Ripley, S. D., 1983. *Handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka*. Compact ed. Delhi: Oxford University Press. i-xlii, 1 l., 56 ll+747 pp.
- Anderson, C.M., & Batchelder, D.M., 1990. First confirmed nesting of the Black-shouldered Kite in Washington. *Western Birds* 21: 37–38.
- Barve, S., Shankar Raman, T.R., Datta, A. & Jathar, G. 2020. Guidelines for conducting research on the nesting biology of Indian birds. *Indian Birds* 16(1): 10–11.
- BirdLife International. 2019. *Elanus caeruleus*. The IUCN Red List of Threatened Species 2019: e.T22695028A152521997. <http://dx.doi.org/10.2305/IUCN.UK.2019-3.RLTS.T22695028A152521997.en>
- Balbontín, J., Negro, J. J., Sarasola, J. H., Ferrero, J. J., & Rivera, D. 2008. Land-use changes may explain the recent range expansion of the Black-shouldered Kite *Elanus caeruleus* in southern Europe. *Ibis* 150: 707–716.
- Bhatia, Y., 2021. The courtship behaviour of Black-shouldered Kite *Elanus caeruleus*. *Flamingo Gujarat* 19 (1): 29.
- Dharmakumarsinhji, R. S., Undated [=1955]. *Birds of Saurashtra, India: With additional notes on the birds of Kutch and Gujerat*. 1st ed. Bhavnagar, Saurashtra: Published by the author. i-lliii + 561 pp.
- Faanes, C.A., & Howard, R.J., 1987. Habitat suitability index models: Black-shouldered Kite. US Fish Wildlife Ser. *Biology of Report* 82:1–13.
- Ferguson-Lees, J. & Christie, D. A., 2005. *Raptors of the World*. Christopher Helm, London, UK. 118+ Mapes+ 320 pp.
- Ferrero, J. J. , J.M. Grande & Negr, J.J., 2003. Copulation behavior of a potentially double-brooded bird of prey, the Black-winged kite (*Elanus caeruleus*). *The Journal of Raptor Research* 37(1):1–7.
- Ganpule, P., Varu, M., Trivedi, B. and Raina, A.D., 2022. *A field Guide to The Birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. Pp. i-viii+ 488 pp.
- Grimmett, R., Inskipp, C. & Inskipp, T., 2011. *Birds of the Indian Subcontinent*. 2nd ed. Pp. 1–528. London: Oxford University Press & Christopher Helm. 528 pp.
- Lawicki, L., & Perlman, Y., 2017. Black-winged Kite in the WP: increase in breeding population, vagrancy and range. *Dutch Birding* 39: 1–12
- Mendelsohn, J.M., & Jaksic, F.M., 1989. Hunting behaviour of Black-shouldered Kites in the Americas, Europe, Africa and Australia. *Ostrich* 60: 1–12.
- Menon, V., 2014. *Indian Mammals: A field guide*. Hachette Book Publishing (India) Pvt. Limited, Gurgaon. 406 pp.
- Naoroji, R. K., 2006. *Birds of prey of the Indian Subcontinent*. London: Christopher Helm. 692 pp.
- Pittie, A., 2023. A bibliography of South Asian ornithology 1713–2022. 2nd ed. (Published on 10 February 2023.)
- Ramli, R., & Fauzi, A., 2018. Nesting biology of Black-shouldered Kite (*Elanus caeruleus*) in oil palm landscape in Carey Island, Peninsular Malaysia. *Saudi Journal of Biological Sciences* 25: 513–519. <http://dx.doi.org/10.1016/j.sjbs.2016.01.017>
- Rasmussen, P.C. & Anderton, J.C., 2005. *Birds of South Asia*. The Ripley Guide. Smithsonian Insti and Lynx Edicions. Washington DC and Barcelona: 583 pp.
- Renganathan, K.A., 1984. The ranging, hunting behaviour, nesting behaviour and activity patterns of the Black-shouldered Kite, *Elanus caeruleus*. Unpublished master's thesis, Uni. of Malaya, Kuala Lumpur.
- Smith, H.M., Dickman, C.R., & Banks, P.B., 2016. Nest Predation by Commensal Rodents in Urban Bushland Remnants. *PLoS ONE* 11(6): e0156180. doi:10.1371/journal.pone.0156180
- Tapia, L., & Zuberogoitia, I., 2018. Breeding and Nesting Biology. In *Raptors*. J. H. Sarasola et al. (eds.). *Birds of Prey*: 3-94. https://doi.org/10.1007/978-3-319-73745-4_3
- Vosoghi, M.H., Ashoori, A. & Kami, H.G., 2012. Breeding of the Black-winged Kite *Elanus caeruleus* in Fars Province, Iran. *Podoces* 7(1& 2): 16–20.
- Yasmin, N. & Aju K. R., 2021. A record of the Black-winged Kite *Elanus caeruleus* breeding in the Lakshadweep Islands, Indian Ocean. *Indian Birds* 17 (1): 27–28.
- Wilson, D.E., & Reeder, D.M., 2005. *Mammal species of the world: a taxonomic and geographic reference*. JHU Press. Vol. 1. 2142 pp.

Sighting of
Laggar Falcon *Falco jugger*
in South Gujarat



Krunal Trivedi: Nature Club Surat, 81- Sarjan Society, Parle Point, Surat 395007, Gujarat, India.
krunal.trivedi.7567@gmail.com

Jagdish Parmar: Nature Club Surat, 81- Sarjan Society, Parle Point, Surat 395007, Gujarat, India.
jagdish@jagdishparmar.com

Introduction

The Laggar Falcon (*Falco jugger*) is a resident species in the Indian Subcontinent. Widespread across India with exception of certain parts of North-east India and East India (Grimmett *et al.* 2011). It was once a common falcon in India, but because of a rapid decline in population recently, the bird is now rare. It is believed that habitat degradation, pesticide use in food sources, and capture for falconry seem to be responsible for the moderately rapid and ongoing population fall (Naoroji 2007; Birdlife International 2020). It is classified as a "Near Threatened" species under IUCN Red List (2020). It is a medium-sized bird of prey, around 43-46 cm. According to studies, it is 'particularly common' in the country's desert and semi-arid regions and is rare in southern India (Naoroji 2006). In Gujarat, the Laggar Falcon is distributed from Western parts to Eastern border of Gujarat (Bhatt *et al.* 2018). It is reported as a "rare resident & winter visitor" by Ganpule (2016). The breeding ecology and local migration of the Laggar Falcon have not been studied yet in Gujarat.

Observation

On 19th June 2022, during our trip to Dang forest, we sighted a medium-sized bird of prey perching on a Kumbhi tree (*Careya arborea*) near Kodmal village (20°45'21.73"N, 73°48'59.97"E) of Dang District. The bird was very far from us not clearly visible to identify it properly. We took some photos for identification of the species. After a few minutes, the bird took a low flight toward the nearby hills. The bird had dark chocolatey brown plumage on the back with a plain whitish/creamish throat and streaks on the chest. Later, we identified the bird as Laggar Falcon using Grimmett *et al.* (2011) as a reference. This is probably the first record of this species from Dang District of South Gujarat. The nearest sighting of this species was from Dhudhkhed, Maharashtra in July 2021 (eBird). Multiple sighting of this species is reported from Anjaneri Hill of Nashik District and nearby areas of Maharashtra during the winter

season. We believe the population of Anjaneri Hill is a resident population and migrate towards South Gujarat during the Monsoon season due to the high abundance of prey availability. We recommend carrying out a detailed study in South Gujarat to understand the distribution, population trend and migration pattern of this less-studied species.

Acknowledgment

We are grateful to Snehal Patel and Nature Club Surat for their support and guidance. We would also like to thank Abhishek Shani and Saival Patel for accompanying us during the trip.

Reference

- Bhatt, N., Dixit, D., & Mori, D. 2018. Notes on distribution and plumages of Laggar Falcon in Gujarat. *Flamingo* 14 (3): 1-7
- BirdLife International. 2020. *Falco jugger*. The IUCN Red List of Threatened Species 2020: e.T22696492A181452933. (Accessed: July 13, 2022) <https://dx.doi.org/10.2305/IUCN.UK.2020-3.RLTS.T22696492A181452933.en>
- eBird. 2021. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: <http://www.ebird.org>. (Accessed: July 13, 2022).
- Grimmett, R., C. Inskipp & T. Inskipp. 2006. *Birds of the Indian Subcontinent*. Oxford University Press & Christopher Helm, London. 384 pp.
- Ganpule, P. 2016. The Birds of Gujarat: Status and distribution. *Flamingo* 8 (3) – 12 (4): 2-40.
- Naoroji, R. 2006. *Birds of Prey of Indian Subcontinent*. 1st edition. Om Books International. New Delhi. Pp. 597-604.

Owls versus Snakes



Photo: Dipak Vadher

Raju Vyas: 505, Krishnadeep Tower, Mission Road, Fatehgunj, Vadodara 390002, Gujarat, India
razoovyas@hotmail.com

Dipak Vadher: Yogeshwar bungalows 7, Meera Nagar Dargah Road, Junagadh, Gujarat-India.
dipakvadher1990@gmail.com

Pranav Vaghashiya: Vasundhara Nature Club, Amrutam, 193/Bapunagar, Joshipura, Junagadh 362002,
Gujarat, India. pranav4940@gmail.com

Owls....

Most owls are nocturnal and masters of predators as they are at the apex in their environments and, therefore, do not have many predators (König & Weick 2008). They also have a variety of defenses to protect themselves from their enemies, which makes them difficult to kill and hunt. However, few mammalian species are known as predators of owls (juveniles and adults), domestic cats, coyotes, bobcats, and foxes, which can easily kill an adult owl in searching for prey and young owls in an unattended nest (König et al. 1999). Usually, many owl species are masters of killers and are well capable of predating snakes (König & Weick 2008). There are very few incidences as owls are predated by snakes. However, very scanty records on owls were predated by snakes. Here, present a review of published literature and news on social media about a few owl species preying by a few species of snakes.

Recently, a remarkable observation was published on a predator of the Mottled owl (*Strix ocellata*) from Gujarat (Vadher et al. 2023). The Mottled Wood Owl is a large owl and is widely distributed in India and parts of Nepal (Grimmett et al. 2011). Gujarat is home to over 16 species of owls, including the Mottled Owl (Ganpule et al. 2022). Mottled owls commonly inhabit gardens, agricultural fields, and deciduous forests adjacent to the dry thorn forests of Gujarat State (Ganpule et al. 2022). The Girnar Wildlife Sanctuary is one of the important protected areas in the Saurashtra region, and it contains diverse avian diversity, including eight species of owls and owlets (Doshi 2021; Patel & Bagada 2022). Vadher et al. (2023) recorded the unusual feeding habits of the Indian Rock Python (*Python molurus*). An adult Indian rock python prey on a mottled owl (*Strix ocellata*). This is the first record of Mottled Owl consumed by Indian Rock Python (Figures 1 & 2) from India.



The present literature survey shows there are a few notable incidences as follows. Earlier, there was a record of a Flammulated Owl (*Otus flammeolus*) predated by the Gopher snake (*Pituophis catenifer*) in the USA (Rodriguez-Robles 2002). A publication shows Blanford's bridle snake (*Lycodon davisonii*) predated the eggs of the Ryukyus scope owl (*Otus elegans*) in Japan (Toyama et al. 2015). Also, two posts on social media show, on two different occasions, the snake was an attempt to catch an owl. A Gopher snake (*Pituophis catenifer*) tried to catch a Great horned

owl (*Bubo sp.*) in Texas, USA (Shaws 2017). In another case, a western diamondback rattlesnake (*Crotalus atrox*) was attacked on a great-horned owl (*Bubo virginianus*), but both attempts were unsuccessful by the snake (Martin 2020).

There was a published incident about prey and predator both found dead with severe injuries at a forest trail in the Ouachita Mountains of Arkansas, USA (Perry et al. 2001). A great-horned owl (*Bubo virginianus*) was found entangled with a large southern black racer snake (*Coluher constrictor priapus*). This owl species is a great hunter of snakes, and numbers of snake species are part of diets (Houston et al. 1998; Tyler & Jensen 1981; Wink et al. 1987). The scenario was suggested, it was a mutual death. It is believed that the owl was hunting the snake but the snake overwhelmed the owl. No one conquered, but they injured each other and finally, both died (Perry et al. 2001). However, nature is full of surprises, sometimes masters of predators were preyed on by other predators, too.

Acknowledgments

We thank the Deputy Conservator of Forests and Range Forest Officer, Wildlife Junagadh Division, Forest Department of Gujarat, and the Principal Chief Conservator of Forest (Wildlife), Gujarat, for their support.

References

Doshi, N. 2021. Girnar Wildlife Sanctuary. <<https://ebird.org/hotspot/L3313077>>

Ganpule, P., Varu, M., Trivedi, B. & Raina, A.D., 2022. *A field Guide to The Birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. Pp. i-viii+1-488.

Grimmett, R., Inskipp, C. & Inskipp, T., 2011. *Birds of the Indian Subcontinent*. 2nd ed. London. Oxford University Press & Christopher Helm. 528pp.

Houston, C. S., Smith, D.G. & Rohner, C. 1998. Great Horned Owl (*Bubo virginianus*). No. 372 in *The birds of North America* (A. Poole, A. & Gill, F. Eds.). The Birds of North America, Inc . Philadelphia, Pennsylvania.

König, C. & Weick,F. 2008. *Owls of the world*. 2nd ed. London: Christopher Helman. 528 pp.

Konig, C., Weick, F., & Becking, J.H. 1999. *Owls: A Guide to the Owls of the World*. Yale University Press, New Haven, Connecticut. 64P+462pp.

Martin, M. 2020. See A Snake Pounce On An Owl In Rare Attack Video. <<https://www.giantfreakinrobot.com/sci/snake-attack-owl-video.html>>

Patel, R. & G. Bagada. 2022. A Brief Avian Species Richness Report of Junagadh, Gujarat, India. *Journal of Forest Research* 11: 313.

Perry, R.W., Brown, R.E. & Rudolph, D.C. 2001. Mutual Mortality of Great Horned Owl and Southern Black Racer: a Potential Risk of Raptors Preying on Snakes. *Wilson Bulletin* 113(3):345-347.

Rodríguez-Robles, J. A. 2002. Feeding ecology of North American gopher snakes (*Pituophis catenifer*, Colubridae). *Biological Journal of the Linnean Society* 77:165-183. <https://doi.org/10.1046/j.1095-8312.2002.00098.x>

Shaws, E. 2017. Great horned owl vs gopher snake' produces a surprising victor (video). <<https://www.earthtouchnews.com/natural-world/predator-vs-prey/great-horned-owl-vs-gopher-snake-produces-a-surprising-victor-video/>>

Toyama, M., Kotaka, N. & Koizumi, I. 2015. Breeding timing and nest predation rate of sympatric Scops Owls with different dietary niche breadth. *Canadian journal of Zoology* 93:841-847. <https://doi.org/10.1139/cjz-2015-0060>

Tylek, J. D. & Jensen, .F. 1981. Notes on food habits of Great Horned Owls (*Bubo virginianus*) in Jackson County, Oklahoma. *Proceeding of Oklahoma Academy of Science* 61:28-30.

Vadher, D. Vaghashiya, P. & Vyas, R. 2023. Indian Rock Python (*Python molurus*) Preying on a Mottled Wood Owl (*Strix ocellata*) at Girnar Wildlife Sanctuary, Gujarat, India. *Reptiles & Amphibians* 30(1): e18740. <https://doi.org/10.17161/randa.v30i1.18740>

Wink, J., Senner, S.E. & Goodrich, D.L.J. 1987. Food habits of Great Horned Owls in Pennsylvania. *Proceeding of Pennsylvania Academy Science* 61:133-137.

Eastern Imperial Eagle *Aquila heliaca*

preying on

Western Marsh Harrier *Circus aeruginosus*





One can never have enough of Little Rann of Kutch (LRK) as it throws up surprises every time. LRK is a magical place n dream destination for wildlife lovers especially for raptors. In its 360-degree vastness, the trained eye of a birding guide will spot a prey bird that migrated from thousands of miles away, perching on a tiny wood stump or sitting, roosting on the ground that almost dissolves into the land around it.



I was returning from a morning safari. I am sharing thrilling wildlife moments of the natural world which I came across in 2016. I saw a Western Marsh Harrier (*Circus aeruginosus*) roosting on the ground. I thought of taking a ground-level shot so I got down from the car and slowly approached the bird. LRK has a unique charm with desert ecology beautiful surface patterns and merging horizons. Suddenly from nowhere mighty Eastern Imperial Eagle (*Aquila heliaca*) came and landed on Marsh Harrier. I was stunned and surprised to see the scene happening in front of me. Never thought of in my wildest dream that raptor killing a raptor. It was an amazing encounter and witnessed some epic moments. You simply won't believe your eyes.



Comments on food habits of Eastern Imperial

Eagle: This is the best example of the intraguild predation relationships in vertebrates are usually asymmetrical and size-based, with larger, dominant species preying on smaller ones (Polis et al. 1989; Holt & Polis 1997). It is noted that many predatory species act both as potential competitors and predators for each other or for other species of similar foraging habits (Petty et al. 2003). Here, a similar predation was observed in Eastern Imperial Eagle preying on Western Marsh Harrier by Shah (2023). Also, Bhatt & Dixit (2023) documented a Saker Falcon (*Falco cherrug*) preying on a Black-winged Kite (*Elanus caeruleus*).

In raptor guilds, there is often a hierarchical structure that appears to be maintained by larger or more aggressive species displacing smaller or less aggressive species rather than by direct killing (Newton 1979), although larger raptors are known to predate smaller ones (Uttendörfer 1952). However, Eastern Imperial Eagle (EIE) *Aquila heliaca* is a large-size raptor species breeding from Central Europe, the Balkans, Central Asia, and South Siberia to China and Mongolia (BirdLife International 2021). Eastern Imperial Eagle is a winter visitor and is uncommonly found in many parts of Gujarat (Ganpule et al. 2022). A recent study shows that the EIE is a top predator exploiting different prey in different parts of its distribution (del Hoyo et al. 1994). The great diversity of species in the food spectrum of the EIE proved its opportunism towards feeding (Demerdzhiev 2011). The literature survey indicated that EIE is predated various types of prey, including two hundred different taxa in the food menu, including Western Marsh Harrier *Circus aeruginosus* (Demerdzhiev et al. 2022). – **Raju Vyasa, Editor Note.**

References

BirdLife International. 2021. Species factsheet: *Aquila heliaca*. Downloaded. <http://www.birdlife.org>. Accessed on: 12th June 2023.

Bhatt, N. & Dixit, D. 2023. Saker Falcon *Falco cherrug* preying on Black-winged Kite *Elanus caeruleus* with notes on observation of prey of Saker falcon and on

raptors feeding other raptors. *Flamingo Gujarat* 6 (2): 65-66.

del Hoyo, J., Elliott, A., & Sargatal, J. 1994. Handbook of the birds of the world. In: del Hoyo, J., Elliott, A., & Sargatal, J. (Eds) *New World vultures to guineafowl*. 2. Lynx Editions, Barcelona.

Demerdzhiev, D. 2011. Eastern Imperial Eagle (*Aquila heliaca heliaca* Savigny, 1809) (Accipitridae – Aves) in Bulgaria – distribution, biology, ecology, numbers, and conservation measures. National Museum of Natural History, Bulgarian Academy of Science, Sofia, 180 pp. [In Bulgarian with English Summary].

Demerdzhiev, D., Boev, Z., Dobrev, D., Terziev, N., Nedyalkov, N., Stoychev, S., & Petrov, T. 2022. Diet of Eastern Imperial Eagle (*Aquila heliaca*) in Bulgaria: composition, distribution and variation. *Biodiversity Data Journal* 10: e77746. <https://doi.org/10.3897/BDJ.10.e77746>

Ganpule, P., Varu, M., Trivedi, B., & Raina, A. D. 2022. *A field guide to the birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488pp.

Holt, R.D., Polis, G.A. 1997. A theoretical framework for intraguild predation. *American Nature* 149:745-64.

Newton, I. 1991. Population limitation in birds of prey: a comparative approach. In Perrins, C.M., Lebreton, J.-D. & Hiron, G.J.M. (Eds) *Bird Population Studies: Relevance to Conservation and Management*: 3–21. Oxford: Oxford University Press.

Petty, S.J., Anderson, D.I.K., Davison, M., Little, B., Sherratt, T.N., Thomas, C.J., & Lambin, X. 2003. The decline of common kestrels *Falco tinnunculus* in a forested area of northern England: the role of predation by northern goshawks *Accipiter gentilis*. *Ibis* 145: 472-83.

Polis, G.A., Myers, C.A., Holt, R.D. 1989. The ecology and evolution of intraguild predation: potential competitors that eat each other. *Annual Review of Ecology System* 20: 297-330.

Shah, F. 2023. Eastern Imperial Eagle *Aquila heliaca* preying on Western Marsh Harrier *Circus aeruginosus*. *Flamingo Gujarat* 6 (2): 20-21.

Uttendörfer, O. 1952. *Neue Ergebnisse über die Ernährung der Greifvögel und Eulen*. Stuttgart: Verlag Eugen Ulmer. (In Germany).

Eurasian Hobby *Falco subbuteo*
in Bopal, Ahmedabad





Eurasian Hobby (*Falco subbuteo*) is an elegant and long-winged Falcon with a range extending throughout Europe, Africa, and Asia. The adult has gray upper parts, boldly streaked and buffy underparts, and red thighs. The juveniles have a brownish body with pale-edged feathers, pale crown, and buff undertail-coverts. The *F. subbuteo* primarily spends the winter in Africa, and a significant amount of its population passes through the Indian Subcontinent. It prefers habitats in plains or foothills at lower altitudes but can also be encountered up to 4000m ASL in India (Orta et al. 2020). As per the available data (Ebird 2023), Eurasian Hobby is found in Gujarat from early September to February before migrating to Africa and from April to June for return migration to their breeding sites. The Eurasian Hobby is a regular migrant to Gujarat during migration and can be expected in scattered areas across the region.

On October 7, 2022, I saw a migrating adult Eurasian Hobby flying towards the North over the Bopal, Ahmedabad. The bird was observed at around half past three, flying over a region with intensive construction and without any suitable habitat for a considerable distance. The bird was distinct in the field due to its slender structure

and streamlined wings. It was later identified by its dark facial mask, bold streaks on the belly, rusty vent, and finely barred underwing lacking the black trailing edge (Photo 1). Two days later, on October 9, 2022, another Eurasian Hobby was observed flying with the same pattern. This individual was identified as a juvenile due to the duller coloration, extensively streaked body, and lack of a rusty tinge on the vent. (Photo 2)

Most records of Eurasian Hobby are concentrated around the Nalsarovar (Viramgam) area, while only two prior records exist near the metropolitan Ahmedabad, Gujarat (<https://ebird.org/checklist/S65205174>;

<https://ebird.org/checklist/S22165732>). This is the second photographic record from the region and the third overall record. (<https://ebird.org/species/eurhob/IN-GJ-AH>)

References

Orta, J., G. M. Kirwan, & Marks, J.S. 2020. Eurasian Hobby (*Falco subbuteo*), version 1.0. In Birds of the World (J. del Hoyo, A. Elliott, J. Sargatal, D. A. Christie, and E. de Juana, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.eurhob.01>

Sighting of
European Honey Buzzard (*Pernis apivorus*)
x
Oriental Honey Buzzard (*Pernis ptilorhynchus*)
hybrid from Bharuch, and notes on its identification



Honey Buzzard....

On 19th January 2020, while exploring the wetlands around Motvan, Bharuch, I came across three individuals of Honey Buzzards (*Pernis* sp.) soaring in the afternoon. All of them were initially identified as Oriental Honey Buzzards (*Peris ptilorhynchus*). Fast forward three years later, ongoing through the archives, I noticed that one of those buzzards had prominently dark carpal patches. Other than the dark carpal patches, the bird had an absent mesial stripe, characteristic of European Honey Buzzard. The bird wasn't in a definitive plumage though which made the identification harder.

On communicating with renowned raptor expert Dick Forsman, regarding this buzzard, his opinion is given below. *'Thanks for getting in touch regarding this hybrid. To me, it looks like a hybrid. If it was a European of this rather light color morph, it should have more distinct carpal patches, for*



one thing. Also, the silhouette looks intermediate, so I believe this is a female-type hybrid/backcross. It doesn't look like a proper European I'm used to seeing.'

Thus, the bird was finally concluded as a hybrid rather than a pure European Honey Buzzard. There has been a recent rise in the reports of such hybrid individuals across West and South India (Table 1). Apart from hybrids, there have been several reports of 'pure' European Honey Buzzards from the southern part of the country (Anand et.al 2020). In addition, two birds have been reported from Gujarat too. One was a storm-swept individual recovered from the coast of Porbandar (Vargiya et al. 2020) and the other was from Bhavnagar (Bhil 2022).

Since both of the congeners are morphologically similar to each other and may cause confusion in field identification, it tries to summarise all the identification keys for 'pure' European Honey Buzzards (Table 2). Note that pale morphs are easy to distinguish but the dark morphs need careful evaluation and scrutiny. Identification in detail has been covered by several authors (Forsman 2016; Faveyts et al. 2011; Campbell et al. 2016; Corso 2009; Scuderi & Corso 2011). Hybrid individuals show overlapping characters of both species and are best identified by eliminating both the 'pure' individuals. There is a good chance that European

Table 1: Confirmed hybrid reports across India

Sr. No.	Date	Location	State	Reference
1	19 January 2020	Motvan, Bharuch	Gujarat	Present Study
2	29 March 2020	Kannur	Kerala	Munderi 2020
3	10 April 2020	Kozhikode	Kerala	Paleri 2020
4	6 December 2020	Kottayam	Kerala	Balagopal 2020
5	15 September 2021	Kasaragod	Kerala	Puravankara 2021
6	11 January 2022	Thrissur	Kerala	Chandran 2022
7	14 February 2022	Mumbai	Maharashtra	Sharma 2022
8	18 April 2022	Chennai	Tamil Nadu	Neelamegam 2022
9	18 December 2022	Mumbai	Maharashtra	Urs 2022
10	3 February 2023	Kottayam	Kerala	Issac 2023

Table 2: Summarise all the identification keys for pure European Honey Buzzards

Features	European Honey Buzzards	Oriental Honey Buzzards	Author's Bird
Carpal Patch	Dark; Well defined	None (present in dark morph)	As in European
No. of 'fingers'	Five	Six	Not well visible
Mesial Stripe	Absent/short	Present	As in European
Gorget on throat	Absent/short	Present	As in European
Tail Pattern	Terminal dark bar followed by two finer bars	Two broad black bars (of variable intensity)	Intermediate between the two
Outer bar of secondaries	Doesn't reach the body (gradually perishes into the coverts)	Reaches the body	As in Oriental
GISS	Smaller, slimmer, longer tail & narrower wings	Larger, bulkier, shorter tail & broader wings	Intermediate between the two

Honey Buzzards and its hybrids with Oriental Honey Buzzards are often overlooked by birders across Gujarat. Birders are recommended to be aware of such potential individuals.

References:

Anand, V., Aiyappa, P., Pavukandy, U., & Forsman, D., 2020. The European Honey-Buzzard *Pernis apivorus* in India, and notes on its identification. *Indian BIRDS* 16 (2): 45-47.

Balagopal, V. K. 2020. <https://ebird.org/checklist/S77130021> [Accessed on 20th May 2023]

Bhil, M., 2022. <https://ebird.org/india/checklist/S128357648> [Accessed on 20th May 2023]

Campbell, O., & Babbington, J., 2016. Recent status and occurrence of Crested Honey Buzzards *Pernis ptilorhynchus* in the Arabian peninsula, with emphasis on Saudi Arabia and the United Arab Emirates. *Sandgrouse* 38: 12-22.

Chandran, Vivek. 2022. <https://ebird.org/checklist/S100539643> [Accessed on 20th May 2023]

Corso, A., 2009. Identification of some autumn raptors in Egypt. *Birding World* 22 (7): 300-308

Faveyts, W., Valkenburg, M., & Granit, B., 2011. Crested Honey Buzzard: identification, western occurrence and hybridisation with European Honey Buzzard. *Dutch Birding* 33 (3): 149-162.

Forsman, D., 2016. *Flight identification of raptors of Europe, North Africa and the Middle East*. London: Bloomsbury, Christopher Helm. 544pp.

Issac, Christopher John. 2023. <https://ebird.org/checklist/S127507737> [Accessed on 20th May 2023]

Munderi, Abdul Raheem. 2020. <https://ebird.org/checklist/S66429950> [Accessed on 20th May 2023]

Neelamegam, Rama. 2022. <https://ebird.org/checklist/S107360466> [Accessed on 20th May 2023]

Paleri, Abdulla. 2020. <https://ebird.org/india/checklist/S67016541> [Accessed on 20th May 2023]

Puravankara, Shyamkumar. 2021. <https://ebird.org/india/checklist/S94690689> [Accessed on 20th May 2023]

Scuderi, A., & Corso, A., 2011. Crested Honey Buzzard in Europe. *Birding World* 24 (6): 252-256.

Sharma, Dinesh. 2022. <https://ebird.org/india/checklist/S104358586> [Accessed on 20th May 2023]

Urs, Ronith. 2022. <https://ebird.org/checklist/S132355588> [Accessed on 20th May 2023]

Vargiya D, Ganpule P, Thanki N, & Pitroda P. 2020. First record of European Honey Buzzard *Pernis apivorus* for India. *BirdingASIA* 33: 128-131.

Western Marsh Harrier *Circus aeruginosus*

unique way of hunting prey by drowning



On 11th February 2007. Co-birder Dr. Mukesh Samani and I were birding at Ishwariya Pond, Rajkot. I saw a Western Marsh Harrier (*Circus aeruginosus*) attacking an Egret foraging in shallow water. After two successive attacks, Western Marsh Harrier (*Circus aeruginosus*) succeeded and caught Egret by its claw. Surprisingly, it was not moving and was seated on its prey (Photo 1A), making it underwater. Western Marsh Harrier was making suffocate egret under water. After some time, when it felt that Egret was dead it leisurely flew and perched on a nearby babul tree. (Photo 1B). The dead egret was floating and moving slowly with the wind. Western Marsh Harrier was watching its prey constantly from perch. A few minutes later, Western Marsh Harrier took flight and lifted the floating Egret with claws after two trials from the water's surface and landed far on the bank. (Photo 1C & Photo 2).

In searching for literature on the hunting behavior of harriers, I found a historical note by Shri Humayun Abdulali's observation of a Western Marsh harrier drowning a duck by settling on it in water at a pond in Nasik district, Maharashtra (Abudulali 1958). A similar hunting technique was noted on the website (<http://www.pauldfrost.co.uk/mharrier.html#:~:text=They%20will%20eat%20birds'%20eggs,itself%2C%20until%20it%20was%20dead>) of the United Kingdom on Raptors is mentioned as '*Marsh Harrier has been observed drowning its prey after capturing it on the water, it sat on its prey, almost chest height in water itself until it was dead*'

Reference

Abdulali, H. 1958, Deliberate drowning by raptorial bird. *Journal of Bombay Natural History Society* 55(2): 353-354.

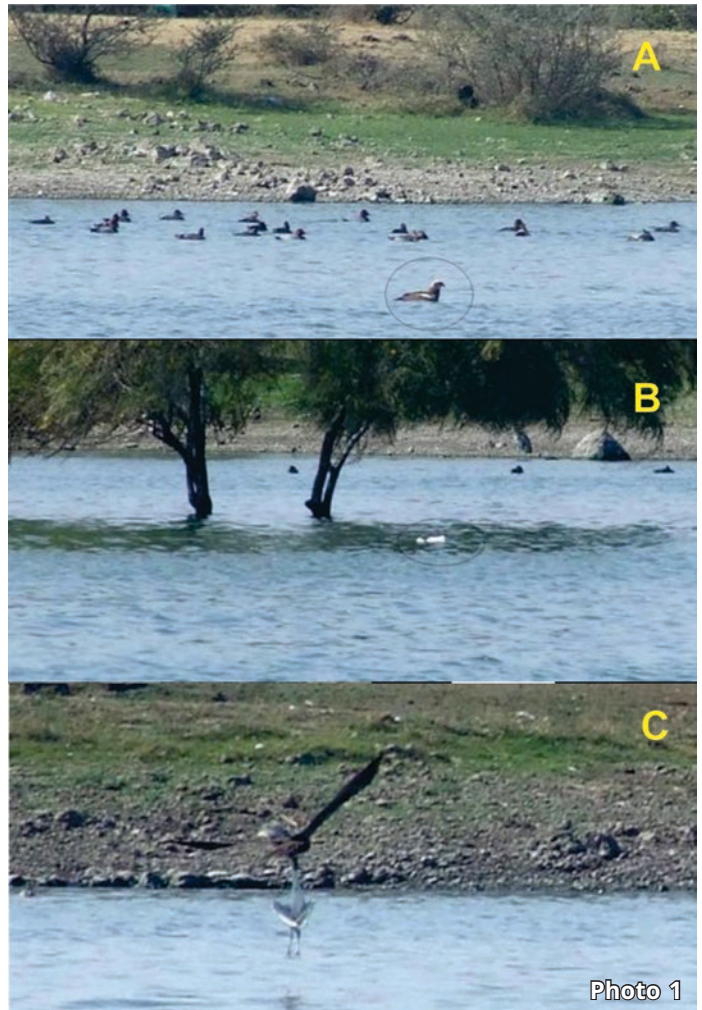


Photo 1



Photo 2

Birding in Banaskantha related to
Egyptian Vulture *Neophron percnopterus*



Abstract: Banaskantha district covers various types of ecosystems like; cropland, terrain, desert, urban etc. Its terrain consists of hills with cliff faces, valleys, and riverine forests. Jessore Wildlife Sanctuary, Balaram-Ambaji Wildlife Sanctuary, a part of Wild Ass Sanctuary known as Nalabet as well as River Banas and other water bodies play an important role in sustaining rich biodiversity. Local people of the area are engaged mainly with farming and cattle rearing. Banas Dairy is a well-known milk industry. In the district numbers of Gaushalas and Panjarapols are run by charity trusts and local people. Dumping sites nearby the Gaushalas and Panjarapols attract scavengers. During our visits, we found good numbers of Egyptian Vultures at Mervada Panjarapol, Kant Panjarapol, and Banas Dairy sites.

Introduction

A complete ecosystem is developed by biotic and abiotic elements, which underpin the stability of nature. When a component of the eco-cycle weakens or gets unwell, the entire bio community is disrupted. Scavengers are essential to the ecology, vertebrate scavengers provide various ecosystem services, including cultural (e.g., spiritual value), supporting (nutrient cycling), and regulating services (carcass removal from the landscape) (Wenny et al. 2011; DeVault et al. 2016). Vultures perform a vital role in nature's sanitation process by eating meat from carcasses (Houston 1974). Through their scavenging service, they provide a clean and healthy atmosphere. They defend the planet from diseases like anthrax and rabies (Anon 2016).

Total 23 species of vultures divided in two groups viz., old and new world vultures. 9 species of Old-world vultures are found in India (Ali & Ripley 1987) among them 7 species of vultures are found in the Gujarat State (Kamboj et al. 2016), out of them 4 species are residential viz., Egyptian Vulture *Neophron percnopterus*, Red-headed Vulture *Sarcogyps calvus*, White-rumped Vulture *Gyps bengalensis*, Indian (Long-billed) Vulture *Gyps indicus* and 3 are migratory; Himalayan Griffon

Gyps himalayensis, Griffon Vulture *Gyps fulvus*, and Cinereous Vulture *Aegyptius monachus* (Kamboj et al. 2016).

The most drastic decline of all in vulture populations occurred over the Indian subcontinent since the 1990s (Prakash 1999, Prakash & Rahmani 1999). Related to this matter many research have done and going on. (Saran & Purohit 2014; Kumboj et al. 2016). It is varied to know Egyptian Vulture population has declined by up to 90% in the last decades (BirdLife International 2017).

Our observations shows that the Banaskantha District provides a healthy environment for Egyptian Vultures. Thus, they are sighted in huge amounts as compared to other regions. Between December to March maximum numbers of individuals were observed in the district, which was up to 600-700 birds at Mervada Panjarapol.

Materials and Methods

The present study shows the population status at various sites located in Banaskantha (BK) district of Gujarat state, India. We mentioned data in this paper on the bases of time-to-time observations of our group members between 2006 to 2022. Birds are spotted with the naked eye as well as by Binoculars and photographs captured by Cannon and Nikon Cameras. Geographically, Banaskantha is located between latitudes 23° 35' and 24° 43' N and 71° 0' and 73° 0' E on the northwest of Gujarat state and bordering Rajasthan state as well as sharing the international border with Pakistan. The area of the district is 10754.7 km², which accounts for 5.5% of the total area of the state and is considered as the third largest district of the state. BK is spread across a plain, saline area that resembles a desert in the west and a curving, hilly area in the north and northwest. Jessore Wildlife Sanctuary and Balaram Ambaji Wildlife Sanctuary are the reserve forest habitat in this region, which supports rich biodiversity. Aravalli hills are the origins of the majority of the rivers. These rivers completely rely on the monsoon and dry up in the summer. Banas, Sipu, Balaram,



Photo 1

Arjuni, Sarawati, Sabarmati and Umaradashi are some of the significant rivers. The three distinct seasons of the climate are the monsoon, which lasts from July to September with brief breaks sometimes, winter, which lasts from October to February, and summer, which lasts from March to the end of June. The temperature in the north Gujarat region varies greatly, dropping to 5 °C in the winter and rising to 46 °C in the summer. Average rainfall during the monsoon season is 731 mm (GFS-2020-21), which creates the perfect environmental conditions for the occurrence and quantity of various flora and fauna.

Results and Discussion

The Egyptian Vulture was listed as endangered species in Red Data Book (IUCN 2007). This vulture species is worldwide threatened with extinction and the most rapid declines have occurred in the vulture-rich regions of Asia and Africa (Saran & Purohit 2014; BirdLife International 2018). It is categorized by the Convention on International Trade in Endangered Species of Wild Fauna and Flora, category II as per Indian Wildlife Protection Act, 1972. The Egyptian Vulture found resident species in some parts of Banaskantha district. It's gujarati name is 'Khero', whereas local people of Banaskantha called them 'Safed samadi'.

Egyptian Vultures normally feed on carrion and generally prefer forested habitats to human-dominated areas. Ali & Ripley (1987) however, highlight that the Egyptian Vulture can persist near human habitation and that it forages in refuse dumps. It is therefore an opportunistic scavenger that uses a variety of food sources in its diet. The aim of the present study was to check the population status and feeding sites of Egyptian Vultures in a selected area of Banaskantha.

The importance of the Gujarat state as a stronghold of vultures has been linked with the state's important role in dairy industry and livestock rearing. A large population of cattle and other livestock supporting the dairy industry naturally resulted in higher availability of carcasses that serve as food for various vulture species (Pandey et al. 2007). The crisis of vulture population declines in the country came to limelight in early 1990s (Pandey et al. 2007), Even after that, Gujarat was a state with good vulture diversity.

The Egyptian Vultures are large-distance migratory birds; they move Europe, Africa, and Asia. In Indian Subcontinent they observed residents and migrants (Bird Life International 2018). A huge congregation of Egyptian Vultures was recorded in Afar region, Sudan, Oman, and Chad. In India,

Table 1 - Scavenging Species at Mervada Panjarapol (Palanpur)

Sr No	Common Name	Species
1	Steppe eagle	<i>Aquila nipalensis</i>
2	Greater spotted eagle	<i>Clanga clanga</i>
3	Egyptian vulture	<i>Neophron percnopterus</i>
4	Red-wattled lapwing	<i>Vanellus indicus</i>
5	House crow	<i>Corvus splendens</i>
6	Jungle crow	<i>Corvus macrorhynchos</i>
7	Common myna	<i>Acridotheres tristis</i>
8	Bank myna	<i>Acridotheres ginginianus</i>
9	Black drongo	<i>Dicrurus macrocercus</i>
10	Brahminy starling	<i>Sturnia pagodarum</i>
11	Long-tailed shrike	<i>Lanius schach</i>
12	Cattle egret	<i>Bubulcus ibis</i>
13	Red-naped ibis	<i>Pseudibis papillosa</i>
14	Black-headed ibis	<i>Threskiornis melanocephalus</i>
15	Owl sp.	-
16	Wild boar	<i>Sus scrofa</i>
17	Feral dog	<i>Canis lupus familiaris</i>
18	Jungle cat	<i>Felis chaus</i>
19	Striped hyena	<i>Hyaena hyaena</i>
20	Small Indian civet	<i>Viverricula indica</i>
21	Bengal monitor lizard	<i>Varanus bengalensis</i>

large congregations were recorded in Rajasthan during 2004 of 1171 individuals of Egyptian Vultures (Chhanagani 2005). Mishra et al (2018), studied a state-wise congregation of Egyptian Vultures in UP more than 800 individual were noted. In Gujarat, the state-wise estimation carried out by GEER Foundation, Gandhinagar during May 2012 and May 2016, while the count of Egyptian Vultures was observed 97 and 132 respectively (Kamboj et al. 2016).

We nature lovers frequently go for birdwatching in nearby places around Palanpur, Banaskantha District. The first author (SP) collected some counts during his research work on Ecology of Common Avian Species in the Balaram-Ambaji Wildlife Sanctuary. Related to research work selected Hathidra site (20 km from Palanpur in east) for bird data collection during 2006-2008 and sighted

49-63 individuals of Egyptian Vulture (Photo 1). A good number of Egyptian Vultures sighted at Banas Dairy from September 2012 to December 2012 by our teams members Sanjay Patel and Prakash Chaudhary. During the observation, they found 51-59 Egyptian Vultures. Dr Mayank Shah a Physician, observed 100+ Egyptian Vultures in November 2013 at Mervada Panjarapol site. On January 14, 2014 we observed around 300 individuals. During the tracking on February 26 and March 5, 2017 at Ranitunk site (West side of Jessore Wildlife Sanctuary) Kailas Jani and others observed 19 and 3 individuals respectively. During both the visit they found a pair involved in mating. We observed 400-500 Egyptian Vultures on December 29, 2017 while on January 13, 2018 they were in huge numbers around 600-700 individuals at Mervada Panjarapol site. On this site 420-500 Egyptian Vultures were sighted on



March 4, 2018 and 42 individuals on October 12, 2018.

Sagar Dave, PG student HNGU, Patan did survey on Population status of the Egyptian Vulture at various sites like Mervada Panjarapol, Banas Dairy and Kant Panjarapol during December 2018 to March 2019 and he observed Mervada Panjarapol is the richest site about Egyptian Vulture. During the data collection he sighted 123-257 individuals at MP, 6-21 at BD and 47-83 at KP. He also observed site wise population of adults, sub-adults, and juveniles. At MP 31-64 adults, 35-82 sub-adults and 39-134 juveniles; at BD 0-6 adults, 0-8 sub-adults and 0-9 juveniles, while at KP 8-24 adults, 11-26 sub-adults and 19-34 juveniles sighted by him. Mayank Judal, PG student HNGU, Patan studied on similar site that the carcasses were visited by a diverse group of 21 vertebrate species, including 15 species of birds, five mammals, and one reptilian species, were seen feeding on carcasses (Table 1).

On December 10 & 11, 2022 birdwatchers surveyed vulture species and their numbers in Banaskantha (The program organized by GEER foundation). During this survey, the team members went to various sites like; Mervada Panjarapol, Kant Panjarapol, Banas Dairy, Ranitunk, Sardar

Dantivada Agriculture University (SDAU) campus, Bhakhar Hill, Sodal Panjarapol, Vid Panjarapol and Jessore hill. Out of them, Mervada Panjarapol, Kant Panjarapol, Banas Dairy, Ranitunk, Bhakhar Hill and SDAU were the sites where 412, 314, 15, 4, 5, and 3 individuals were sighted respectively.

Compared to other regions of Gujarat state, Banaskantha found very potential for population of Egyptian Vultures (Table 2). It is also observed that Mervada Panjarapol is richest site where good numbers of individuals of this species counted (Photo 2) followed by Kant Panjarapol and Banas Dairy. Jessore, Ranitunk, Bhakhar Hill and SDAU are the other sites where 3-4 Egyptian Vultures were counted. During birdwatching, Kailas Jani observed nesting activities of Egyptian Vulture at Ranitunk and Sankleshwari hills. One working nest was sighted near Isaria (Virampur) and another at the Bhakhar Hill site.

Mervada Panjarapol is located 20 km away from Palanpur on 24°14'37"N, 72°33'51"E. Panjarapol was established in 1973 by an authorized charity trust for serving unhealthy or unfertile cattle. This site is spread over 400 acres of land covered with cropland and forest, which provides shelter to around 2100-2500 cattle. Dumping sites of Panjarapol dump 12-15 carrion



Photo 3

every day which provides rich amount of food to this vulture and other wildlife fauna (Dave 2019). Most frequent numbers of scavengers are found at the study site (Table 1) (Judal 2023). Various birdwatchers noted that winter is favourable for this species, when 500+ Egyptian Vultures were observed. As per my observation during 2018 sighted 42-700 individuals on this site. Nearby the region Hathidra Hills are helpful to roosting and breeding activities of Egyptian Vulture (Photo 3).

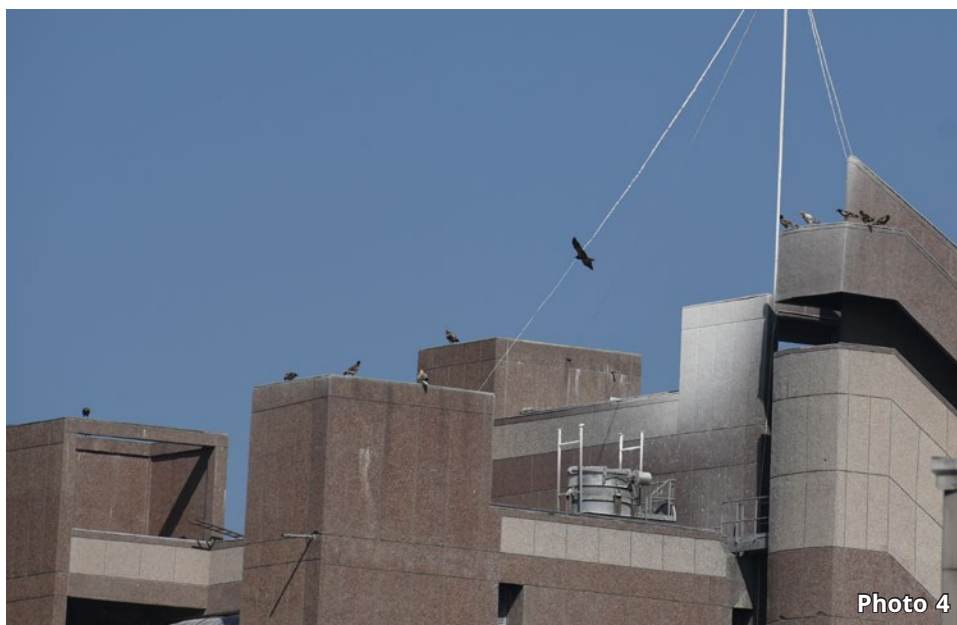


Photo 4

Kant Panjarapol, Deesa (24°26'60"N, 72°24'17"E) is another site, where noted good numbers of this species. As per Dave's observations (2019) this shelter home provides shelter around 1100-12000 cattle like cow, buffalo, camel got, sheep etc. During the Vulture census-2016 as part of GEER foundation team, we observed some Egyptian Vultures on this site and Dave (2019) counted 47-83 individuals of this species. Last December was found with richest record while 314 Egyptian Vultures were sighted on this site.



Photo 5

Banas dairy, Palanpur (24°08'16"N, 72°26'21"E) is largest milk industry in Asia located close to Palanpur urban area. During year of 2010 when I pass through dairy side road some Egyptian Vultures were resting on roadside trees and a few were in flight. It was also observed that some birds were

Table 2 - Population of Egyptian Vulture at various sites of Banaskantha during the study

Sr. No.	Site	GPS	Date	Count	Remark
1	Hathidra Hills, Palanpur	24°13'43"N 72°36'11" E	2006	56-58	Suresh
2	Hathidra Hills, Palanpur	24°13'43"N 72°36'11" E	2007	46-62	Suresh
3	Hathidra Hills, Palanpur	24°13'43"N 72°36'11" E	2008	49-63	Suresh
4	Banas Dairy, Palanpur	24°08'16"N, 72°26'21"E	2012	51-59	Sanjay, Prakash & Suresh
5	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	Nov- 2013	100+	Dr Shah
6	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	14/01/2014	290-300	Suresh
7	Ranitunk, Dantivada	24°23'06"N, 72°24'01"E	26/02/2017	19	Kailas Jani Observe mating
8	Ranitunk, Dantivada	24°23'06"N, 72°24'01"E	05/03/2017	3	Kailas Jani Observe mating
9	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	29/12/2017	400-500	Suresh
10	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	13/01/2018	600-700	Dr Shah
11	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	04//03/2018	420-500	Suresh & Kailas Jani
12	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	12/10/2018	42	Suresh & Kailas Jani
13	Kant Panjarapol, Deesa	24°26'60"N, 72°24'17"E	Dec-2018	47-56	Sagar Dave
14	Kant Panjarapol, Deesa	24°26'60"N, 72°24'17"E	Jan-2019	71-83	Sagar Dave
15	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	10/02/2019	80-90	Sagar Dave
16	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	17/02/2019	180-200	Sagar Dave
17	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	10/12/2022	375	Soni & Judal
18	Mervada Panjarapol, Palanpur	24°14'37"N, 72°33'51"E	11/12/2022	412	Nemi & Judal
19	Banas Dairy, Palanpur	24°08'16"N, 72°26'21"E	10/12/2022	15	Kailas Jani
20	Ranitunk, Dantivada	24°23'06"N, 72°24'01"E	11/12/2022	4	Kailas Jani
21	Kant Panjarapol, Deesa	24°26'60"N, 72°24'17"E	10/12/2022	314	Sutariya & Hadiya
22	Bhakhar Hill, Dantivada	24°16'38"N, 72°17'18"E	10/12/2022	5	Sutariya & Hadiya
23	SDAU, Dantivada	24°19'19"N, 72°19'13"E	10/12/2022	3	Sutariya & Hadiya

feeding on the roof of milk processing unit (Photo 4). September to December 2012 My students Patel Sanjay and Chaudhary studied the site focused on Egyptian Vultures activity. During the observations they found 51-59 Egyptian Vultures as solitary or in small groups which feed on the roof of Banas Dairy powder plant. In morning 7.00 to 10.30 the birds were observed mostly involved in foraging when they feed on milk power deposited there. At noon time they observed on trees of inside and around the campus as well as in hovering. A research poster prepared with these data on the title 'Foraging Observations on Egyptian Vulture (*Neophron percnopterus*) at Banas Dairy, Palanpur', in the National Seminar jointly organized by BCSG and ASPEE College of Horticulture and Forestry, NAU, Navasari on January 22, 2012. As an employee of the dairy Kailash Jani frequently observed Egyptian Vultures around and inside this industry. He noted foraging activities such like observed by Patel, Chaudhary and Prajapati (2012). Kailash Jani captured some photographs of this bird while they were foraging milk powder (Photo 5).

Conclusions

Our observation shows that the Banaskantha is rich region about Egyptian Vulture population. During winter the bird count increased largely where during summer and monsoon, it's numbers found decreased. Directly or indirectly cattle support to this species. Forest and Hilly habitat observed breeding sites for them.

Acknowledgments

I am thankful to Dr Mayank Shah, Dr Hetal Bhalakiya, Sagar Dave, Mayank Judal, Nemi Prajapati and Mehul Makvana for company me during birdwatching and data collection.

References

Ali, S. & Ripley, S.R. 1987. *Handbook of Birds of the birds of India and Pakistan*, Oxford University press, New Delhi, Pp.296-314.

Anon. 2016. Vulture: An Endangered Bird. *Punjab ENVIS Newsletter* 13(1&2).

BirdLife International. 2017. *Neophron percnopterus*. The IUCN Red List of Threatened Species 2017:e.T22695180A118600142 <http://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T22695180A118600142.e>

BirdLife International. 2018. Birdlife Data Zone. <http://www.birdlife.org/datazone/home>. Accessed 19 Jan 2017.

Chhangani, A.K. 2005. Population ecology of Vultures in the western Rajasthan, India. *Indian Forester* 131: 1373-1382.

Dave, S. D. 2019. Population status of the Egyptian Vulture: A case study in Banaskantha District, Gujarat. MSc Zoology Dissertation thesis, HNGU, Patan Pp.30-34.

DeVault, T. L., Beasley, J., Olson, Z. H., Moleón, M., Carrete, M., Margalida, A., & Sánchez-Zapata, J. A. 2016. Ecosystem services provided by avian scavengers.

Judal, M.L. 2023. Study on participatory feeding of vertebrate scavengers and their ecosystem services. MSc Zoology Dissertation thesis, HNGU, Patan Pp. 26-33.

Houston, D. C. 1974. The role of griffon vultures (*Gyps africanus*) and (*Gyps ruppellii*) as scavengers. *Journal of Zoology* 172: 35-46.

IUCN. 2007. Extinction crisis escalates: Red List shows apes, corals, vultures, dolphins all in danger, Press Release Sept 11, 2007.

Kamboj, R.D, K. Tatu & Munjpara, S.B. 2016. Status of vultures in Gujarat-2016. Gujarat Ecological Education and Research (GEER) Foundation, Gandhinagar Pp.25.

Mishra, S., Kumar, A., Sharma D.S, & Kanaujia, A. 2018. Congregations of two subspecies of Egyptian Vulture *Neophron percnopterus* in Unnao district of Uttar Pradesh, India, *International Journal of Life Sciences*6(4):905-910.

An unusual
Steppe Buzzard *Buteo buteo vupinus*
in Little Rann of Kachchh





On 3 January 2021, I was visiting the western part of the Little Rann of Kachchh, near the village of Tikkar, with Jignesh Miyatra, for bird watching. At around 09:00 hrs, we saw a small-sized *Buteo* buzzard perched on a wooden stick tied by the salt-pan workers. We went closer and saw that it was like a Steppe Buzzard (*Buteo buteo vulpinus*) but its plumage was quite odd for a Steppe Buzzard. A brief description of the bird is provided here:

It had white underparts, with pale brownish streaking on upper breast and belly; the streaking was thin, irregular and sparse; lower belly-sides were darker brownish with barring while central

belly was pale; throat was pale rufous; prominent whitish supercilium was apparent. The mantle was dark brown while the scapulars and wings were pale brownish, blotched with white. The tail lacked rufous and was barred, with darker sub-terminal tail band. The underwings had a dark trailing edge, showing barred secondaries and lacked a dark carpal patch but had a dark carpal 'comma'. It could be aged as a juvenile based on its eye (pupil discernable). We were able to take many photographs. On 17 January 2021, I visited this area again with Ashok Mashru and Manoj Finava. We saw this bird once again, which was easily identified as the same individual due to its distinctive plumage. We took good photographs, including photos showing the underwings. A few photos are given here.

The Steppe Buzzard is very variable in plumage and occurs in different morphs; fox-red, grey-brown, dark rufous and black (Forsman 2006). All types of morphs are seen in Gujarat (Ganpule & Bhatt 2014). The Steppe Buzzard is uncommon in this area but a few individuals are seen here almost every year. However, having seen many Steppe Buzzards over the years, I found this individual to be very different from the birds usually seen in these parts as the plumage was different and the underpart markings were not at all like those seen in typical juvenile *vulpinus*; the underpart streaks are usually 'tear-drop' shaped and underparts are more uniform and regularly streaked. Further, there is no 'pale' morph in *vulpinus* but some juveniles can appear very light (Forsman 2016). Hence, this individual did not match with the typical juvenile *vulpinus* seen here.

I sent the photos to Dick Forsman, Andrea Corso, Nils van Duivendijk and Arend Wassink for their opinions. Dick Forsman replied (*in litt.*, email dated 12 May 2023) that the identification was tricky; this was a likely *vulpinus* but it could be from an area where different taxa meet and the possibility that this bird could carry some nominate *buteo* genes could not be excluded. Nils van Duivendijk and Arend Wassink replied (*in litt.*,



by email) that this could be an Eastern Buzzard *B. japonicus* or Himalayan Buzzard *B. refectus*; they further added that nominate *japonicus*, which is a winter visitor and passage migrant in Kazakhstan, often lacks prominent carpal patches and the 'plumage would fit perfectly with this individual'. Andrea Corso replied (*in litt.*, email dated 24 May 2023) that at Batumi, Georgia (which is a raptor migration point), such pale morph birds are "usually recorded as nominate *buteo* but since they are migrating in flocks of *vulpinus*, and are exactly the same size, same moult stage, same jizz/silhouette, same wing-beats, they MUST be *vulpinus*. And I am sure they are. In fact, I am sure that an EXTREMELY rare white/pale plumage exists also in some *vulpinus*, possibly from its northernmost range. However, I do not know how to eliminate the possibility of a pale *japonicus* as I do not know enough of this taxon. Hence, I cannot give you a positive 100% sure ID".

Thus, expert opinion was divided and this bird could not be identified conclusively. The status of the Eastern Buzzard in the Indian Subcontinent is not known and its migration routes, if these occur in India, are also unknown; it is thought to winter in the Himalayas but this needs further study. However, the Himalayan Buzzard, which

breeds in the Himalayas, is more likely to occur in Peninsular India; its plumage is very similar to the Eastern Buzzard and it would be near impossible to assign individuals to these taxa outside their breeding ranges.

It is important to note that *vulpinus* intergrades with nominate *buteo* in the west and is thought to intergrade with *japonicus* in the east. However, there is scanty data from the eastern part of the range where *vulpinus* is thought to meet with *japonicus*. Not much is known regarding the plumages of such *vulpinus* x *japonicus* intergrades (if any). Further, the migration routes of such individuals are not known. In any case, the field identification of *Buteo* buzzards is many times quite difficult and it is often not possible to identify individuals if they are not trapped / measured / DNA analysis conducted.

While this bird was seen well and photographed from many angles, it would be best to keep the identification as an 'unusual' Steppe Buzzard, based mainly on the location, though the possibilities of it being a Himalayan / Eastern Buzzard or an intergrade with nominate *buteo* could not be ruled out. This shows that there is still much to learn about *Buteo* buzzards wintering in Gujarat.

Acknowledgements

I am grateful to Dick Forsman, Andrea Corso, Nils van Duivendijk and Arend Wassink for helping with the identification. I thank Ashok Mashru, Manoj Finava and Jignesh Miyatra for their company in the field.

References

- Forsman, D., 2006. *The raptors of Europe and the Middle East*. Christopher Helm. London.
- Forsman, D., 2016. *Flight identification of raptors of Europe, North Africa and the Middle East*. Helm Identification Guides, Christopher Helm. London.
- Ganpule, P., & Bhatt, N., 2014. Steppe Buzzard *Buteo buteo vulpinus* in the Little Rann of Kachchh, and its distribution in the Saurashtra region of Gujarat, India. *Indian BIRDS* 9 (2): 41-45.

Observation of 26
Red-necked Falcons *Falco chicquera*
in one day





As it sounds surprising, it is equally interesting to understand how it is possible to find these rare falcons, which are usually seen in pairs, in such numbers in one day's bird watching. I have been studying the breeding biology of the Red-

necked Falcon (*Falco chicquera*) for the last 18 years and I usually monitor the nesting sites of these birds. The Red-necked Falcon is classified as 'Near Threatened' because it is thought to be undergoing a moderately rapid population decline owing to habitat degradation (Birdlife International 2023). However, the first baseline data on the reproductive rate of the species on the basis of 39 breeding attempts in 18 territories provided insight into the productivity, which was 2.5 +/- 1.4 (95% CI) (Bhatt 2022). This means an average of 2.5 chicks successfully fledge out of each nest with a confidence interval of +/- 1.4.

On 15th April 2023, I was on my routine nest survey of the Red-necked Falcons and I was able to observe nesting activities at 5 active nests. Specific locations of the nesting sites are not provided as the nesting territories are frequently used by the nesting pairs and there are various threats involved in sharing the nesting location including disturbance by immature photographers, popularization of a site increases local people's attention and such attention may also come under the surveillance of pet traders whereby the red-necked falcons are highly sought after species. In my previous experience of studying the species, one particular nesting site of Red-necked falcon in Nalsarovar outskirts on a Eucalyptus tree with successful nesting for two years, the tree was cut off by the local farmers owing to the disturbance of birdwatchers/photographers.

I visited these 5 different nests from 06:30 hrs till 18:30 hrs. Here, the methodology I follow at each nesting site is to observe the nest from afar, without disturbing the birds, till the parents provide at least one prey delivery to the chicks. I photograph the number of chicks inside the nest, along with the prey items, if possible. These nesting sites were in

Summary of the observed nest and nesting-related information in Surendranagar district, Gujarat

Nest Sr. No.	Number of Chicks	Age of the chick in number of days (Approx.)	Nesting Substrate	Taluka	Habitat and allied information
1	4	35-40 days old almost fledged inside nest	High Tension Electricity Transmission Pylon	Chotila	Crow/Ibis nest used. Nearby scattered trees and crop fields with groundnut cultivation
2	3	15-20 days old inside the nest	High Tension Electricity Transmission Pylon	Wadhwan	Crow nest used. Nearby uncultivated fallow land with <i>Prosopis juliflora</i> and crop fields with castor cultivation
3	2	Above 40 days old fledged chicks flying outside the nest	High Tension Electricity Transmission Pylon	Lakhtar	Ibis nest used. Nearby crop fields with paddy cultivation surrounded by a few Eucalyptus and Neem trees.
4	4	Above 40 days old fledged chicks flying outside the nest	High Tension Electricity Transmission Pylon	Sanand	Ibis nest used. Nearby open land after harvesting of castor and other crops
5	3	25-30 days old chicks inside the nest	Subawal Tree <i>Leucaena leucocephala</i>	Viramgam	Likely crow nest was used. Nearby open land after harvesting and the tree in campus of a roadside restaurant.

territories that ranged across different talukas of Surendranagar district namely Wadhwan, Chotila, Lakhtar, Viramgam & Sanand and involved a total road travel of about 200 kilometers. The status of each nest, with the number of chicks and their age, and the parent's activities provide in table.

Discussion: Conservation-Related Aspects:

On the basis of the above observations and my study of the species of the last 15 years, there is a high nesting population of Red-necked falcons in Surendranagar and adjoining district and the nesting success and productivity are fairly high and also indicates that the area supports a stable population of Red-necked falcons. Nesting sites are mostly surrounded by agricultural fields and it may suggest that the species is able to tolerate the agro-ecological landscapes but the rapid change in land use from agricultural to industrial use may affect the population. Nesting on high-tension electric pylons are preferred nesting substrate and it may seem safer compared to the trees with threats of the indiscriminate axing

of trees along the roadside and also in private properties which has been recorded over the last few years. However, besides the natural threats like cyclones and extreme heat, there are man-made threats on electric pylons also as there is policy of indiscriminate nest removal from pylons for maintenance work by powerline transmission companies which poses a significant threat to the nesting success of the Red-necked falcons. Thus, a total of 16 chicks (including fledged birds) and 5 adult pairs make the total observation of 26 birds in a day. This is a significant number of individuals seen in a single day.

References

- Bhatt, N., 2022. Reproductive Rate of the Red-Headed Falcon (*Falco chicquera*) in Surendranagar District, Gujarat, India. *Journal of Raptor Research* 57: 75-80. DOI: 10.3356/JRR-21-73.
- BirdLife International (2023) Species factsheet: *Falco chicquera*. Downloaded from <http://www.birdlife.org> on 15 May 2023.

Golden Eagle *Aquila chrysaetos*
near Shakoor Lake, Vighakot, Kachchh



We were on a birding trip from India Bridge to Vighakot (at Indo-Pak border), in Kachchh, on 30 January 2021, with necessary permission from the Border Security Force (BSF). Only binoculars are permitted in this area and no cameras are allowed since it is a sensitive international border. The bird watching was very rich and we saw ten Steppe Eagles (*Aquila nipalensis*), nine Imperial Eagles (*A. heliaca*), four Eurasian Griffon (*Gyps fulvus*), two Greater Hoopoe Lark (*Alaemon alaudipes*) and six Red-tailed Wheatears (*Oenanthe chrysopygia*), besides other common birds.

Reaching Vighakot, we requested the BSF officer there for permission to visit Shakoor Lake (24° 15' N, 69° 04' E), which was granted. We were allowed to visit the area for half an hour. The wetland is about 3 km from Vighakot, is quite large (more than 100 sq km), and is on the fringe of GRK. The wetland lies in both India and Pakistan; approximately one-third of the area falls in Pakistan while two-thirds of the wetland lies in the Indian side. The habitat around the wetland is desert-type, while towards the northern side, in Pakistan, it is desert and farmland. The BSF has constructed a road that passes through the wetland, which is very helpful in scanning for the birds in the area. We saw raptors perched on the border fencing poles. We counted more than 20,000 waterfowl in the lake, along with hundreds of pelicans and other water birds. Then, we saw a large-sized eagle closely in flight and we noted all diagnostic features as it was seen well by us. We concluded that it was a juvenile or immature Golden Eagle (*Aquila chrysaetos*) based on the white patches in the underwings at base of primaries and secondaries, dark plumage, large size, white base on tail and golden nape, which was seen by all of us.

This observation was covered earlier in Ganpule (2021) but is formally published here. There are records of Golden Eagle from Kachchh. An earlier published record of a Golden Eagle from Banni, Kachchh (Khojani 2020) was followed by a recent publication reporting three more sightings,

again from Banni, Kachchh, comprising of two individuals over two winter seasons (Naria *et al.* 2023). Since the area we visited is restricted and permission is required to visit it, many birds occurring here are likely to be missed by bird watchers. A representative photo of a Golden Eagle is given here, which was taken elsewhere. We recommend that this area be regularly visited by bird watchers as this is a very important birding site. We are grateful to BSF for permission to visit Vighakot and Shakoor Lake.

Earlier, Golden Eagle was reported from the Palanpur area of Banaskantha District (Prajapati *et al.* 2018), and recent reports (Ganpule 2021; Naria *et al.* 2023). All these occurrence records show that the Golden Eagle could be a winter vagrant in Gujarat State, especially in arid regions of Kachchh and North Gujarat.

References

- Ganpule, P., 2021. Third update to the Gujarat Checklist: December 2021. *Flamingo Gujarat* 4 (3): 5-6.
- Khojani, R., 2020. Sighting of Golden Eagle *Aquila chrysaetos* in Kachchh. *Flamingo Gujarat* 18 (4): 4.
- Naria, K. H., Rathod, J. Y. & Patel, H. J., 2023. Golden eagle in Gujarat, with a note on its historical status and distribution in western India. *Munis Entomology & Zoology* 18 (2): 1229-1233.
- Prajapati, S. H., Jani, K., Prajapati, N. & Judal, M., 2018. Golden Eagle near Palanpur: an addition to the avifauna of Gujarat. *Flamingo Gujarat* 16 (4): 14-15.

Editor Note: The Shakoor (= Gratitude) Lake is an unexplored wetland and there needs to be more information about its biodiversity due to the restricted borders of Indo-Pak sensitive areas. Shakoor Lake is a lake comprising 300 km², located on the border between the Indian state of Gujarat and the Sindh province on the southern edge of Pakistan. About 90 km² of the lake comes under Pakistan, whilst the majority of the lake i.e. 210 km², lies within India. The Indian built Indo-Pak Border Road runs across the Shakoor Lake (https://en.wikipedia.org/wiki/shakoor_lake). This lake is formed by the emergence of Allah

Golden Eagle....

Bund on its southern side by blocking the Nara River, also known as Puran river or Kori river, when a massive earthquake struck the area in 1819. During the river flooding, Shakoor Lake surpluses into the Kori Creek through the gaps formed in

Allah Bund. Geographically and environmentally, Lake Shakoor is part of the cross-border Greater Rann of Kutch, a large seasonal salt marsh (https://en.wikipedia.org/wiki/shakoor_lake).



Golden Eagle

Sightings of
Laggar Falcon *Falco jugger*
in Anand and Kheda districts



Laggar Falcon....

Laggar Falcon *Falco jugger* is Uncommon to rare residents and local migrants in many parts of the state but formerly widespread (Ganpule et al. 2022). Due to its decreasing population covered under the 'Near Threatened' Category of IUCN red data List. Many sighting records of Laggar Falcons in Gujarat are spread among places at Greater and Little Rann of Kachchh, Nalsarovar, Surendrangar, Thol lake, Bagodara, Dahod, Velavadar, Amreli, Sanand, Sachana, Dwarka, Kheda, and Lakhtar. Two breeding pairs have been sighted at Dahod by Zuzar Borivala and at Amreli by Viral Joshi (Bhatt et al. 2018).

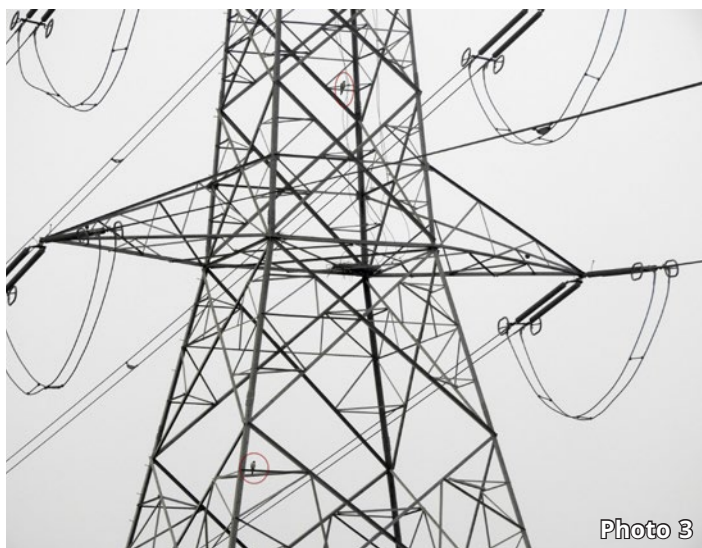
I have sighted Laggar Falcon regularly since 2017 on Vastana road of Kheda district. Two birds were sighted in different locations. Both are on high-tension electric poles, one on Vastana Road and one on a pole situated near Narda pond. Another pair was seen near Khakhsar village (Near Kaneval Pond). I had also sighted once that a female offered food to a male bird and a female gave protection to the male bird when its consuming food. Looking at this it's possible that it may be breeding pair. But I have not sighted nest so far. Another bird was sighted near Gundel village on high tension pole, but it was dead due to trap in kite string and rotten. Once I had also sighted an attacking on soaring Vulture near creek of Daheda village, Khambhat Dist. Anand. So Laggar Falcon is being randomly seen throughout the year in village outskirts of Khambhat, Anand district.

My above observations of Laggar Falcon are important as regular sightings of birds and sightings of possible breeding pair in the study area. More regular observation is required in this area and will reveal the exact picture of breeding there.



Details of some of the sightings are tabulated below based on photographs

Sr. no.	Place of Sighting	Date	Activity
1	Vastana Road, Kheda District	30/12/2018	Perching on Ground for food. Photo 1
2	Vastana Road, Kheda District	02/01/2019	Perched on tree. Photo 2
3	Khakhsar-Kaneval, Anand District	01/12/2021	Pair Perched on Electric Pole. Photo 3
4	Vastana Road. Dist. Kheda District	11/03/2022	Perched on Electric Pole. Photo 4
5	Gundel, Khambhat, Anand District	18/07/2022	Dead bird trap in Kite String. Photo 5
6	Khakhsar-Kaneval, Anand District	22/03/2023	Eating food on electric pole. Photo 6



Reference:

Bhatt, N., Dixit D., & Mori D., 2018. Notes of on distribution and plumages of Laggar Falcons in Gujarat. *Flamingo Gujarat* 1 (3): 1-7.

Ganpule, P., Varu, M., Trivedi, B., & Raina, A. D. 2022. *A field guide to the birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488pp.

Breeding record of
Laggar Falcon *Falco jugger*
from Great Rann of Kutch, Gujarat, India



Abstract

This short-note summarized observation on the breeding record of the Laggar falcon *Falco jugger* in 2014 at a large dry river bed near Naliya-Narayan Sarovar road in the Kachchh district, Gujarat.

Introduction

The Laggar falcon *Falco jugger* is Resident species and widely distributed throughout the Indian Subcontinent (Grimmett *et al.* 2011; Rasmussen & Anderton 2012). Naoroji (2006) stated it is 'commonest' in the desert and semi arid zone of the county and rarer in southern parts of India. However, in Gujarat, it is an uncommon or rare species (Bhatt *et al.* 2018). This species is considered a Schedule I species under Indian Wildlife Protection Act 1972 being of high legal status. However, it is a 'Near Threatened' falcon species according to IUCN Red List criteria 2022 (BirdLife International 2023a & b).



Breeding habitat of the Laggar Falcon in a large dry river bed, near Narayan Sarovar, Kachchh. Note the vegetation close to the nesting site.

Nesting preferences

The Laggar falcons *Falco jugger* do not build their own nest but are very adaptive to different nesting situations, including urban environments and are also seen nesting frequently around towns and villages. As per Author observations over the last 10 years in and around the Desert National Park in Rajasthan, the Author has noted several breeding pairs with a high preference given

to communication pylons and Khejri *Prosopis cineraria* trees was given which had large nests of crows, ravens, and Egyptian vultures (See Mori *et al.* 2023). These were mostly abandoned old nests or hijacked mainly by the breeding pairs and then used for years together during the breeding season. Naoroji (2006) has also mentioned the preference for steep earth banks of rivers. One such unusual observation was made and photographed by the Author and his friends Raviraj Shah and Dipesh Rakshit during their trip to the Kutch district for a raptor population density survey in early March 2014.

Observation

On 9th of March 2014, as we were traveling between Narayan Sarovar roads towards Naliya, we were surveying the area to stop at certain spots, make observations and keep moving ahead. Near Sewagram on the Naliya-Narayan Sarovar road, we came around a very large dry river bank on the main highway. Intrigued by its beauty and vastness we decided to explore it and the surrounding area. It was around 11.30 Hrs. in the morning and as we kept walking inside the dry river bed, from a long distance Dipesh Rakshit suddenly noticed a raptor-like bird sticking itself out from a high up ledge of the river bank. As we took a better look from our binoculars, we noted that it was a Laggar falcon which was resting on the ledge, which in an alert mode was observing us coming towards it. As we slowly and gradually moved ahead the falcon decided to fly away and then started soaring high above in the sky. We started moving ahead, exploring the area and saw some bird life there with a sighting of a Grey-necked Bunting *Emberiza buchanani* and Eurasian collar Doves *Streptopelia decaocto*. The area was full of *Euphorbia cactus* along with patches of *Acacia arabica* and *Prosopis juliflora*. As we reached near the spot just below the ledge where the falcon was perched, we were pleasantly surprised to see another falcon also roosting there in a position as if it was on a nest. Since it was a breeding period for Laggars Falcons, we anticipated that the pair

Breeding: Laggar Falcon....

would be busy with some nesting activity and hence we kept our distance and walked further away so as not to disturb the perched bird. As we moved far away, we located a good spot behind the *Prosopis juliflora* patch and stationed ourselves to observe the behavior of the bird. At the same time, the other falcon which had flown out was soaring high in the sky in a flying pattern as if it was trying to take our attention off the nest.

As we observed both the birds well, we noticed that this was a breeding pair that had chosen a high ledge on the vast but dry river bank. We decided to remain in the area till sunset to observe the behavior of the falcons to take notes. We managed to photograph the other flying bird as it was soaring and noted from the overall structure (small size, few breast markings) that it was a male bird. The bird on the nest was a female (much larger in size) which we realized as it stepped out to preen and stretch itself. She only remained about 2 or 3 feet away from the nest in the process. The preening lasted for around 15-20 minutes and then she moved back towards the nest. As she got closer, we noticed two tiny

chicks' raise their head in a sort of food-begging behavior. This was when we realized that the chicks had already hatched in the nest and had open eyes.

It was a very hot afternoon and from noon till about 17.00 Hrs the female bird remained on the nest, raising herself and changing positions from time to time. The male bird stayed close by settling on a *Euphorbia* cluster and kept a close eye. We were surprised as to why the chicks were not being fed but later realized that since they were very young, they probably did not need to be fed frequently and probably they were already well fed just before we had arrived. At around 17 Hrs. we noticed the female suddenly take off from the nest and also saw her come back in just about 20 minutes with something in her talons. The prey was a Spiny-tailed Lizard *Saara hardwickii* but she only had the tail of the lizard and the remaining body was completely missing. It appeared to us that the female had gone to collect this from the male which was then missing from the *Euphorbia* cluster. Probably the male had already made this spiny-tailed lizard kill and offered it to the female,



Adult female roosting on the cliff close to the nesting sit.

Adult female in the right is seen carrying an invisible food for the three approximately two-week-old nestlings also visible to the left.

who had quickly devoured it and then carried the remaining tail piece back to the nest to feed the tiny chicks.

By this time, we also realized that there were total 3 chicks in the nest, one of which appeared to be a little smaller than the other 2. The female once inside the nest, started pulling of the meat shreds of the tail and very slowly and carefully took turns to feed all the 3 chicks in turns. It was a very interesting behavior that we observed for almost 45 minutes till all the 3 hungry chicks were fully fed. As the evening set in we decided to leave the area. We decided to stay back for a night at a local hotel in Naliya and re-visit the spot again the next morning before heading back to Ahmedabad. We did visit the place again around 10.30 am the next day and saw the female on the nest who had positioned herself in the same way we had seen her when we had left. We also observed that the male bird was perched at a distance in the Euphorbia cluster and was observing and staying alert on the guard. We decided to move ahead and return back to Ahmedabad as our planned holidays were over and we had to resume work. We thought of making a similar visit plan again in a couple of weeks to monitor the progress but due to some reason or the other, it never materialized.

A year later on 4th April 2015, the Author along with his spouse Ruchita Soni & Raviraj Shah again visited this spot. To our surprise, we only saw the male bird and there was no trace of the female. We stayed there for a day and the next day again visited the spot but during this entire period, only the male bird was seen in the area. It was near the nesting place on a Euphorbia cluster close by. We concluded that probably the female had died and that the male probably was not able to get another partner for himself resulting in no nesting in that season.

On 24th February 2017, Author and Ruchita Soni again made a visit to the same spot to check if the male had formed a pair or if there was

any activity. Sadly, in spite of spending almost 3 to 4 hours at the spot, we noticed that there were no Laggar falcons around. The nest on the ledge appeared to be abandoned. To check on or any signs of their presence we tried to find any regurgitated pellets or droppings below and around the nesting spot but could not find any. Hence, we concluded that probably the male bird was also not around and it might have either moved to a different location in search of a mate or might have died. Post this I never attempted to visit this location ever. The sightings of Laggars in Kutch also dropped significantly over the last 6-7 years and according to local guides, it's become very rare to see these birds which at one point in time were in good numbers.

Acknowledgments

I'm grateful to Ruchita Soni, Raviraj Shah, and Dipesh Rakhshit for keeping me company on the field trip. I want to thank Raju Vyas and Devratsinh Mori in particular for the draft's improvement.

References

- Bhatt, N., Dixit, D. & Mori, D. 2018. Notes on distribution and plumages of Laggar Falcon in Gujarat. *Flamingo* 16(3): 1-7.
- BirdLife International. 2023a. Species factsheet: *Falco jugger*. <http://www.birdlife.org> [Accessed on 12/05/2023].
- BirdLife International. 2023b. IUCN Red List for birds. <http://www.birdlife.org/> [Accessed on 12/05/2023].
- Grimmett, R., Inskipp, C. & Inskipp, T. 2006. *Birds of the Indian Subcontinent*. Oxford University Press & Christopher Helm, London. 384 pp.
- Naoroji, R. K., 2006. *Birds of prey of the Indian Subcontinent*. London: Christopher Helm. 692 pp.
- Mori, D., Vyas, R., & Kini, S. 2023. Monitoring a nest of Laggar Falcons *Falco jugger*. *Indian BIRDS* 19(1): 1-9.
- Rasmussen, P. C. & Anderton, J. C., 2012. *Birds of South Asia: The Ripley Guide*. 2 vols. 2nd ed. Smithsonian Institution and Lynx Edicions, Washington D. C. and Barcelona. 378+683 pp.

Observation of a Leucistic female
Shikra *Accipiter bandius*
at a nest near Pavagadh Hill, Gujarat



Kartik Upadhyay: 1/101 Avni Residence, Near Bansal Super Market, Gotri Vasna Road, Vadodara 390021. Gujarat. Email – kartik_upadhyay35@yahoo.com

Devvratsinh Mori*: Ecology, Environment and Climate Change Cluster, School of Arts and Sciences, Ahmedabad University, Ahmedabad-380009. Email - devvratsinhmori@gmail.com *Corresponding author

Mital Patel: D-199 Girdhar Park Society, B/h Makarpura Bus Depot, Makarpura, Vadodara, Gujarat, India. Email: mital.jsp@gmail.com

Introduction

The Shikra *Accipiter badius* is a small-sized member of the family Acciptridae. The explanation of Etymology is *Accipiter* is genus and *badius* is Latin for 'Chestnut-colored or brown'. It is a common resident accipiter with four races *A. b. cenchroides*, *A. b. dussumieri*, *A. b. badius*, *A. b. poliopsis* are found in the Indian Subcontinent (Naoroji 2006). This species is categorized as an Indian Wildlife Schedule-I species. Protection Act of 1972, a statute with high legal standing. Naoroji (2006) states that the commonest resident hawk in India. A subspecies *A.b. dussumieri* is widely distributed throughout the subcontinent including Pakistan and Nepal, but infrequently up to 2000m in the Himalayan foothills, extends parts of southwest India (as far as is known Kerala). However, it is the 'Least Concern' bird species as per IUCN Red List criteria (BirdLife International 2023). In Gujarat, it is common and widely distributed (Ganpule et al.2022).

Shikra prefers relatively various types of habitats; open wooded, dry to moist-deciduous and degraded tropical evergreen forest biotope, hills, and cultivated plains, including villages and cities also, but rarely found in Desert but common in Semi-arid areas. (Naoroji 2006; Grimmet et al. 2011; Ramussen & Anderton 2012). It nests mostly

built on medium-large trees, such as a Peepal, Neem, Tamarind, Sal, Palm, *Pinus roxburghii*, *Dalbergia sissoo* tree, and Nilgiri (Naoroji 2006; Suryavanshi 2021). But also on parasitical shrubs *Loranthus* spp. growing on a large tree (Naoroji 2006). The Shikra usually lays three or four, but rarely five eggs (Naoroji 2006). Biddulph (1973) stated, Shikra laid seven eggs within one month.

Study Area

The study area is located roadside plantation and reserved forest near Champaner village (22°27'01.1" N, 73°34'40.7" E), Halol Tehsil, Panchmahal district, Gujarat. The nesting site is close to Pavagadh Hill. Overall, this is a dry deciduous forest area between Jambughoda Wildlife Sanctuary and the Reserved Forest of Pavagadh.

Method and material

We observed a single nest of a Leucistic Shikra, from May 2nd, 2023, to June 1st, 2023. These nests were monitored randomly for a week from sunrise to sunset with binoculars (10 x 50) with the aim of knowing the feeding behaviour of the Leucistic Shikra species. The details of the nest tree (Photo 1) are given in Table 1. We also try to monitor the species by identifying the number and types of prey brought by the pair of Shikra. The nest was also monitored through the D-slr high



Photo 1

Photo: Dewratsinh Mori

The Shikra nested on a Nilgiri tree

Shikra....

telelens high zoom camera (Nikon D850, 600mm F4 lens, and Nikon P1000) at a distance of 100 meters, taking care that the breeding pair was not disturbed. During the study, we took special care that birds did not disturb the nest or leave the nest, and the necessary measurements of the nest, egg, hatchling size, and weight were not taken due to nature conservation issues.



Photo 2

Photograph of the first encounter of Leucistic Shikra female

Observation

On May 2, 2023, the first author, while birding randomly in the Champaner area, Panchmahal district, Gujarat, spotted a white bird taking flight on the main road to another side and perching there. At first impression, it was like an egret; after that, instantly, photographs of the bird were taken with the help of a Nikon P1000 and activity was observed for around 15 minutes till its disappearance (Photo 2), on better surveillance, it was identified as Shikra, having normal colour legs and beak, eye yellow-orange

and an off white colour base around the beak. Unlike normal individuals, it has white plumage with a few brown coloured marks on the side of the wings and the distal part of the tail, Although the size of an individual can recognize; hence It's a female one. From the above observations, it has been clear that the bird was a Leucistic female Shikra. Thus, the observed female Shikra was considered a partial leucistic Shikra. At the same time scanning the area and luckily found one nest on the Nilgiri, and a nest with three chicks around four weeks old (Photo 3), and all three chicks were completely normal coloured. However, we are certain that it was the same aberrant female shikra's nest. That nest was discovered around 50 meters away from the first sighting.



Photo 3

Three chicks are in the nest

During the observation period, both male and female brought food to the nest for three chicks (Photo 4 & 5). We observed a few prey items: a garden lizard, *Calotes versicolor* (Article Title image) an unidentified rodent; a Red-vented Bulbul *Pycnonotus cafer* and an unidentified skink. However, we noted twenty-eight bird species belonging to twenty-four families surrounding the one-kilometer radius of the nest area, and a few were visit the nest tree (Table 2).

Table 1 - The details of the nest tree

Parameter	Measurement
Species of tree	Nilgiri Tree (<i>Eucalyptus sp.</i>)
Height of tree	24 meters
Height of nest	12.5 meters
The girth of tree trunk	1.5 meters
Nest orientation in relation to nest-tree trunk	South
Height of nearest tall trees	20 meters
Distance of nest from transportation road	25 meters

Table 2 - The list of the bird species associated with one kilometre of the study area

No	The species name of Birds
	Pycnonotidae
1	Red-vented Bulbul (<i>Pycnonotus cafer</i>)
	Passeridae
2	Yellow-throated Sparrow (<i>Gymnoris xanthocollis</i>)*
	Vangidae
3	Common Wood shrike (<i>Tephrodornis pondicerianus</i>)*
	Corvidae
4	Jungle Crow (<i>Corvus culminates</i>)
5	Rufous Treepie (<i>Dendrocitta vagabunda</i>)
	Nectariniidae
6	Purple Sunbird (<i>Cinnyris asiaticus</i>)*
	Ardeidae
7	Cattle Egret (<i>Bubulcus ibis</i>)
	Paridae
8	Cinereous Tit (<i>Parus cinereus</i>)
	Phasianidae
9	Indian Peafowl (<i>Pavo cristatus</i>)
	Columbidae
10	Spotted Dove (<i>Streptopelia chinensis</i>)
11	Yellow-legged Green Pigeon (<i>Treron phoenicopterus</i>)
	Psittaculidae
12	Alexandrine Parakeet (<i>Psittacula eupatria</i>)
	Cuculidae

No	The species name of Birds
13	Common Hawk Cuckoo (<i>Hierococcyx varius</i>)
14	Greater coucal (<i>Centropus sinensis</i>)*
15	Asian koel (<i>Eudynamys scolopaceus</i>)
	Apodidae
16	Asian Palm Swift (<i>Cypsiurus balasiensis</i>)
	Coraciidae
17	Indian Roller (<i>Coracias bengalensis</i>)
	Alcedinidae
18	White-throated Kingfisher (<i>Halcyon smyrnensis</i>)
	Meropidae
19	Asian Green Bee-eater (<i>Merops orientalis</i>)
	Megalaimidae
20	Coppersmith Barbet (<i>Psilopogon haemacephalus</i>)
	Picidae
21	Black-rumped Flameback (<i>Dinopium bengalense</i>)
	Artamidae
22	Ashy Woodswallow (<i>Artamus fuscus</i>)
	Aegithinidae
23	Common Iora (<i>Aegithina tiphia</i>)
	Campephagidae
24	Small Minivet (<i>Pericrocotus cinnamomeus</i>)

Shikra....

No	The species name of Birds
	Dicruridae
25	Black Drongo (<i>Dicrurus macrocercus</i>)
	Leiothrichidae
26	Jungle Babbler (<i>Turdoides striata</i>)*
	Dicaeidae

No	The species name of Birds
27	Pale-billed Flowerpecker (<i>Dicaeum erythrorhynchos</i>)
	Bucerotidae
28	Indian Gray Hornbill (<i>Ocyceros birostris</i>)

*Bird visits nesting tree



Photo: Dewraisingh Mori

Photo 4

Three chicks are being fed at the nest by a male Shikra



Photo: Mital Patel

Photo 5

Three chicks are being fed at the nest by a female Shikra

Later, the first author visited the nest location on June 1, 2023. He was shocked, the Shikras nest was empty, and the mother had brought prey to the nest for the chicks. The author also spent about two hours watching the female fly about the nest and searching for the chicks. She couldn't find it. The author watched from a safe distance as the female took the prey to the empty nest; the nest made no response. It's possible that the little chicks perished in the storm. We were unable to uncover any solid proof to refute that occurrence.

Discussion

Leucism is an uncommon occurrence that has been noted in numerous Indian avian species. The orders include (Passeriformes): a photographic record of leucistic Jungle Babbler *Argya striata* from Nagpur (Sani & Kasambe 2007), Leucism in Brahminy Starling *Sturnia pagodarum* from Ahmednagar district, Maharashtra (Phalke 2020), House Sparrow *Passer domesticus* from West Bengal (Bera 2021), first glimpses of Jungle Myna *Acridotheres fuscus* from Orissa (Samal 2021), leucistic Eurasian Magpie *Pica pica* in Ladakh (Khan 2023). (Alcedinidae): A leucistic Common Kingfisher *Alcedo atthis* in Udaipur (Rathore & Saxena 2022). (Charadriiformes): Leucism has been observed in Wood Sandpiper *Tringa glareola* at Akola, Maharashtra (Telkar & Kasambe 2023). (Gruiformes): India's second record leucistic Common Crane *Grus grus* sighted at Kachchh, Gujarat (Joshi 2020), as well as many other species.

There were a few published reports about aberrant color in raptors from India. The albino crested Hawk Eagle was discovered in Rajasthan's Sitamata Wildlife Sanctuary (Parashar & Sharma 2010). Although an unreported record of pure albino from Northeast India and a leucistic record from Surendranagar, Gujarat (Pers., comm., Nirav Bhatt). The leucistic shikra has been noticed and photographed at a few locations in India, including the Central University of Rajasthan (Verma 2022) and the Pench National Park in Madhya Pradesh (Thomare 2014 and Dubey 2015).

However, we are still looking for the answers of a few questions, which unable to explain. How the leucistic Shikra hunt and what success rates could be? Also, what could be the lifespan of the bird, and how it interacts with other birds of prey? These could be found with the help of further intensive research on the subject only.

Acknowledgment

We are grateful to Mukund Baria for accompanying us during the fieldwork. We thank the Gujarat Forest Department and FD staff of Jambughoda Wildlife Sanctuary. Finally, we express gratitude to Dr Raju Vyas for improving the manuscript draft. We also thank Nirav Bhatt for sharing valuable information.

References

- Bera, A., Fullonton, S. & Samal, A. 2021. A leucistic House Sparrow from West Bengal, India. *Bird-o-soar* #77, In: *Zoo's Print* 36(4): 06
- Biddulph, C.H. 1937. Number of eggs laid by the Indian Shikra [*Astur badius dussumieri* (Temm. & Lang.)]. *Journal of the Bombay Nature History Society* 39 (2): 406.
- BirdLife International (2023) species factsheet: *Accipiter badius*. <http://www.birdlife.org>. [Downloaded on 26/05/2023]
- BirdLife International (2023) IUCN Red List for Birds <http://datazone.birdlife.org>. [Downloaded on 26/05/2023].
- Dubey, M., 2015. <https://www.facebook.com/photo?fbid=799244226817777&set=gm.10152666912642411>
- Ganpule, P., Varu, M., Trivedi, B., & Raina, A. D. 2022. *A field guide to the birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488pp.
- Grimmett, R., Inskipp, C. & Inskipp, T. 2006. *Birds of the Indian Subcontinent*. Oxford University Press & Christopher Helm, London. 384pp.
- Joshi, P., 2020. <https://timesofindia.indiatimes.com/city/rajkot/rare-leucistic-common-crane-sighted-second-time-in-india-in-kutch/articleshow/79811140.cms>
- Khan, I., Angmo, S & Kumar A. 2023. A leucistic Eurasian Magpie *Pica pica* in Ladakh, India. *Indian Birds*. 18: (6) 153-154.
- Naoroji, R., 2006. *Birds of prey of the Indian Subcontinent*. 1st ed. Om Books International. New Delhi. 692 pp.

Shikra....

Parashar, M. & Sharma, S. K. 2010. Sighting of albino Changeable Hawk Eagle *Nisaetus limnaeetus* in Sitamata Wildlife Sanctuary in south Rajasthan. *Journal of the Bombay Natural History Society* 106(3): 341–342.

Phalke, M. 2020. Leucism in Brahminy Starling *Sturnia pagodarum*. *Indian BIRDS* 16(3): 96.

Rathore, Bhanu Pratap Singh, Saxena, A. 2022. A leucistic Common Kingfisher *Alcedo atthis* in Udaipur, India. *Indian BIRDS*. 17: (6) 192.

Rasmussen, P. C., & Anderton, J. C., 2012. Birds of South Asia: the Ripley guide. 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 683 pp.

Samal, A., Mishra, P., & Fullonton, S. 2021. First Glimpse of a Leucistic Jungle Myna from Odisha, India. *Entomology, Ornithology & Herpetology* 10: 239.

Sani, T. & Kasambe, R. 2007. Photographic record of leucistic Jungle Babbler *Turdoides striata*. *Indian BIRDS* 3 (3): 112.

Suryawanshi, K., 2021. Nesting behaviour and diet of Shikra *Accipiter badius* in Ajanta, Maharashtra. *Indian BIRDS* 17 (2): 50–53

Telkar, D. & Kasambe, R. 2023. Sighting of a leucistic Wood Sandpiper *Tringa glareola* at Akola, Maharashtra, India. *Journal of the Bombay Natural History Society* 120. doi: 10.17087/jbnhs/2023/v120/157373. (accessed Jun 12 2023).

Thomare, K., 2014. <https://www.facebook.com/photo?fbid=10205478097858145&set=gm.10152855269111103>

VanGrouw, H., Mahabal, A., Sharma, R.M., Thakur, S. 2016. How common is albinism really? Colour aberrations in Indian birds reviewed. *Dutch Birding* 38: 301–309

Verma, R., 2022. <https://www.facebook.com/photo/?fbid=5234633376598230&set=gm.10159129914637411&id=5448197410>

Yadav, P.B.S. & Arigela, R.V. 2020. A partially leucistic Indian Peafowl *Pavo cristatus* from Tamil Nadu, India. *Indian BIRDS* 16(3): 94–95.



Growth stages of
Red-necked Falcon *Falco chicquera*
nestlings



Photo 4

Nirav Bhatt: birdwatchernrb@gmail.com
Faruk Chauhan: dchauhan@gmail.com

Gulamahmad Vora: gavora71@gmail.com
Vishal Thoria: vishal.thoria@gmail.com

We, as a team, have been studying the breeding biology of Red-necked Falcons (*Falco chicquera*) for more than 15 years. We regularly survey the nesting sites of the Red-necked Falcons in the study area, which comprises Surendranagar District and the outskirts of Nalsarovar Bird Sanctuary, which is adjoining Surendranagar. Our keen interest in the study of Red-necked Falcons is known to the local guides of Nalsarovar.



Photo 1

Visit 1: On 18th March 2023, at around 15:30 hrs, the first author got a call from Sabbir Belim, the local guide at Nalsarovar, informing that because of a heavy storm and extreme winds, a very young chick of a Red-necked Falcon had just fallen out of a nest on the *Subawal* (*Leucaena leucocephala*) tree, which the first author was monitoring. All four of us immediately decided to visit the location and in the meanwhile, we informed the Deputy Conservator of Forest and the Range Forest Officer of Nalsarovar regarding this incident. As the weather was windy and it was raining heavily, we reached the location at about 17:45 hrs and we were surprised to see that the chick was very small (Photo 1) and assumed it was about 1-2 days

old. We started to figure out the best way to put the chick back in the nest but the nest was located on the top of the tree, where the branches were thin, and which may have caused further damage to the nest if the branch had broken during the attempt to put the chick back in the nest. The eyes of the chick were closed and it was hardly able to move but was calling intermittently, begging for food. As it had been out of the nest for more than 3 hours as per the information provided by the guide, and the more time taken to put it back in the nest would reduce the survival chances of the chick. In the meanwhile, the forester of the area reached the site and he immediately volunteered to climb up the tree himself. He successfully put the chick back in the nest safely. He also clicked photographs of the nest after replacing the chick, which showed that there were 2 chicks and 1 egg in the nest. This further confirmed that the fallen chick would be 1-2 days old while the third egg was yet to hatch. Thereafter, we left the nest with the hope that the chick would survive the trauma and we decided to monitor this nest to see further developments. This was the 1st visit to the nesting site after the chicks had hatched and this chick was considered as approximately 2 days old for further reference. All the following visits after this were carried out by the first author.

Visit 2: 1st April 2023: Three small chicks (approx. 14 days old) were seen with binoculars but as the chicks were small (Photo 2), all three could not be photographed together.

Visit 3: 8th April 2023: All three chicks (approx. 21 days old) had grown healthy (Photo 3). It was heartening to see the adult female bringing a Common Tailorbird (*Orthotomus sutorius*) to feed the young and all the chicks were well-fed by the female (Photo 4).

Visit 4: 15th April 2023: There was significant growth observed during the past 7 days wherein the down feathers (Photo 5) on the head and body of the chicks (approx. 28 days old) were replaced by juvenile flight feathers. All the chicks



looked healthy and two of them were observed eating the pieces of prey brought by the female by themselves.

Visit 5: 23rd April 2023: All three chicks (approx. 36 days old) were almost fledged (Photo 6) and they were considered as fledged based on the MAAAS (Minimum Acceptable Age for Accessing Success) considered to be 37 days (Del Hoyo 2020).

Visit 6: 2nd May 2023: This was the last visit when the three chicks were not seen in the immediate surrounding of the nest site. The young fledglings remain with their parents for 69-72 days (Del Hoyo 2020) and therefore, the chicks should not have been very far from the nest site but as time was limited, the first author could not scan the surrounding areas to find out the status of the fledglings.

The successful fledging of the Red-necked Falcon chicks after one chick had fallen was noteworthy. This also shows that inclement weather affects the nesting success of this species. Here, direct intervention by us helped the chick to fledge successfully. While we are monitoring many nests in our area, this was the first time we had directly intervened and put a chick back in the nest.



Acknowledgment

We are thankful to Sabbir and Akbar for providing the information about the fallen chick, Hareshbhai and Manharbhai the Forest Department staff who helped in the rescue, the Range Forest Officer and the Deputy Conservator of Forest, Nalsarovar, who provided all the support for the rescue.

References

del Hoyo, J., Kemp, A.C., Kirwan, C.H., Collar, N. & Marks, J.S. 2020. Red-necked Falcon (*Falco chicquera*), version 1.0. In Birds of the World (S. M. Billerman, B. K. Keeney, P. G. Rodewald, & Schulenberg, T.S. Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.renfal1.01>



Red-necked Falcon

Saker Falcon *Falco cherrug* preying on
Black-winged Kite *Elanus caeruleus* with notes
on observation of prey of Saker falcon and
on raptors feeding other raptors



Nirav Bhatt: Surendranagar. birdwatchernrb@gmail.com

Dhairya Dixit: Chicago. dhairya.desoler@gmail.com

On 1st December 2018, my friends Manisha, Dhairya and I spent the whole day birding in Little Rann of Kachchh (Henceforth LRK) and we were happy with some interesting sightings of a juvenile Red-naped Shaheen (*Falco pelegrinoides babylonicus*) in the deeper parts of LRK. At the end of the day, at around 18:00 hrs, almost after sunset, we saw a falcon with a kill. Upon closer observation, it was very interesting to find that it was a juvenile Saker Falcon (*Falco cherrug*), which is a very rare winter visitor to LRK, and the event was even more interesting as we saw that it was feeding on a juvenile Black-winged Kite (*Elanus caeruleus*) (Photo 1 & 2). White edges on the tip of dark gray secondaries helped identify that it was a juvenile Black-winged Kite (Photo 3).



Although we did not see it hunting, we assume that the kill was done by the Saker as there was no other raptor in the vicinity and there were freshly plucked feathers in the surroundings. The Saker Falcon preys on mainly small mammals (Orta *et al.* 2020). Birds form part of its diet and it is known to prey on mainly medium-sized and ground-dwelling birds, especially sandgrouse, galliforms (partridges, quails, pheasants), corvids, pigeons and larks. Naoroji (2006) stated that in the Indian Subcontinent, the Saker Falcon had been recorded to prey on Spiny-tailed Lizards, Desert Gerbils, and birds like Sandgrouse and waterbirds.

I have observed Saker Falcon feeding on Yellow-footed Green Pigeon *Treron phoenicopterus* and Spiny-tailed Lizard *Saara hardwickii*. Besides there are observations with photographs of Saker Falcon feeding on Little Egret *Egretta garzetta* (Unpublished Observation; Yogendra Shah, Nov 2017), *Calandrella* Lark sp. (Unpublished Observation; Hardik Patel, Jan 2018) and Little Cormorant *Microcarbo niger* (Unpublished Observation; Jay Shah, Jan 2018) from the Little Rann of Kutch as well as Indian Desert Gerbill *Meriones hurrianae* (Unpublished Observation; Jay Shah, Dec 2016) from Jor Beed, Bikaner, Rajasthan. Similar events of a raptor feeding on another raptor have also been observed in LRK previously. Thus, this observation of a Saker Falcon preying on a Black-winged Kite is very unusual and indicates a wider spectrum of birds in its diet in the winter. Further studies will be helpful in knowing the diet of this falcon on its wintering grounds in Gujarat.

References

- Naoroji, R., 2006. *Birds of prey of the Indian Subcontinent*. Om Books International, New Delhi.
- Orta, J., Boesman, P.F.D., Sharpe, C.J. & Marks, J.S. 2020. Saker Falcon (*Falco cherrug*), version 1.0. In *Birds of the World* (del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E.- Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bow.sakfal1.01>

Note on Aggressive behaviour of
White-eyed buzzard *Butastur teesa*
at Gir National Park, Gujarat, India



Ravi B. Dave: ravidave85@gmail.com

Anuj D. Raina: Email: anzraina@gmail.com

Often, raptors are observed engaged in talon-grappling and cartwheeling behaviour, an aerial interaction whereby birds of prey lock their talons and spin down at a common axis (Farquhar et al. 1994). Cartwheeling can be attributed to multiple factors, including aggression (Simmons & Mendelsohn 1993; Raimilla et al. 2015), food transfers (Kitowski 2001), courtship (Simmons & Mendelsohn 1993), or as a prelude to copulation (Borello & Borello 2004; Murn et al. 2009). The behaviour is both interspecific and intraspecific competition among birds of prey.

A juvenile white-eyed buzzard and an adult white-eyed buzzard were seen engaged in aerial flight. Some of the behaviours used to tackle the intruder included display stooping, display diving, talon lowering, display flapping, talon locking, and cartwheeling. On locating the intruder, the adult white-eyed buzzard behaved aggressively. Initially, the adult first attained height and performed display stooping, followed by display flapping of wings. The display flapping behavior was accompanied by constant warning calls. Along with the display flap warning, the adult approached the intruder with a talon-lowering posture, and when it reached close proximity to its opponent, the adult made a sudden flick over to attack him. The flying opponent reiterated with a talon, resulting in a sudden lock followed by a cartwheel. The cartwheeling pair plummeted with speed, crashing over a high branch of the Red Silk-cotton tree *Bombax ceiba*. The exhausted tussling pair remained locked for a few seconds, followed by continual efforts meant to unravel the talon lock. One amusing moment during talon lock was when the adult was swaying on hanging with the opponent juvenile holding through talon. The adult remained hanging for a few seconds before flapping his wings hard to unlock himself. The effort made by the adult pushed the juvenile to slip down, resulting in both hanging for a second time until the final thrush, resulting in an unlocked talon. After facing the aggressive behavior of an adult, the juvenile immediately escaped from the

site. Prytherch (2009) has well documented and illustrated quite similar assertive flight posture and dive-on, turn-over display in the Common Buzzard *Buteo Buteo*. The white-eyed buzzard is a common resident of Gujarat (Ganpule et al. 2022). We have also noted a dive-on, turn-over display between nesting pairs at Jamwala Range in East Gir, Gir National Park.

References

- Borello, W.D. & Borello, R.M., 2004. Two incidents of talon-grappling and cartwheeling in the Tawny Eagle *Aquila rapax*. *Ostrich-Journal of African Ornithology*, 75(4): 320-321.
- Farquhar, C.C., Clark, W.S., Wright, R.G. & Coello, M., 1994. First Record of Interspecific cartwheeling between large raptors *Buteo poecilochrous* and *Geranoaetus melanoleucus*. *Journal of Raptor Research*, 28(4): 274-275.
- Ganpule, P., Varu, M., Trivedi, B. & Raina, A.D., 2022. *A Field Guide to the Birds of Gujarat*. Bird Conservation Society, Gujarat. 488pp.
- Kitowski, I. 2001. Cartwheeling flights of Marsh Harrier (*Circus aeruginosus*) and Montagu's Harrier (*Circus pygargus*) in SE Poland. *Buteo* 12:89-94.
- Murn, C., Betchley, P. & Robert, C., 2009. Talon-locking and cartwheeling as a prelude to copulation in Tawny Eagles *Aquila rapax*. *Gabar* 20: 12-14.
- Prytherch, R. J., 2009. The social behaviour of the Common Buzzard. *British Birds*, 102(5): 247.
- Raimilla, V., Rivas-Fuenzalida, T., Kusch, A., Díaz, J., Toledo, J., García, Á. & Jiménez, J.E., 2015. Incidence of cartwheeling flights in raptors of south-central Chile. *The Wilson Journal of Ornithology*, 127(2): 289-297.
- Simmons, R.E. & Mendelsohn, J.M., 1993. A critical review of cartwheeling flights of raptors. *Ostrich*, 64(1): 13-24.

Some Interesting **Birds of Prey**
reported from Sabarmati Riverfront, Ahmedabad



Photo: Vicky Chauhan

Anuj D. Raina: anzraina@gmail.com
Prashant Shah: prashantshah729@gmail.com

Sabarmati Riverfront Development Corporation Limited and Bird Conservation Society, Gujarat (BCSG) collaborated in February 2019 to study and document the avian diversity along the riverfront. To study avian diversity, a project layout was designed and implemented. Proper identification of key hotspots for the study was carried out, which included gardens and parks, wooded patches, concrete structures, the river stretch, etc. The modus operandi for the project included community engagement through citizen science activities. The Citizen Science approach encouraged the local community to help study ecology, biodiversity, and human-wildlife interaction at the riverfront. The group of birdwatchers was divided into four teams, and

each team was assigned one of the four different zones (two on each side of the river) for regular monitoring and data collection. The Riverfront Department issued an ID card for photography permission to volunteers. Ganpule et al. (2022), recorded 70 species of bird prey from Gujarat, of which the volunteer team noted 22 species during the observation period.

Acknowledgment

We thank all the volunteers of Ahmedabad who participated in field data collection.

References

Ganpule, P., Varu, M., Trivedi, B., & Raina, A.D., 2022. *A Field Guide to the Birds of Gujarat*. Bird Conservation Society, Gujarat.

Sr. No	Species Name	Remark
1	Black Kite <i>Milvus migrans govinda</i>	Resident
2	Black-eared Kite <i>Milvus migrans lineatus</i>	Winter Visitor
3	Black-winged kite <i>Elanus caeruleus</i>	Resident
4	Shikra <i>Accipiter badius</i>	Resident
5	Peregrine Falcon <i>Falco peregrinus calidus</i>	Winter visitor
6	Red-necked falcon <i>Falco chicquera</i>	Rare
7	Eurasian Hobby <i>Falco subbuteo</i>	Rare
8	Common Kestrel <i>Falco tinnunculus</i>	Rare
9	Steppe Eagle <i>Aquila nipalensis</i>	Rare, North East end of Riverfront
10	Eastern Imperial Eagle <i>Aquila heliaca</i>	Rare, North East end of Riverfront
11	Greater Spotted Eagle <i>Clanga clanga</i>	Rare, North East end of Riverfront
12	Booted Eagle <i>Hieraetus pennatus</i>	Winter visitor (Both Dark and Pale morph)
13	Oriental Honey Buzzard <i>Pernis ptilorhynchus</i>	Resident
14	White-eyed buzzard <i>Butastur teesa</i>	Visitor
15	Western Marsh Harrier <i>Circus aeruginosus</i>	Wintering
16	Montagu's Harrier <i>Circus pygargus</i>	Wintering, Sighted at Vasna Barrage
17	Osprey <i>Pandion haliaetus</i>	Wintering
18	Egyptian Vulture <i>Neophron percnopterus</i>	Regular visitor
19	White-rumped vulture <i>Gyps bengalensis</i>	Rare Visitor
20	Spotted Owlet <i>Athene brama</i>	Resident
21	Barn Owl <i>Tyto Alba</i>	Resident
22	Indian Scops Owl <i>Otus bakkamoena</i>	Call heard at Riverfront Biodiversity Park

Photo: Anuj D. Raina

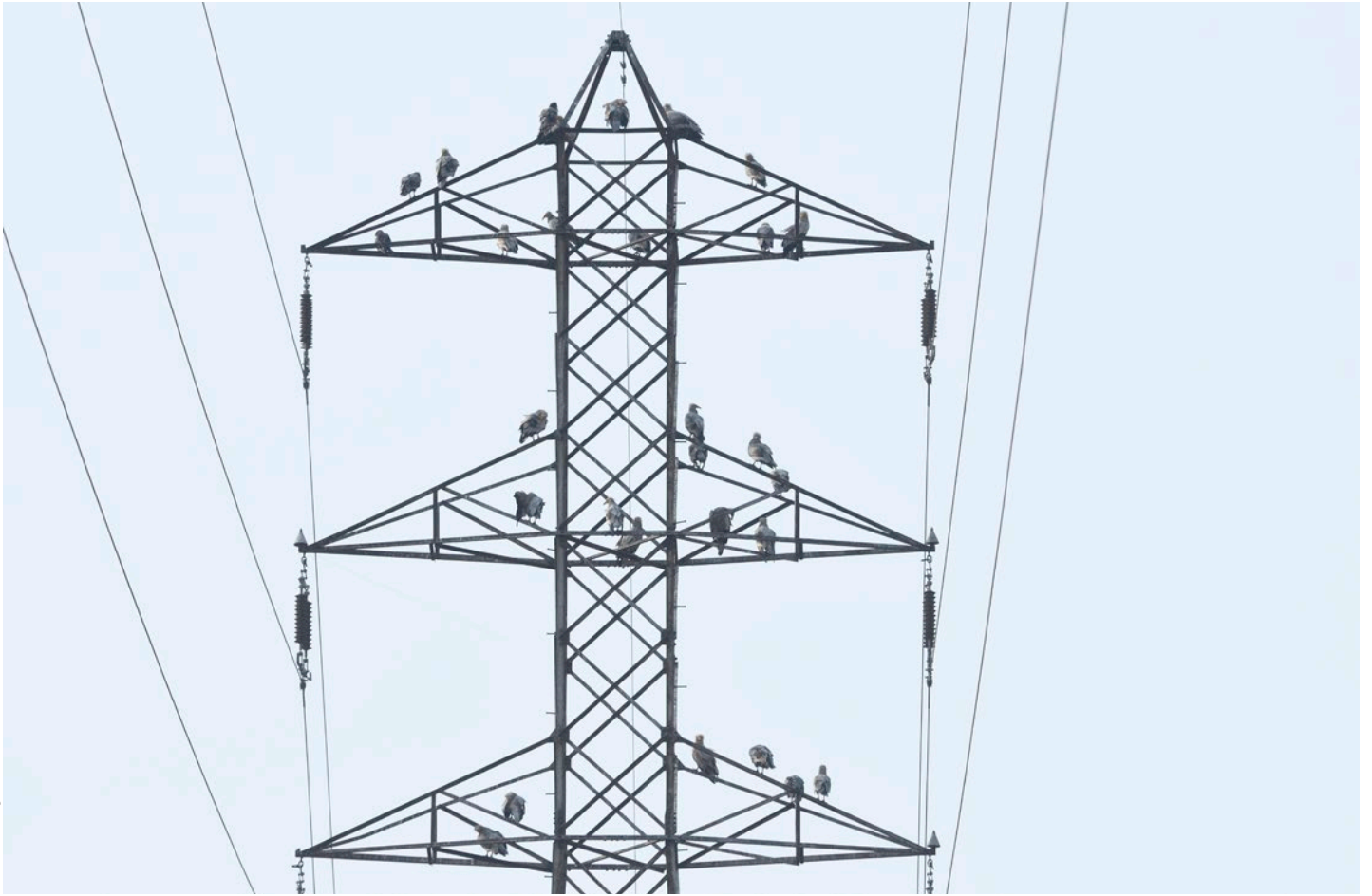


Photo: Arvindkumar Ramdas





Laggar Falcon *Falco jugger* and
Common Kestrel *Falco tinnunculus* - a probable
case of Interspecific competition



A dead Common kestrel (*Falco tinnunculus*) female was spotted with a Laggar falcon (*Falco jugger*) perched over the top branch at Blackbuck National Park, Bhavnagar. As per the local guide, it was the result of interspecific competition. The observation brings out the probability of interspecific competition. Although I have not captured any direct evidence of a fight between the two birds of prey, death due to intraspecific competition cannot be overruled. Many records of birds of prey killed by another bird of prey have been reported (Hammond & Pearson 1993). As per the study by Gause (1934), species sharing similar resources can result in competition, and the superior species will dominate the inferior species. Both the Laggar falcon and Common Kestrel food niches overlap. Overlapping food niches are an indication of competition (Lack 1946).

During winter, Blackbuck National Park and its surrounding grasslands host large accumulations of birds of prey owing to their large food sources. As per Ganpule et al. (2022), the Laggar falcon is an uncommon to rare resident of the state, whereas the Common kestrel is a common wintering bird of prey. Laggar falcons and Common kestrels share the same phylogeny, habitat, and prey base in a habitat, even though the size difference is conspicuous.

I have noted many inter- and intraspecific competitions between different Falconiformes species reported at Velavadar. Niche breadth (understanding the diversity of resources utilised by a species) and niche overlap (resource sharing between two or more species) are affected by competition, and the study of these parameters can help determine community structure (Griffiths 1986). Calculating food niche overlap statistics can elaborate on existing competition coexisting in an area (Pianka 1973). Sutherland (1998) suggests importance of Behavior study in conservation biology. A more detailed study of the inter- and intraspecific competition of birds

of prey at Blackbuck National Park is required for behavior study vis-à-vis conservation science.

References

- Ganpule, P., Varu, M., Trivedi, B. & Raina, A. D., 2022. *A field guide to the birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488pp.
- Gause, G. F. 1934. *The struggle for existence*. Baltimore: Williams & Wilkins.
- Griffiths, R. A. 1986. Feeding niche overlap and food selection in smooth and palmate newts, *Triturus vulgaris* and *T. helveticus*, at a pond in mid-Wales. *The Journal of Animal Ecology*, 201-214.
- Hammond, N. & Pearson, B. 1993. *Birds of prey*. Hamlyn.
- Lack, D. 1946. Competition for food by birds of prey. *The Journal of Animal Ecology*, 123-129.
- Pianka, E. R., 1973. The structure of lizard communities. *Annual review of ecology and systematics* 4(1): 53-74.
- Sutherland, W.J., 1998. The importance of behavioural studies in conservation biology. *Animal behaviour*, 56(4): 801-809.



Laggar Falcon

A Short-toed Snake Eagle *Circaetus gallicus*
was rescued and released at Dharmaj, Gujarat



The Short-toed Snake Eagle *Circaetus gallicus* is a medium-sized bird of prey that belongs to the Acciptridae family. Short-toed Eagle is widely distributed and extends outside this continent, and breeds in southern Europe and Asia (Naoroji 2006), and also in northwest Africa (Clark et al. 2005). This species is considered a Schedule I species under the Indian Wildlife Protection Act 1972, being of high legal status. Short-toed Snake Eagle is fairly common, widespread, and a very local resident (Naoroji 2006; Ganpule et al. 2022). This is a 'Least Concern' birds species, as per IUCN Red List 2010 criteria (BirdLife International 2023).

On September 30th 2005, around 10:15 hrs. I learned at noon that a Raptor has been staying at Farmer's house at the farm for three days, unwell and without food. I would like to know which raptor it is because I couldn't get there because of time constraints. So, I carried the bird home via the forest service. They carried it wrapped in a cloth. It was a Short-toed Snake Eagle *Circaetus gallicus* and despite the fact that the bird had not eaten for four days, it was not emery less. I'm hoping it can be salvaged because there is no damage. It was my first Snake Eagle rescue, so I researched literature and began to offer boiled eggs. Vitamin and mineral supplements were given. I decided to keep the bird in the top room of my house with a bamboo perch and a well-ventilated bird. The reason for this is so that the bird may relax there alone; it gets good air, and no one bothers it like other teases. Within four days, the bird began consuming food on its own, such as chicken pieces. Every morning, when I was conducting wing training with the bird while wearing gloves, it began flapping its wings and took a brief flight in the room. I completed this workout three times a day. I placed water on the floor so the bird would have to come down to drink from the bamboo perch. After drinking water, the bird sat on the bamboo once more. Once, this Snake eagle observed a squirrel through a window and attempted to attack, but he was unable to escape as the window was shut. I witnessed all

of the bird's behaviors from a safe distance so that it was not disturbed. Looking at its internal flight, it was decided one day to release it with the assistance of the Forest Department. We let go, and it flew away, landing on a Date Palm tree. Mynas and Babblers attacked the bird, causing it to take flight and crash on the ground near a friend's house. I chose not to release the bird because of its condition, so I carried it back to my house. It was given vitamins B12, B6, B3, Calcium, and other minerals. I saw the bird become livelier after 10 days. Then we released it far away on a farm, and it flew for a long time in the sky. Unfortunately, even though I wasn't there, after hearing the news, I was certain that the Snake Eagle would hunt on its own and live. Aside from this, additional Raptors who were rescued with assistance from the Forest Department and released into the wild are listed in Table 1.

What do if you find an injured or sick raptor:

Please use darken the container to reduce stress. All raptor species are listed as Schedule - I species in the Wildlife Protection Act 1972, therefore, please inform your local forest ranger. Please wear hand gloves and sunglasses to protect the rescuer's hands and eyes because raptors have sharp talons and hooked beaks.

Acknowledgment

I appreciate the help of the Gujarat State Forest Department. During the rescue and release operations, their assistance was invaluable.

References

- BirdLife International (2023) Species factsheet: *Circaetus gallicus*. <http://datazone.birdlife.org/species/factsheet/short-toed-snake-eagle-circaetus-gallicus> [Downloaded on 24/06/2023].
- Clark, W. S., Fisher, D., Finch, B., Bruijn, D., & Shani, I., 2005. Status of Beaudouin's and Short-toed Eagle in Kenya. *Bulletin African Bird Conservation* 12:150-151.
- Ganpule P., Varu M., Trivedi B., & Raina A. D., 2022. *A field Guide to Birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488 pp.
- Naoroji, R., 2006. *Birds of prey of the Indian Subcontinent*. 1st ed. London: Christopher Helm. Pp. 704.

Table 1: A list of rescued Raptors from 1994 to 2020 (*found injured during Kite Festival)

No.	Species	Rescue Date	Release Date	Diseases or Injury
1	Shikra <i>Accipiter bandius</i>	10 Feb. 1994	died after 5 days	Wing born fracture
2	White-rumped Vulture <i>Gyps bengalensis</i>	Jan 1995	--	Dehydrated bird
3	Tawny Eagle <i>Aquila rapax</i>	07 Feb. 1998	17 Feb. 1998	Wing born cut
4	Short-toed Snake Eagle <i>Circaetus gallicus</i>	30 Sep. 2005	27 days	This note
5	Oriental Honey Buzzard <i>Pernis ptilorhyncus</i>	17 Apr. 2008	19 Apr. 2008	Seek bird
6	Black Kite <i>Milvus migrans</i>	16 Jan. 2011	27 Jan. 2011	a small cut in wing*
7	Black-eared Kite <i>Milvus migrans lineatus</i>	17 Jan. 2013	6 Feb. 2013	a small cut in wing*
8	White-eyed Buzzard <i>Butastur teesa</i>	02 Jan 2014	06 Jan. 2014	Seek bird
9	Long-legged Buzzard <i>Buteo rufinus</i>	10 Feb. 2019	15 Feb. 2019	Dehydrated bird
10	Oriental Honey Buzzard <i>Pernis ptilorhyncus</i>	17 July 2020	1 Sep. 2020	Seek bird

Birds of Prey on Indian Stamps: – A tale of philatelic error's!

Sunil Kini: 78@Gokuldham, Nr Eklavya School, Sanand-Sanathal Road, Ahmedabad-382210. sunil_kini@yahoo.com

The hobby of postal stamp collecting is popularly known as Philately. The author has been an avid birder and philatelist and holds a special interest in collecting postal stamps on the theme 'Birds of Prey - seen in India.' The theme is to collect raptor or bird of prey stamps issued by various countries of the world but only of such species which are seen in India.

For the Raptor Special issue of Flamingo, Gujarat the author wanted to contribute this note for all raptor enthusiasts on the four commemorative stamps which have been issued by the postal department of India till date. These stamps were officially released for public use on 30th December 1992 and below are the images from the authors' personal stamp collection.

Interestingly all the above four species of Birds of prey have been recorded in Gujarat state. One of the species is a resident, while the other three are migratory. The Osprey is a common winter visitor to the state with widespread distribution. The Shaheen (Indian Peregrine) is an uncommon to rare resident in some hilly parts of the Gujarat state. There have been vagrant records of the other two species Bearded Vulture which was recorded from Saurashtra and of the Golden

Eagle which has isolated records from North Gujarat and Kachchh areas (Ganpule et al. 2022).



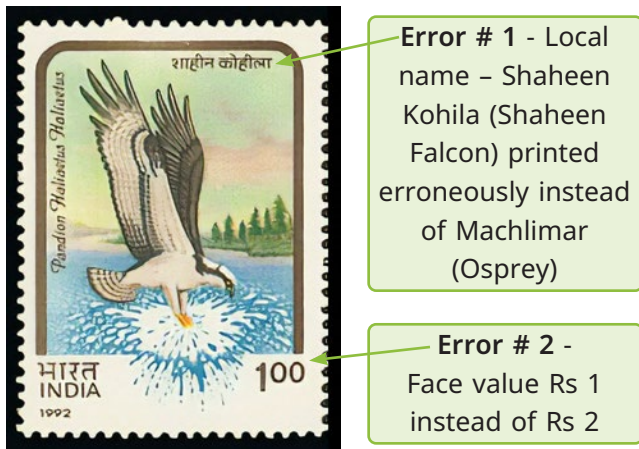
Figure 2: Image of a First Day Cover with a special Raptor pictorial cancellation issued by the Coimbatore General Post Office on 30th December 1992 (Day of release)

A tale of philatelic errors!

In Philately any stamp which is scarce is of high importance for collectors. The reason behind such scarcity can be due to some special factors or reasons. Collectors highly seek after such stamps and there is always a huge demand, leading to a very high price of such rarities. Interestingly two of such modern-day rarities have emerged from the set of the above Birds of Prey stamps issue of Dec 1992.



Figure 1: Image of birds of prey on the postal stamps - Osprey Pandion Haliaeetus Haliaeetus (Face Value: Rs 2); Shaheen Falcon Falco Peregrinus Peregrinator (Face Value: Rs 6); Lammergeier Gypaetus Barbatus Aureus (Face Value: Rs 8); Golden Eagle Aquila Chryseatos Dephanea (Face Value: Rs 11).



1. Error Stamp



2. Official Release Stamp

Figure 3: Osprey stamp with printing & face value error

The story behind these error stamps and their value to philatelists: It was learned that the postal department had initially decided to issue the Osprey stamp with a Face value of Rs 1, however during the printing period there was a policy change to revise the minimum stamp rate for commemorative stamps to Rs 2 and hence the replacement orders were issued for a Rs 2 Face value stamp.

One more issue which the Osprey and the Peregrine (Shaheen) stamps was a printing error so, to say an ornithological blunder. On the Rs 1 Face value stamp of the Osprey and the Rs 6 Face value stamp of the Indian Peregrine (Shaheen), the local Hindi names were mixed up and instead of mentioning "Machlimar" on the Osprey stamp, it was erroneously mentioned as "Shahin Kohila"



1. Error Stamp



2. Official Release Stamp

Figure 4: Shaheen stamp with printing error

and similar name jumbling happened on the Peregrine (Shaheen) Stamp.

It is believed that despite the best precautions taken by the postal department in ensuring that these error stamps are destroyed and not released, there have been a few copies that probably got released due to oversight an ended up getting released to public by mistake. Hence these stamps became a case of a classic error in modern Indian philately and now are highly fancied by collectors.

While there is no official count of such error stamps in existence, but it is believed that around 12 to 15 genuine copies of the Osprey and 2 copies of the Peregrine (Shaheen) stamps are known to collectors. These are unused mint copies which were never used commercially. Being highly

sought after a genuine expert certified copy of this Osprey stamp was last auctioned at the Spink Auction held on 18th Nov 2022 for 3,000 British pounds + bidders premium (3 Lakhs + Indian rupees). A similar realization was expected on a certified Peregrine (Shaheen) Stamp which came up for auction (Lot # 106) in May 2016 under the Christoph Gartner GmbH & CO KG auction. The Only Known do date a Strip of 3 stamps of Osprey variety was sold for a whopping sum of 15000 pounds + Premium (15 lakhs + Indian rupees) in 25th November 2014 Spink sale.



Figure 5: The Strip of 3 Known do date with the error

Acknowledgments

I would like to sincerely thank philatelist Mr Ramu M Srinivasa FRPSL, FPCI from Bangalore for reviewing this manuscript and for sharing his invaluable inputs and knowledge on these error stamps.

References

Ganpule P., Varu M., Trivedi B., & Raina A. D., 2022. A field Guide to Birds of Gujarat. Bird Conservation Society, Gujarat. Ahmedabad. i-viii, 1-488.

Link to the image source (Fig 1) and the Spink auction (Osprey stamp). <https://www.spink.com/lot/22026000299> (18th November 2022).

Link to the reference & image source (Fig 3) of Christoph Gartner GmbH & CO KG auction (Shaheen Stamp) <https://www.stampcircuit.com/stamp-Auction/auktionshaus-christoph-g%C3%A4rtner-gmbh-co-kg/6883379/lot-106-indien-auktionshaus> (30th May 2016)

Fig 5 - Osprey Variety the only known strip of 3 sold at M/s Spink, UK during November 2014, <https://www.spink.com/lot/14025000711>

The Falconry in the Princely State of Bhavnagar

I. R. Gadhvi: Professor and Head, Department of Marine Science, Maharaja Krishnakumarsinhji Bhavnagar University, Bhavnagar 364001. irgadhvi@mkbhavuni.edu.in



The history of falconry is interesting. Many authors have given their views regarding the royal game. Falconry is the art of using raptors like falcons or hawks for hunting. There is evidence to show that falconry was practiced as far back as the eighth century B.C. in Assyria (modern-day Iraq and Turkey). It reached a peak in popularity in Europe during the Middle. One of the main participants in falconries was Frederick II (1194-1250), a king of Germany and Sicily crowned Holy Roman Emperor in 1220. Frederick found time to be a passionate falconer and bird observer while being one of the most influential individuals in central Europe. He authored a book on falconry titled *De Arte Venandi cum Avibus* (On the art of

hunting with birds). In contrast to other academic works, this book was unique in that it was based on the author's observations.

It has long been recognized that the sport of falconry or hawking is the most popular. Popularity and undisputed supremacy as an aristocratic pastime during the Middle Ages in Western Europe. The origin of falconry, both geographically and chronologically, is still hidden in darkness, and it seems doubtful whether we shall ever discover the cradle of this ancient sport but as all the earliest pictorial and most of the earliest literary evidence comes to us from the Orient, it seems certain that either the Near, Middle or Far East first saw proud birds of prey serve the purposes of men. The first great civilizations of the world rose in the East, and hawking is the product of an advanced civilization. Falcons cannot be bred in captivity, and thus each bird presents a new and ever-varying experiment in trapping and training. Only a wealth of leisure, great patience, sensitivity, and ingenuity, not ordinarily shown with regard to animals by primitive people, will make a successful falconer. Besides, the wide-open steppes and plains, the endless deserts and bare mountain slopes of the East seem infinitely more suitable for falconry than the marshy and densely wooded regions of ancient Europe. Thus, it was that in the 12th and subsequent centuries and to such an immortal of falconry as Frederick II, the fullest technical knowledge of the sport was transmitted from the East and through the channels of Islamic civilization. (Hans J. Epstein 1943).

The art and practice of falconry has been described in many treatises in different languages but very few people know anything about it. There has always been considerable controversy regarding its origin, though there is Historical evidence that

it has been in existence since c. 1200 B.C. Falconry probably originated in Central Asia from where it spread to Persia and India. The Arabs learned it from the Persians, and it was brought to Europe by the returning Crusaders, who undoubtedly learned the art from the Arabs (Osman 1967).

Though literature regarding falconry in India is scanty, looking at the history of falconry in India, during the Mughal period, emperor Shah Jahan was the champion of the magnificent kingly sport of falconry, but first seen at its height in the days of the emperors Genghis Khan and Kublai Khan, the great Mongols and of monarchs of Persia, was introduced to India (Dharmakumarsinhji 1998).

Falconry became popular during the British era when several Indian Princely States engaged in it and kept hereditary falconers, some of whom had exceptional talent. 'Bazdar' Makekhan Fatekhan who served as a hereditary falconer to the Maharajahs of Bhavnagar was a falconer of very high caliber. One of his achievements was training the saker falcon (Cherrug) on the chinkara! This

is considered one of the highest standards to be reached in Indian falconry. Dharmakumarsinhji (1998) writes there were a few Indian states have falconry departments like Bhavnagar, Baroda, and Jamnagar, etc in Gujarat, and a few states in Rajasthan like Bharatpur, Jodhpur, Bikaner etc, Mysore, Hyderabad, and a few others in India. Many Muslim rulers of small princely states and Jagirdars also had good falconers with them and some of them used to organize falconry meetings in the pre-independence era of India.

The writings of KS Dharmakumarsinhji and Gohil Gambhirsinh (2020) revealed that H. H. Maharaja Bhavsinhji II (1875-1919) employed ustad Makkekhan the falconer to the Bhavnagar State as he was a keen shikari of that era but falconry was systematically developed in the time of H. H. Maharaja Krishnakumarsinhji(1919-1947). Almost from 1930 to 1955 the sport of falconry was at its highest peak in Bhavnagar. H. H. Maharaja Krishnakumarsinhji of Bhavnagar has given the responsibility of the falconry department



of Bhavnagar State to K. S. Dharmakumarsinhji the younger brother of the Maharaja. Dharmakumarsinhji was an excellent hunter and a master in falconry. Many experiments of hawking chinkara, migratory cranes, and even Saras crane were hunted with the help of trained falcons by the excellent falconers of Bhavnagar.

The interesting thing is, the falcons for hunting were either purchased or trapped by the local shikaris normally during winter, which was the main hunting season. The eyelids of trapped wild falcons were stitched initially by the well-trained falconers to make them habituated to human touch and keep their fear away. As well as the falcons should be made acquainted with the hood on their head which conceal their eyes. The vigorous training commenced immediately within a week or two. The trapped falcons were trained on artificial birds made of cotton and the wing feathers of crows known as Dalbo. The instinct of killing is properly focused and channelized for a particular quarry which may be francolin, ibis, cranes, or even gazelle. At the end of the hunting season, the falcons were rehabilitated in their habitat.

Some of the events are noteworthy for the readers as it shows the finest caliber of the falconers of Bhavnagar.

Hunting of Chinkara with Falcon: With the order of Maharaja, Bazdar Makekhan and his son Gulam Hussain purchased six juvenile and subadult Saker falcons from the famous hawk market of Amritsar (Punjab), at the highest cost in the auction. The large-sized Sakers were known amongst falconers as Harani Cherug, which means the falcons which used to hunt antelopes! The sakers are fast falcons, the size of ravens, and since the chinkara had to be put on the run before releasing the falcons. Before releasing, the falcons are unhooded and the pair released one after another. The gazelle realized it was being attacked when the falcon stooped down and hit its nape, and it started racing quickly. The

Shikar party remains ready either on horseback or in cars to pursue the event. The shikaris also keep trained dogs to catch the gazelle when the animal is properly attacked by the falcon. When the entire shikar was successful the Bazdars were given a prize by the Maharaja.

K. S. Dharmakumarsinhji was a renowned austringer (a person who is a master in training Goshawk) of princely India. During the 1940s, two American falconers, Frank and John Craighead the twin brothers and well-known conservationists of the 20th century, visited Bhavnagar to learn technics of falconry from Dharmakumarsinhji. They spent almost a year in Bhavnagar with the royal family and learned many new technics from Dharmakumarsinhji and documented the events for National Geography Magazine. Afterwards, at the beginning of the 1950s, they published a book and a documentary film on falconry, hunting with trained cheetah, and a few ceremonies of the royal family of Bhavnagar in the National Geography Magazine entitled 'Life with an Indian Prince'.

Another event is hunting with a trained peregrine falcon: Gulam Hussain the Bazdar, elder son of the great Bazdar Makekhan, a very talented falconer has purchased half a dozen peregrine from Masulipatnam (a part of Madras State) hawk market. He trained two of them to catch common and demoiselle cranes! The word used by the falconers for the different stages of their age is chooj for juvenile bozam for subadult and Tarinag for a bird about to become an adult. Chooj and Bozam stages were considered to be best and female falcons were considered better for crane hawking owing to their size and strength. A trained peregrine can successfully catch a common or demoiselle crane or even a Saras crane which is almost six times larger and much stronger. The trained falcon clung to the neck of a crane and the crane come down to the ground the shikaris were ready to catch the quarry and pick up the falcon safely. The crane may create a fatal attack on the falcon if it fails to

cling properly. Gulam Hussain was well rewarded at the closing of the hawking season every year.

There are many such events of hawking hares, lapwings, ibis, francolin, etc with goshawk or Laggar falcon. A trained goshawk used one foot on the neck of the hare and the other to keep hold of the fluttering feet of the quarry with its powerful talons. Such spectacular events were observed by the members of the royal family and the guests, either riding in a car or on horseback.

Hunting with an Eagle: In the Mughal Empire, eagles were trained but they were not as popular as hawks and falcons. The adult Bonelli's eagle (*Aquila fasciata*) is not very large but it excels in courage and footwork. The female is slightly larger than the male. Dharmakumarsinhji has trained a pair of Bonelli's eagles and successfully hunted Blackbuck! He describes that "Training eagles are exasperating work owing to their recalcitrant nature, their heavy weight and capacity to fast for days at a time. But once trained the eagle shows remarkable performance. To give one example, I let loose an immature female Bonelli's eagle on a blackbuck and the eagle overturned it by a hold of her talons on the muzzle with one foot and as the antelope came crashing down and tried to kick the eagle with its powerful hind legs and sharp hoofs the second foot was swiftly and dexterously used in which both hind legs, and one foreleg at the hocks were caught and bound as in a vice in the talon. The blackbuck, to my utter amazement, lay on the ground as if its legs had been tied. This revelation of the gripping powers and dexterity of Bonelli's eagle was beyond my imagination and reminded me of a hawk I had, a female goshawk, catching a hare using her feet alternately to her advantage to overpower the much heavier prey and then lying on her back with the hare on top, thus saving her tail feathers from being broken.

Falconry was a great art that has vanished since the 1970s along with the implementation of wildlife and forest laws in India. The Wildlife Protection Act 1972 is one of the most comprehensive acts in the

world. It provides legal protection to all species that are needed. The unauthorized trapping of birds is always harmful to the conservation of species. Hence for the conservation purpose the art of falconry is not permitted in India. But it still exists in some Arab countries, Japan, America, and Europe. North American Falconers Association was founded in 1961 to encourage the proper practice of the sport of falconry and the wise use and conservation of birds of prey. From a handful of members in its early years, NAFA has grown to a membership today of approximately 2,000 and is today the largest membership falconry organization in the world. The International Association for Falconry and Conservation of Birds of Prey is an international organization working from Belgium. The royal family and the legendary falconers of Bhavnagar will always be remembered in the history of falconry in India

References

- Dharmakumarsinhji. 1955. *Birds of Saurashtra*. Times of India Press.
- Dharmakumarsinhji. 1998. *Reminiscences of Indian Wildlife*, Oxford University Press Delhi pp 172.
- Burton, R.W. 1952. A History of Shikar in India. *Journal of the Bombay Natural History Society* 50:845-869.
- Gohil, Gambhirsinh. 2012. *Praja vatsal Rajjee*. Pravin Parakashan. 572 pp.
- H. J. Epstein. 1943. The Origin and Earliest History of Falconry. *Isis* 34: 497-509.
- Louis Acassiz Fuertes. 1920. Falconry, the sport of kings, *National Geography Magazine* 38(6): 429-460.
- Osman, S M. 1967. Falconry. *Journal of the Bombay Natural History Society* 64: 70-74.
- Encyclopedia.com/science-falconry Photographs courtesy: By Anonymous <https://howard-hodgkin.com/indian-collection/artwork/maharaja-suraj-mal-with-a-hawk>, Public Domain, <https://commons.wikimedia.org/w/index.php?curid=61342164>
- Unknown Author <http://www.wga.hu>, <https://commons.wikimedia.org/w/index.php?curid=8540211>

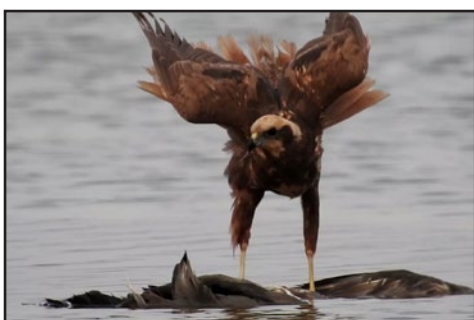
Short Birding Notes



Sighting of Eurasian Hobby *Falco subbuteo* at Rajkot

On the 24th of November 2022, Dr. Ketan Bavishi and I went to Vagudad village road for birding. While returning from there around 8.30 AM, I watched a raptor bird on a light pole and suddenly found it a Eurasian Hobby (*Falco subbuteo*). We stopped there and took some photos and videos. The bird was sitting for a long time there, and Black Drongo (*Dicrusus macrocerus*) came to disturb it, and then Hobby flew away very far. This is probably the 2nd record of the Eurasian hobby in Rajkot this season known to me. As per status, Uncommon/rare passage migrant. Sight reports from Little and Greater Rann of Kutch and other areas in Saurashtra and Gujarat.

Priyank Dhami: Rajkot



Western Marsh Harrier feeding on a Demoiselle Crane

On 21st March 2023, I was alone birding in the Vadla area, Nalsarovar. I saw a Western Marsh Harrier (*Circus aeruginosus*) feeding on a Demoiselle Crane (*Grus virgo*). There were three Greater Spotted Eagles (*Clanga clanga*) nearby. Two were near the kill and one was sitting a little far. I observed the event for 20 minutes and took photos and videos using my P900. This was 1st time I saw a Marsh Harrier feeding on a Demossile Crane. Previously I have seen Marsh Harrier feeding on Little Egret (*Bubulcus ibis*). This is a noteworthy feeding behaviour of Western Marsh Harrier.

Sabbir Belim: Nalsarovar.



Sightings of Indian Spotted Eagle *Clanga hastata* near Porbandar

Indian Spotted Eagle *Clanga hastata* is sighted regularly at Mokarsagar Wetland (Gosabara Wetland), situated near Porbandar. We watched the Indian Spotted Eagle from 2015 to 2022 at the Mokarsagar. This wetland is a well-known place for bird watching, attracting a large number of birds in the winter. The last sighting of an Indian Spotted Eagle Near Porbandar was on February 23, 2022, at around 11:30 hrs. One adult Indian Spotted Eagle was seen soaring in the sky. It went out of sight in a few minutes. There were marshes nearby, which are a preferred habitat for the Indian Spotted Eagle. Indian Spotted Eagle *Clanga hastata* is status is 'vulnerable' and thought to have a small and declining population, threatened by the conversion and disturbance of forested habitats within its range (BirdLife International 2023). It is thought to be uncommon to a rare resident in India, patchily distributed from the Gangetic Plains, south to Gujarat and Maharashtra, Central India, eastern and Northeast India (Naoroji 2006). It is rare to uncommon in various parts of Gujarat, but it is possible that it could be breeding in south Gujarat (Mori 2018 & Ganpule et al. 2022).

Punit Karia & Konark Karia: C/o Mijbani Caterers, "Nirant", Bungalow No. 27, Jalaram Colony, National Highway, Porbandar 360575. Email: Konark.karia@yahoo.in



Sighting of Indian Vultures (*Gyps indicus*) at Kadana Dam, Mahisagar

Long Billed Vulture also known as the Indian Vulture (*Gyps indicus*). The population of vultures is in decline, and very few are spotted this year at Kadana Dam, Mahisagar. The Kadana Dam site is the nesting place for these birds. There were around 7-8 birds spotted on 4th April during the vulture census 2022. And recently on date 7th April 2023, we spotted a chick of Indian vulture during our last visit to the same spot. It was covered in white feathers and one parent was there with the baby bird. There are a few gaps and cracks which these birds use for nesting. Indian Vulture breeds mainly on cliffs in south and central India. The sighting of this offspring has given new hope to bird watchers and vultures enthusiasts. The cliffs of Kadana Dam provide a perfect habitat for this critically endangered bird.

Mayur Prajapati: mayurpcamps@gmail.com



A large flock of White-rumped Vultures *Gyps bengalensis* near Surendranagar

On 13th May 2023, during routine birding in the outskirts of Surendranagar, at around 09:00 hrs, I observed many White-rumped Vultures (*Gyps bengalensis*) flying at low height, by the roadside near Modhvana Village of Surendranagar district. Initially, 22 birds were seen in flight and they were descending towards a nearby lake. The lake was well concealed with no direct visibility from the road and therefore, I parked my car on the roadside and walked towards the lake. I was pleasantly surprised to see a big flock of perched vultures on the grass bed of the lake. The water had receded due to the summer heat. I counted 51 vultures and all the birds were White-rumped Vultures and the flock consisted of birds of all ages (including juveniles, sub-adult and adult birds) (Photo 1). I had to make a difficult trek through *Prosopis juliflora* covered surrounding the lake and had to wade through water in a few patches of the lake to reach a decent vantage point with appropriate lighting conditions and managed to take a few pictures. There were 22 adult birds, 10 juveniles and 19 sub-adult vultures in the flock. To see such a large flock of these critically endangered birds in Surendranagar is always special. There are a few regular nesting sites with 7-10 active nests each season in the nearby vicinity and sporadic sightings of similar numbers of vultures from the region have been observed here (Chiku Vora and Faruk Chauhan, pers. Comm.). The last time I had seen large numbers of vultures in this area was in July 2016 when 80 White-rumped Vultures were seen in another nearby lake bed. The Forest Department conducts regular vulture censuses and many proposals for vulture conservation are yet to be implemented. Management of vulture feeding sites with water availability with the help of local villagers, under the observation of the Forest Department and with the help and assistance/ advice from NGOs might turn out to be helpful for conservation of these few surviving scavengers which once soared in the skies of Gujarat in large numbers.

Nirav Bhatt: Wadhwan, Surendranagar. birdwatchernrb@gmail.com



Sighting of Brahminy Kite *Haliastur indus* at Surendranagar

While I was birding at Bhogavo River at Surendranagar On March 2, 2021, around 07:00 hrs, a Brahminy Kite started (*Haliastur indus*) calling in flight and took photographs from a distance. It is an adult bird with a white head and belly and black wingtips. After the second sighting, on March 5, 2021, around 8:30, I saw a Brahminy kite some distance away from the first one. I've never seen this species in the Surendranagar region previously. It is certainly a new record for the area. According to Ganpule et al. (2022), this species is common in most of the state's coastal belts but uncommon inland. The aerial distance between the two spots is less than one kilometer, and they are both near the Bhogavo River, Surendranagar.

Devvratsinh Mori: Ahmedabad University, Ahmedabad - 380009.
devvratsinhmori@gmail.com



Sighting of Amur falcon *Falco amurensis* at Nal Sarovar Bird Sanctuary

On April 13, 2019, around 17:15 hrs. We were on a bird-watching trip to Nal Sarovar Bird Sanctuary. We observed the Collared Pratincole *Glareola pratincole*, the Yellow Bittern *Ixobrychus sinensis*, the Cinnamon Bittern *Ixobrychus cinnamonneus*, the Black Bittern *Ixobrychus flavicollis*, the Red-necked Falcon *Falco chicquera*, and other waterfowls. While returning to the Nal Sarovar Bird Sanctuary check-post, around 18:45 hrs. We saw unidentified small falcons circling in the sky. Using binoculars, we discovered twenty-one Amur Falcons, including three adult males, seven adult females, and eleven juvenile males or females. Although falcons were observed from a very far distance, the first author observed five Amur at one location, Little Rann in Kachchh, earlier in 2012. In Gujarat state, it was an amazing and significant sighting to see twenty-one Amur at one time.

Devvratsinh Mori: Ahmedabad University, Ahmedabad - 380009.
devvratsinhmori@gmail.com

Kasam Sama Sidani: bird guide at Nal Sarovar Bird Sanctuary.



Egyptian Vulture *Neophron percnopterus* near Morbi

On 20 May 2023, I visited the area behind Machchhu-II Dam. There is a carcass dump near this site. I saw a vulture in flight which I thought was an Egyptian Vulture (*Neophron percnopterus*) but I could not get good photographs. I informed about this sighting to Prasad Ganpule, who told me that this was a rare sighting in Morbi District. This species was seen here after more than 15 years. To get a better photograph and further confirm the sighting, I visited the site for three consecutive days. On 22 and 23 May 2023, the vulture was not seen. However, on 24 May 2023, I was lucky and saw the vulture well and took some good photographs. It was probably an immature bird or sub-adult bird. The sighting of an Egyptian Vulture here in late May suggests that this was a bird from the resident population in Gujarat. The Egyptian Vulture is now rare and this sighting is thus significant for our district.

Bhavya Vamja: Morbi. bhavyavamja9@gmail.com



Sighting of Indian Shaheen or Black Shaheen *Falco peregrinus peregrinator* in Kheda and Anand District

Indian Shaheen (*Falco peregrinus peregrinator*) is an uncommon to a rare resident in some hilly parts of the state, with isolated records from elsewhere (Ganpule et al. 2022). This bird is found widely across the state mostly nearby hilly forests including some city records. Looking at to map of distribution, the bird is not sighted in an area like Kachchh, Surat, Anand, Kheda, Rajkot, Porbandar, Dwarka, Amreli districts, etc (Mori & Joshi 2017). Indian Shaheen breeding records are at Girnar Hills, Pavagadh Hills, Jessor Hills and Palanpur outskirts (Bhatt 2022). I sighted a single bird on 26 May 2021 and 8th July 2021 on an electric pole at Vastana, Kheda district. Another sighting was at Sojitra, Anand district, perched a single bird on a tree on date 19th October 2022. My sightings of Indian Shaheen in both Anand and Kheda districts are adding to its distribution. This is possible that birds may come here from the nearby Vadodara area where many sightings occurred.

Vishal Mistry: vmistryvaso@gmail.com



Sighting of Amur Falcon in Rajkot

April is the month when bird watchers in Rajkot need to keep their eyes and ears open. One may be lucky to spot passage migrants on their way back home! We got lucky on Wednesday, 26th April 2023. As we were driving through the new ring road, we noticed a small raptor sitting on the electric fence looking down maybe for insects. On closer look, it looked like a Falcon. As it was getting dark, we clicked a picture to identify the bird, and to our astonishment, it was a male Amur Falcon (*Falco amurensis*). After our sighting, there was another sighting of a female Amur falcon by Dipen Tretia and Ketan Ba visit to Khirasara grassland on date 29th April, 2023 (Social media and ebird). Amur falcons are the longest migratory birds flying from Siberia and northern China to Southern Africa via India (Naoroji 2006). The one-way journey is around 20,000 km and they do it twice a year. The possibility of spotting this bird increases in the early morning or late evening is the foraging time for the falcon. The route taken to return to their breeding ground in China and Siberia runs slightly northwards. Gujarat (Ganpule 2011) is one of the major entry points for Amurs on their return migration, especially Saurashtra and Kutch, which are waypoints on the flight route.

Siddharth Kaul & Madhumita Kaul: kaulsm@hotmail.com

References

Bhatt N. 2022 Observations on breeding of the Shaheen Falcon *Falco peregrinus peregrinator* in Gujarat. *Flamingo Gujarat* 5(4): 11-15.

BirdLife International. 2023. Species factsheet: *Clanga hastata*. <http://datazone.birdlife.org/species/factsheet/indian-spotted-eagle-clanga-hastata> [Downloaded on 20/06/2023].

Ganpule, P., 2011. The status and distribution of Amur Falcon *Falco amurensis* in Gujarat, India. *Indian BIRDS* 7 (2): 45-46.

Ganpule, P., Varu, M., Trivedi, B., & Raina, A. D., 2022. *A field guide to the birds of Gujarat*. Bird Conservation Society, Gujarat. Ahmedabad. 488 pp.

Mori, D. & Joshi, V., 2017. Status and distribution of Black Shaheen in Gujarat. *Flamingo* 15(2): 1-5.

Mori, D., 2018. Status and distribution of the Indian Spotted Eagle in Gujarat. *Flamingo* 16 (2):1-6.

Naoroji, R., 2006. *Birds of prey of the Indian Subcontinent*. 1st ed. New Delhi: Om Books International. 692 pp.

Feather Frame: Flight at the Feather Tips

Yashodhan Bhatia: Bhatia Stores, Old Station Road, Jamnagar. 361001. Gujarat. India
Email: jamnagarbirds@gmail.com

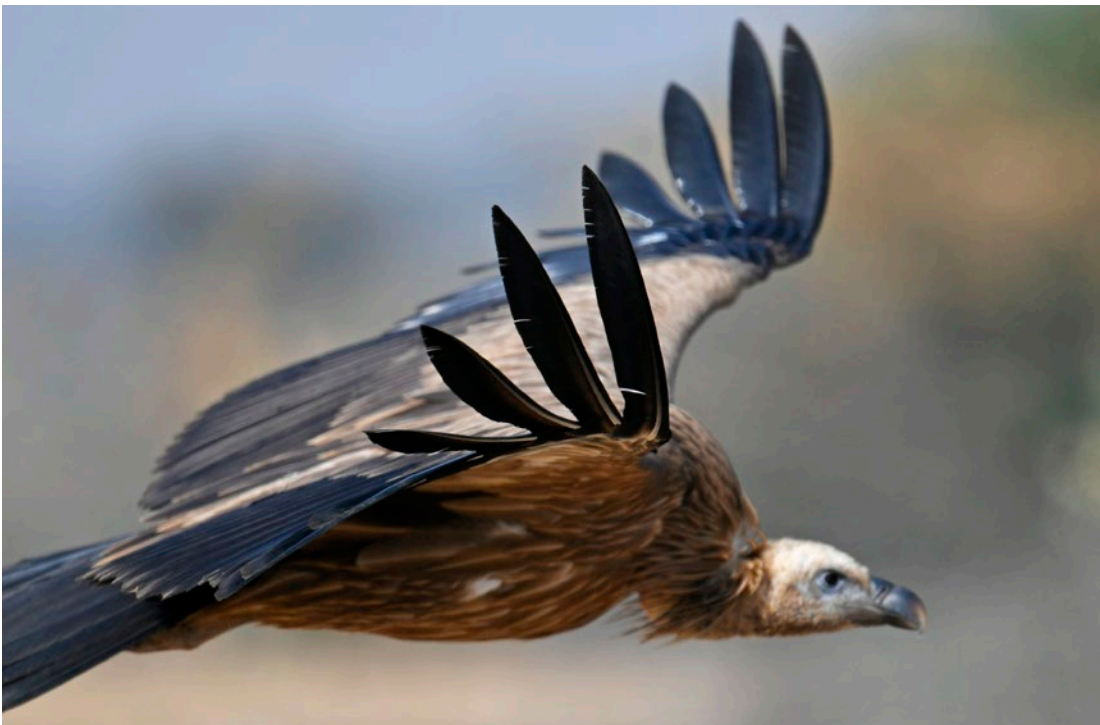
All birds are smart fliers. They have the instincts to use the atmospheric air to their best benefit. The same factor applies to larger raptors. They need to fly for a longer time to find food and travel long distances. But they have a relatively low basal metabolism as their energy consumption is slow. A powered flight (as in small birds) involves the bird's own muscles, consuming more energy to remain in flight. So these prudent avians have found the way out. They extract energy from the air in which they fly! This theory is called 'soaring'.

While soaring, these raptors are actually exploiting the movements of the wind or air in the atmosphere. To traverse the terrain from a height in search of food, they must remain airborne for longer. For this, they use thermals significantly. Thermals are vortex structures of air and are activated by solar heating of the ground. Raptors fly in circles of small radius to get the lift as the thermals have a zone of rising air in the middle which is surrounded by a zone of rotating air. When the vertical speed of the rising air is

more than the sinking speed of the raptor, it is able to climb or maintain a height without even flapping the whole wings. Broader wings and the slotted tips of the primaries are the characteristics of birds that relish soaring in thermals over the land.

In this picture of a soaring Eurasian Griffon, the primary feathers P7 to P10 are emphasized. Longest among the flight feathers, these primary feathers are relatively stiff and can be controlled and moved like human fingers, even while in flight by the gliding bird. These feather tips provide most of the forward thrust to the bird. The slots between the feathers are also for a purpose. Such space between adjoining flight feathers smooths airflow over the wings which eventually reduces drag. This helps to increase the lift and the gliding ability of vultures.

A very well-known quote by *George Couros* says "You have the world at your fingertips...". But here in the context of the birds, I would mention that the 'Birds have the *Flight at their Feather Tips!*





Indian Black Shaheen



Black-shouldered Kite



Amur Falcon



Red-naped Shaheen



Regd. Address : 19/414, Satyagrah Chhavni, Satellite Road, Ahmedabad-380015, Gujarat.

Web: www.bcsг.co.in