



Organised By



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Udaipur Bird Festival

22nd to 24th January, 2021, Udaipur



DEPARTMENT OF FORESTS, GOVT. OF RAJASTHAN
DEPUTY CONSERVATOR OF FORESTS, WILDLIFE UDAIPUR

Wetland Jewels of Rajasthan



From Various Wetlands of Rajasthan...





R.K. Khairwa IFS
Chief Conservator of Forests
Wildlife, Udaipur

ACKNOWLEDGEMENTS

Existence of mankind depends on existence of biodiversity, forests, hills, streams and other components of mother nature. Among biodiversity, the common man is well acquainted with the avian diversity that also plays a vital role in survival of humanity. Southern Rajasthan is known for its forest, IBAs, sanctuaries, water bodies, bird diversity and conservation ethos. In Udaipur, we are organizing bird festival from 2014 with full enthusiasm. This is our 7th edition of bird fair now called bird festival.

Besides many lakes situated amidst Udaipur city, a large number of water bodies are confined to the southern part of the state to name some are Kishan Kareri, Badwai and Mangalwar of Chittorgarh district which are 85 to 100 kilometer away from Udaipur city. The water bodies of Menar (recently declared IBA), Nagavali and Bhatewar that fall in Udaipur district are 35 to 80 kilometer away from Udaipur city. Sai dam of Udaipur district which is also an IBA is 75 km away from Udaipur. Jawai dam in Pali district is very important water body where birds of desert and Aravallis can be seen together. Rajsamand, Gapsagar, Udaisagar, Baghdarrah, Piladar, Ranakpur etc. are other important water bodies where diverse varieties of birds can be seen. Various taxonomic groups of aquatic birds like Ducks, Geese, Rails and Waders etc. can be commonly seen over here.

I take this privilege to acknowledge here the sincere efforts put in by city people, students, researchers, partners, professionals, armed forces, electronic and print media, organizations, members of Eco-development Committees and Village Forest Protection and Management Committees, NGOs and all who have contributed to organize "Udaipur Bird Festival" and to bring the souvenir in existence.

Due to Covid-19 pandemic, this time Udaipur Bird Festival programme is being organized online. This program could have never been a success without the team role of my colleagues, all officers and personnel of Forest Department who has always remained available for this festival. My sincere thanks to all those whom I have not been able to name here, but their contribution has never been less than others.

(R.K. Khairwa)



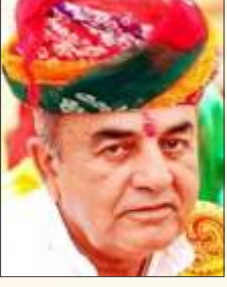
अशोक गहलोत
मुख्यमंत्री
राजस्थान



मुझे यह जानकर प्रसन्नता है कि उपवन संरक्षक, वन्यजीव, उदयपुर के सौजन्य से राष्ट्रीय स्तर के "उदयपुर पक्षी पर्व" का 22 से 24 जनवरी, 2021 तक आयोजन हो रहा है एवं इस अवसर पर एक स्मारिका का प्रकाशन किया जा रहा है। पवन, जल, पेड, वन्य प्राणि और पक्षियों का हमारे पर्यावरण एवं पारिस्थितिकी संतुलन में महत्वपूर्ण योगदान है। इस प्रकार के समारोहों से वन्यजीव प्रेमियों एवं विशेषज्ञों को पर्यावरण के क्षेत्र में नवीनतम शोध, तकनीक और ज्ञान की जानकारी मिलती है। साथ ही नई पीढ़ी को इन विभिन्न प्रजाति के पक्षियों के कार्यकलापों से सकारात्मक प्रेरणा मिलती है।

आशा है इस पर्व के कार्यक्रम एवं स्मारिका की सामग्री प्रदेश एवं विशेष कर उदयपुर क्षेत्र में इस ऋतु में आने वाले पक्षियों के आवागमन एवं उनकी विशेषताओं को प्रकाशमान करने वाली होगी। मैं "उदयपुर पक्षी पर्व" के आयोजन एवं स्मारिका के प्रकाशन की सफलता के लिए शुभकामनाएं प्रेषित करता हूं।

(अशोक गहलोत)



सुखराम विश्नोई

राज्यमंत्री

वन एवं पर्यावरण विभाग, राजस्थान



मुझे यह जानकर खुशी हुई कि गत वर्षों की भांति निरन्तर सातवें वर्ष भी वन विभाग, उदयपुर द्वारा वृहत् स्तर पर तीन दिवसीय “उदयपुर पक्षी पर्व 2020–21” का आयोजन किया जा रहा है।

जिस तरह हमारे घर की खुशियाँ बच्चों की किलकारियों से गूँजती हैं, उसी तरह प्रकृति की खूबसूरती पक्षियों की चहचहाहट से बढ़ती है। प्रभात और सायंकाल में इनकी चहक से धरती गुंजायमान हो उठती है। इनके निवास से वन-प्रान्तरों की शोभा निखर उठती है। इनके आकर्षक रंगों से हर कोई मोहित हो जाता है।

पक्षी हमारे पर्यावरण के अभिन्न हिस्से हैं लेकिन अवैध शिकार एवं वन क्षेत्र घटने से कुछ पक्षियों पर संकट के बादल मंडरा रहे हैं। इनमें से कुछ दुर्लभ भी होते जा रहे हैं। सरकार ने इनकी रक्षा के लिए वन्यजीव (संरक्षण) अधिनियम एवं अभयारण्य बनाए हैं।

हर वर्ष सर्दियों में सुदूर हिमालय एवं उसके पार से आने वाले विदेशी प्रवासी मेहमान परिंदों का हमारे देश की ओर आना शुरू हो जाता है। इस वर्ष कोरोना महामारी के कारण जन सुरक्षा को ध्यान में रखकर इस कार्यक्रम का आयोजन ऑनलाईन किया जा रहा है, जो कि एक सराहनीय कदम है।

मैं इस आयोजन की परम सफलता की कामना करता हूँ एवं आशा करता हूँ कि यह आयोजन अपने उद्देश्यों में अवश्य ही सफल होगा।

(सुखराम विश्नोई)



Niranjana Arya
IAS
Chief Secretary
Govt. of Rajasthan



It is heartening to note that the **Udaipur Bird Festival**, an inspiring initiative that has carved its own niche in the calendar of the wild life enthusiasts, is maintaining its tryst with the cause, notwithstanding the ongoing adversities.

I am delighted to register that the Udaipur Bird Festival, sans the geographical limitations, is getting stronger with its seventh consecutive edition being organized online from January 22 to 24, 2021.

I praise it as an unflinching commitment and a sincere tribute by Udaipur Wild Life Wing, to the cause of environment.

The Fair promises to offer an opportunity to amateur bird watchers, ornithology enthusiasts and nature lovers in general, to appreciate fauna and ecological splendor of the Udaipur division.

I hope the Souvenir that the Department proposes to release on this occasion, will stimulate young minds to appreciate the bird life, and enthuse general awareness towards Environment and Wildlife.

I congratulate the organizers for their efforts and wish the event a grand success.

With Best Wishes

(Niranjana Arya)



श्रेया गुहा, आई.ए.एस.
प्रमुख शासन सचिव




मुझे यह जानकर खुशी हुई कि गत वर्षों की भांति निरन्तर सातवें वर्ष भी वन विभाग, उदयपुर द्वारा वृहत स्तर पर तीन दिवसीय “उदयपुर पक्षी पर्व वर्ष 2020–21” आयोजन किया जा रहा है। विश्व में सर्वाधिक पक्षी प्रजातियों वाले देशों में भारत एक है। भारत की जलवायु एवं परिस्थितिकी विविधता विभिन्न पक्षियों को अनुकूल आवास प्रदान करती है जो पक्षी विविधता का मुख्य आधार है।

उदयपुर शहर एवं संभाग अपनी झीलों व जलाशयों के लिए जाना जाता है। जलाशयों में पक्षियों की उपस्थिति उनको और भी जीवन्त बना देती है। जलाशयों के पक्षियों व जलीय जैव विविधता का संरक्षण–संवर्धन तब ही संभव है जब स्थानीय लोग जागरूक हो। “उदयपुर पक्षी पर्व” आमजन को जागरूक बनाने का सशक्त माध्यम है।

कोविड–19 महामारी के दौरान “उदयपुर पक्षी पर्व 2020–21” का ऑनलाईन आयोजन किया जा रहा है, जो अपने आप में एक अनूठा प्रयोग है।

मैं इस आयोजन की सफलता के लिए हार्दिक शुभकामनाएं एवं बधाई प्रेषित करती हूँ।


(श्रेया गुहा)



श्रुति शर्मा
प्रधान मुख्य वन संरक्षक
(एच.ओ.एफ.एफ.) जयपुर, राजस्थान



मुझे यह जानकर अत्यंत प्रसन्नता है कि गत वर्ष की भांति इस वर्ष भी उदयपुर बर्ड फेस्टिवल 2020-21 आयोजित किया जा रहा है। विश्व में सर्वाधिक पक्षी विविधता वाले देशों में भारत एक है। भारत की जलवायु एवं पारिस्थितिकी विविधता विभिन्न पक्षी प्रजातियों को अनुकूल आवास प्रदान करती है। किंतु विगत कुछ वर्षों में बढ़ती जनसंख्या के दबाव में एवं शहरीकरण व औद्योगिक विकास के कारण पक्षियों की संख्या में काफी कमी आई है। ऐसे में पक्षी संरक्षण हेतु जागृति फैलाने की विशेष आवश्यकता है। राष्ट्रीय पक्षी मोर, जो राजस्थान में पूरे प्रदेश में पाया जाता है, को विशेषतया बचाने एवं संरक्षित करने हेतु जागृति फैलाने एवं अभियान चलाने की आवश्यकता है।

मुझे यह बताते हुए खुशी है कि वन विभाग के सक्रिय सहयोग से गोडावण की संख्या बढ़ाने का जो अभिनव प्रयोग डब्लू.डब्लू.आई. देहरादून एवं वन एवं पर्यावरण मंत्रालय, भारत सरकार द्वारा किया जा रहा है जिसके फलस्वरूप इन पक्षियों की संख्या बढ़ी है जो कि वन विभाग के लिए एक गौरव की बात है।

बर्ड फेस्टिवल आयोजित किये जाने से जहां एक और बढ़ते पर्यावरण प्रदूषण के प्रति जनता में जागरूकता में वृद्धि होगी वही जैव विविधता संरक्षण एवं हमारे पारिस्थितिकी तंत्र को सुरक्षित रखने के प्रति जनचेतना में भी वृद्धि होगी। बर्ड फेस्टिवल के आयोजन से आमजन एवं विशेषता पक्षी प्रेमियों में इनके हैबिटेट संरक्षण के प्रति अपने उत्तरदायित्व का एहसास होगा एवं बढ़ती जनसंख्या के दबाव में विविध पक्षी आवासों पर पड़ने वाले दुष्प्रभाव को रोकने में मदद मिलेगी।

मैं इस फेस्टिवल के सफल आयोजन के लिए शुभकामनाएं देती हूँ।

(श्रुति शर्मा)



Mohan Lal Meena IFS
Principal Chief Conservator of
Forests and Chief Wildlife Warden,
Rajasthan, Jaipur



It gives me great pleasure to learn that the Udaipur Wildlife Division is organizing the "Udaipur Bird Festival" from 22nd to 24th of January 2021. Udaipur, our lake city, is a place which is visited by tourists from all the corners of the world.

Udaipur Circle have many protected areas and Important Bird Areas (IBAs), which are significant for biodiversity. Awareness about birds and their habitats are the most significant step for better conservation and such events should be organized to promote biodiversity and ecotourism. This prestigious event will go a long way in attracting more visitors towards Udaipur. It will definitely add to the charm of tourists visiting Udaipur.

This time Udaipur Bird Festival is being conducted online in the era of Covid-19, which would be a great experience in itself.

I request to all the field staff of Forest Department, bird lovers, EDC members and general public to be vigilant about bird flu in PAs as well as outside the forests and coordinate with Veterinary Department to ward off the menace.

I congratulate the Udaipur Wildlife Division for their efforts and wish the event a grand success.

(Mohan Lal Meena)



Mr. Ravi Singh
SG & CEO
WWF India



On behalf of WWF India, I would like to congratulate the Rajasthan Forest Department, the citizen's communities and partners for organizing the seventh edition of the Udaipur Bird Festival. This annual Bird Festival has been a pioneer in promoting Udaipur's avian diversity and raising awareness on the birds and their habitats in the region.

Each year, the festival draws in wildlife experts, ornithologists, nature enthusiasts, and students to Udaipur, which has the potential to become one of the popular birding destinations in the state of Rajasthan. Its unique landscape with arid zone habitats and waterbodies make an interesting mosaic of diverse bird habitats. Numerous waterfowl, raptor and other bird species throng some of these habitats in and around Udaipur every year.

We are thankful to and appreciative of the organising teams for pioneering this unique initiative for citizens and groups to explore and appreciate bird habitats encircling Udaipur and promote local livelihoods and tourism. We also appreciate the involvement of students in this initiative.

At this time of the Covid-19 pandemic, we wish every participant to remain safe and to practice safety protocols in their activities.

(Ravi Singh)



CONTENTS

Sr. No.	Particulars	Page No.
1.	Moving Ahead	01
2.	Threats, conservation problems and factors affecting vulture population and their survival in India	02
3.	Distribution of Yellow- wattled Lapwing <i>Vanellus malabaricus</i> (Family <i>Caradriidae</i>) in Rajasthan , with special reference to southern part of the state	03
4.	Hunting Ethics Adopted in The Erstwhile State of Mewar (Udaipur)	06
5.	Electrocution and Birds in Udaipur City, Rajasthan, India	07
6.	Potential of Kumbhalgarh area as a Tiger Reserve	07
7.	Increasing Flood Lighting in Urban Areas and Its Impact on certain Bird species	08
8.	Effect of Buffotoxin on a Monitor Lizard juvenile-An etperience	09
9.	Wetlands Ecology : A Case Study of Bird Village Menar	10
10.	दास्तान जिसने मेनार को वास्तविक 'महत्वपूर्ण पक्षी स्थल' बनाया	13
11.	Observations on Grasslands and Their Avian Fauna in Vallabhnagar Area of Udaipur District, Rajasthan	15
12.	Suthar Madara : A Birding destination in the offing	17
13.	Challenges of the wildlife crime surveillance with special reference to avifauna	18
14.	Electromagnetic Radiation - An Invisible Threat For Avian Communities	20
15.	Bhupalsagar : A New Site For UBF	21
16.	"Environmental Education for a Better Future and Harmony with Nature"	22
17.	Sparrow from the Stamps	24
18.	Sighting of the Puff-throated Babbler <i>Pellorneum ruficeps</i> in Phulwari ki Nal Wildlife Sanctuary, Udaipur district, Rajasthan	25
19.	A birder with spiders at home during covid-19 lockdown	27
20.	Birds diversity in Badgaon area, near Udaipur City	29
21.	राजस्थान में नई तितलियों की खोज	31
22.	स्पीआलिया जेब्रा तितली की खोज	32

Moving Ahead

Vikram Singh, IAS (Retd.)

The Udaipur Bird Festival (UBF) has well established itself as a premier and popular event in the world famous Lake City of Udaipur. The credit for the same goes to the sustained efforts put in by the successive dedicated teams of organisers and functionaries who got associated with it - by design or just by chance! The leadership too has been extremely positive and forward looking. Slowly but surely, the Festival has evolved over the years and in the process has considerably expanded in its scope and activities. Many new innovative and interesting events have been incorporated such as the Bird Race, Bird Photography Competition and Exhibition, Photography Workshop, Philately Exhibition, Group Field Visits and last but not the least – the Udaipur Nature Literature Festival. These activities are far beyond the usual run of the mill events like Birding and Drawing and Painting Competitions for the students. All these initiatives have definitely set apart UBF from the other routine Bird Fairs.

This time the organisation of UBF has been faced with unprecedented challenges in the wake of Covid-19 and the recent outbreak of Avian Influenza. However, the event is still being organised. All credit for this goes to the present set of torch bearers. We congratulate and thank them for carrying the flame in the face of such grave adversities. Come what may - the tradition is being continued!

In the process of organising UBF for the last six years, many wonderful people with their expertise, dedication, commitment and rich experience have joined hands. Without their active support and contribution, UBF would have never attained this kind of success. In this background, I had suggested last year that given the pre-occupations of the Forest Department and the constraints of limited manpower and financial resources at their disposal, an independent organization be set up to take all these initiatives further. My experience has been that, NGOs are frequently at loggerheads with the establishment and existing systems. However, that may not be the case always. I firmly believe that much better results would be obtained by working in close conjunction and association with the Government Departments and Agencies. After all, many of the aims and objectives are the same or quite similar. In fact, the idea has the potential to develop into another successful model just like UBF in PPP (Public - Private Partnership) mode, for even others to emulate and replicate.

In the years to come, UBF and other conservation initiatives will take deeper roots in the Udaipur region. They will continue to grow in their scope and out-reach. The main purpose should be to inculcate a feeling of belongingness towards nature and wildlife conservation amongst all the stakeholders – especially the youth. After all, conservation is not only about awareness generation - which, at times, can be just skin-deep. In fact, it is about sound philosophy followed by useful action and ably guided by expert knowledge and traditional wisdom.

(The author is a keen nature and wildlife lover. He has been an avid birder ever since 1993, when he got posted as ADM, Bharatpur. He has been closely involved in organising Bird Festivals at Dungarpur, Udaipur, Keoladeo (KNP), Bharatpur and Karauli. - Eds.)

Threats, conservation problems and factors affecting of vulture's population and their survival in India

Dr. Nadim Chishty^{1*}, Narayan Lal Choudhary², Pritesh Patel³, Pushkar Kumawat⁴

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Vultures are largest, impressive birds and play key role in ecosystem to cleaning of ecosystem feeds upon dead livestock and wild animals. At present 23 species of vultures including old world and new world vultures sustained in worldwide, out of them 14 species are now categorized in threatened, endangered and critically endangered according to IUCN status. Vulture's population is dramatically decline in past two decades due to changes in habitat and environmental conditions. Diclofenac and other veterinary drugs poisoning, anthropogenic movements, rapid expansion of urbanization and modern infrastructure development, habitat loss and degradation also responsible for bird's population is declining including vultures and raptor in all over world. Following major factors and threats are responsible for dramatic declination in vulture's populations- (I) Consumption of NASID- vultures population in India largely affected by diclofenac drug used in livestock for treating various disease, they are become more dangerous and toxic for vultures and further leads to renal failure. (II) Ingestion of heavy metals- agrochemical, pesticides pollution and heavy metal toxicity like zinc, lead and cadmium are responsible for higher mortality rate and reduce breeding success in various raptor species including vultures. Pollutants are responsible for a bioaccumulation of heavy metals and pesticide persistent in food chain especially in top consumer of food chains. (III) Anthropogenic disturbance and habitat destruction- human disturbance and activities like- expansion of agricultural land, settlement of human colonies and town, establishment of industries, rock mining cause adverse effect vultures breeding habitat specially rock cliff breeders vultures. (IV) Invasion of exotic species- Exotic species like *Prosopis juliflora*, *Lantana carmera*, *Parthenium hysterophorus* also negatively influence native ecosystem, they are also reasonable of vulture population decline due to inhibition of native vegetations where vulture made nests and roost. (V) shortages of food and water- shortage of carcass availability responsible for vulture population because breeding success rate also highly influenced by abundance & density of food in surrounding environments. During summer season availability of water also becoming limiting factors for nestling of vultures especially in the desert climatic conditions. (VI) Reduction in nesting and roosting habitats- vulture's populations sharply declined due to cutting of large trees and mining of rocks, especially Aravalli in southern Rajasthan. (VII) Secondary or unintentional poisoning- Carcass poisoning is may be becoming limiting factors for vultures population decline and its survival. Lacks of proper and separated disposal mechanisms of disposing households and medical wastes to dead animal by Municipal corporations also responsible for deaths due to unintentional and mass mortalities of vultures and carrion consuming birds. (VIII) Avian disease play critical role in the decline and limiting of vulture population including raptor species, disease cause mass mortality and becoming dramatic declining of bird's populations. Pesticides and insecticides increase risk of disease due to secondary poisoning and accumulation of toxic compound increase in one food level to next levels. (ix) Reduction in genetic diversity- breeding success mainly depends upon population size and breeding pairs of entire species; at present time all vultures' species suffering from lack of hetero-zygosity and generic variability also responsible for breeding failure in all vulture

species they are breeds in Indian subcontinent. Low levels of genetic variability also becoming limiting vulture's population in Indian and other subcontinents of word. (X) Death due to wind power stations and electrocutions- establishment of wind power stations and electricity power lines becoming main reasons of vultures mortality in specially the Thar desert and including all over country. A Rapid expansion and establishment of electric powers line becoming major factors of deaths in vulture's and large birds. (XI) Global warming and climatic variability- Global warming and climatic variability affect birds population in several way like population distribution and dynamic, abundance, behavior, genetic composition and breeding success and migration patterns. (XII) Cracker, loud sound and transport of vehicles- we also observed some time villagers are used crackers and loud sounds used near vulture breeding and roosting habitat to stopping roosts and nests. (XI) Contradictory thinking problems between researcher, new reporter and bird's lover- some time also observed various level of conflict between researchers and birds lovers at several level of observation and activates of vultures like populations estimation, breeding success and threats. Scientific conservation practices and regular monitoring required for estimation of breeding success and population status of vulture in various microhabitat of vultures. Genetic and molecular study should be also helpful for vulture conservation and saving from immediate extinction at regional and global levels. Vulture awareness program and scientific study are also helpful for find found other actual reasons of vulture population declining in India with the help of forests department and wildlife researchers.

Distribution of Yellow- wattled Lapwing *Vanellus malabaricus* (Family Caradriidae) in Rajasthan, with special reference to southern part of the state

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Seven species of lapwings namely, Red – wattled Lapwing (*Vanellus indicus*), Yellow – wattled Lapwing (*V. malabaricus*), River Lapwing (*V. duvaucelii*), Sociable Lapwing (*V. gregarius*), White – tailed Lapwing (*V. leucurus*), Grey- headed Lapwing (*V. cinereus*) and Northern Lapwing (*V. vanellus*) are known from Rajasthan (Vyas, 2013). Yellow- wattled Lapwing is relatively a lesser known species in the state. A distribution map of the species is given in “Pocket Guide to the Birds of the Indian Subcontinent” by Grimmett et al. (1999) indicating that this Lapwing is not present in southern, central, northern and western Rajasthan. According to Vyas (2013), Yellow- wattled Lapwing is distributed in central, eastern, south-eastern and southern Rajasthan. Both, Grimmett et al. (1999) and Vyas (2013) have indicated that this species is absent in Thar desert of western Rajasthan. According to Rahmani (1997), this species is present in Gajner area of Bikaner district. Presence of this species has been conformed in Thar desert by Sivaperuman et al. (2007) also. In further west, its presence has been recorded in lower Sind area of Pakistan as well (Roberts, 1991). This species is also recorded by Sangha (1998 & 2008) in Sambhar area. Yellow-wattled Lapwing is known from Bharatpur (Ewans, 1992) and Hadoti area (Vyas, 1993) as well. Sharma (2007) has recorded this species from Phulwari Wildlife Sanctuary and surrounding area. Sankar et al. (1993) have recorded it from Tiger Project, Sariska (Alwar district). These records indicate that this species is widely distributed in Rajasthan but remained lesser know and under studied so far.

During my service tenure in the Forest Department, Rajasthan, I got several opportunities to observe this species extensively. My observations from 1993 to 2020 are presented below in table 1.

Table 1 : More records of Yellow- wattled Lapwing in Rajasthan

Sr. no.	District	Locations (date , habitat and number of birds seen)
1.	Alwar	Between Patan and Tigawan villages (26.10.1992, Mustard sown field , 6) , Harsauli (26.10.1992, Mustard sown field, 1) , R. R. Collage Campus , Alwar(22.1.1999, play ground , 2) , Rasgan , Mundawar Tehsil (15.12.2002, recently sown wheat field , 2) , Parsapur , near Bijwar Chauhan (11.5.2003, recently harvested mustard field , 5) , Sariska Tiger Reserve (16.5.2020 , open area near a stream , 2)
2.	Banswara	Outskirts of Banswara city (3.1.2005 , fallow field , 2)
3.	Bhilwara	Outskirts of Bhilwara city (13.9.2005 , fallow field , 3) , near Sareri Dam (16.1.2005, fallow land, 2) Harni Mahadeo Bhilwara (15.5.2006 , open area , 2)
4.	Chittorgarh	Near Begun (9.7.2018, fallow land , 2)
5.	Dungarpur	Near Do- Nadi Forest Nursery (11.6.2020, fallow field , 2)
6.	Jaipur	Bhanpur Kalan near Jamwa Ramgarh (28.2.2003, fallow field , 1) , near Bhimgatta hill , Viratnagar (13.6.2020, fallow field , 2)
7.	Jhunjhunu	Bagad (27.11.1999, taking bath in water being used for irrigation , 2)
8.	Pali	Jawai river bed near Beda village (21.12.2014, dry part of river bed , 2)
9.	Pratapgarh	Kherot (12.7.2006, fallow land , 2)
10.	Rajsamand	Kunwariya (17.6.2020 , fallow land , 2)
11.	Sikar	Palsana (27.11.1999, fallow field , 2)
12.	Sirohi	Manpur Air strip near Abu road (9.11.2002, Air strip , 2)
13.	Udaipur	Near Oda Forest outpost , Jhadol Tehsil (3.3.1993, play ground , 2), Pargiyapada , Jhadol Tehsil (21.10.2000, fallow field , 1) , Bilvan village , Phulwari –ki-Nal Sanctuary (14.2.2002, fallow field , 2) Ashawada , Kotra Tehsil (15.4.2002, fallow field , 2) , Thala village, Phulwari –ki- Nal Sanctuary (21.5.2002, ploughed field , 4) , Bedadhar , Kotra Tehsil (13.11.2002, open patch amidst forest near a road, 2) , Bedadhar (14.11.2002, on road , 2) , Gau Pipla , Kotra Tehsil (9.12.2002 , fallow land , 4) , Near ITI campus Kotra (10.12.2002 , fallow land , 2) , Chak Antaliya , Phulwari – ki – Nal Sanctuary (15.12.2002 , fallow field , 2) , Juda , Kotra Tehsil (27.12.2002 , fallow field , 2) , Digawari Khurd , Phulwari -ki- Nal Sanctuary (2.1.2003, fallow field , 7) , Buradawada , near Panarwa (20.11.2003, fallow field, 6) , Kyara Khet, Gogunda Tehsil (27.10.2004, near a water ditch amidst of recently ploughed agriculture field, 3) Kundalwas , Gogunda Tehsil (24.12.2004 , Barren patch amidst of dense Teak forest , 1) , Jaimli , Gogunda Tehsil , (8.6.2018, fallow land , 2 adult and 1 fledgling).

Table 1 reveals that this species can be seen generally in pairs, or in small parties (c.3-7 individuals) in more open areas in wild as well as sometimes in human habitation too. This table also reveals that Yellow – wattled Lapwing is confined to big portion of the state round the year (Fig. 1). However, during rainy season, its visibility becomes relatively low. During rainy season, most of the open areas are brought under Kharif cultivation and most of open flats and undulating areas get converted into grasslands. In many pockets of the state, especially in southern Rajasthan, tall growth (c.1.0 to 2.0 m) of grasses is seen in grasslands , *beeda* (private grass plots) , *beeds* and *jods* (traditional grasslands) , forest fringes and forest blanks. Thus, many pockets become unsuitable to this species during rainy season. Probably this is the reason why this Lapwing migrates towards more open areas during rainy season. During an intensive survey in rainy season in Kotra , Jhadol and Gogunda Tehsil of Udaipur District from 2000 to 2020, it was found absent in those pockets where it was present during summer season. During rainy season of

2005, I observed this species in Malwa region of Agar, Rajgarh and Shajapur districts of Madhya Pradesh and Panchmahals and Dahod districts of Gujarat where it was seen in hilly degraded rolling grasslands of short heighted grass. Sympatrically Indian Courser (*Cursorius coromondelicus*) also share same habitat with Yellow- wattled Lapwing in Madhya Pradesh and Gujarat area.

Yellow – wattled Lapwing is present in all the districts of southern Rajasthan namely Banswara, Bhilwara, Chittorgarh, Dungarpur, Pratapgarh, Rajsamnd and Udaipur. This species is known from Phulwari (Sharma, 2007) and Kubhalgarh Sanctuaries (Chhangni, 2002) of southern Rajasthan. It prefers open flattish, dry areas having good visibility all around. It avoids densely vegetated areas. If a big sized blank is present amidst a dense forest, it may occupy it during the dry season. After commencement of monsoon rain, when grasses start their regeneration, these birds leave these pockets and migrate else where (Fig. 2).

This species need more indepth study to know its exact distribution pattern in the state. Table 1 and certain references shown in the text, indicate that this species is present nearly in all parts of the state, hence distribution map, produced by Grimmett et al. (1999) needs to be re- mapped in the light of present distribution records.

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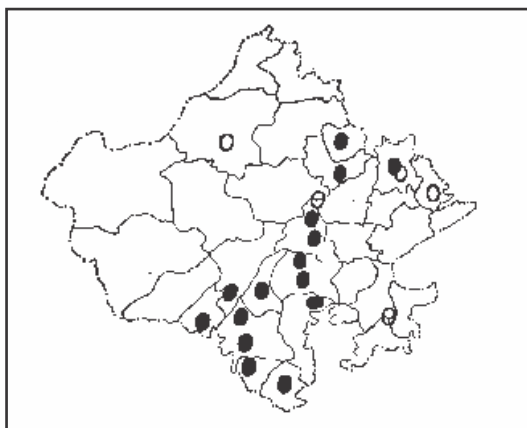


Fig. 1 : Districts with few locations of occurrence of Yellow – wattled Lapwing (hollow spots showing old records and solid spots showing present records)

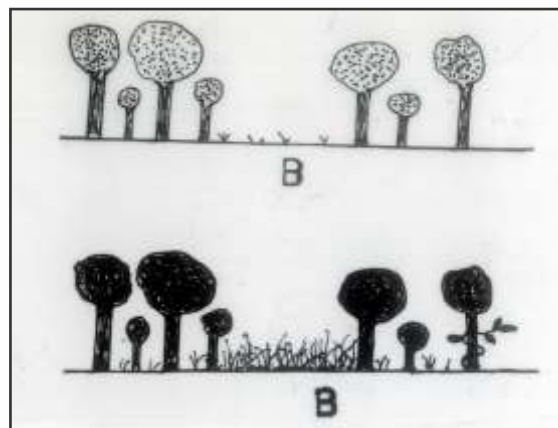


Fig. 2 : Behavior of a forest blank (B) in a dense deciduous forest of southern Rajasthan during summer (above) and during rainy season (below)

Hunting Ethics Adopted in The Erstwhile State of Mewar (Udaipur)

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Hunting of wild animals was a popular sport among the rulers in the pre independent India. This is the reason why forests were managed for hunting and went to be known as 'Game reserves'. Mewar state was very rich in wildlife diversity due to comparatively large forest and with dense cover. There were separate game reserves for the ruler and nobles or Jagirdars. Jagirdars could hunt all animals in their respective territories except tigers. If any tiger in the territories turned dangerous to human life, then also Jagirdars had to report to the state.

Overall there was strictness as regards any illegal hunting in areas managed by the state or Jagirdars. No one could hunt except with the permission of the ruler or Jagirdar.

Hunting or Shikar expeditions were regularly organized in the state. These expeditions were usually started after Deepawali festival and the first one was known as 'Samorath ki Shikar'. No hunting was organized during rains.

In the state during hunting expeditions, Maharana himself along with the Nobles, state officials, expert hunters and state guests used to hunt wild animals. It was a part of duty towards the state for the Jagirdars to accompany in such expeditions. During such state sponsored hunting expeditions certain hunting ethics were observed. This was the reason why despite regular hunting, wild life sustained so long. For the purpose of safe hunting for royals, shooting boxes or 'Oudis' were constructed in the game reserves at vantage points. Some of them still exist and should be preserved as heritage sites. During Shikar expedition, the games were used to be compelled to come out of the cover and diverted towards Oudis by making high pitched sound known as 'Hanka' by trained persons. Sometimes hunting of wild pigs was also done by pig sticking method that is piercing javelin like stick in the pig's back while riding on a horse. The hunting ethics or rules followed during such royal expeditions were framed during the reign of Maharana Fateh Singh ji (1885) who was a keen hunter too.

These rules can be summarized point wise as follows:

- [1] The hunters whom permission was granted in advance could only fire upon tiger or leopard. But if during Shikar, they got injured or attacked someone, then anyone could fire.
- [2] The Nobles or Jagirdars accompanying Shikar expedition were permitted to hunt wild pigs in some reserved forest areas earmarked for them but were cautioned not to hunt juveniles, sub adult or females.
- [3] Only those hunters were allowed to hunt Sambar, Spotted deer and Sloth bear when special permission was granted to them.
- [4] Hunting of Chinkara or Indian gazelle was also not allowed.
- [5] Hunting of Rojra or Blue Bull was prohibited.
- [6] Except Tiger and Leopard, hunting of all female animals was prohibited.
- [7] Tigress or Pantheress also not to be hunted if identified and confirmed before hunting.
- [8] All injured animals were allowed to be hunted.
- [9] Hunting of birds was also not permitted.
- [10] The claim of the game hunted was decided by who ever fired first shot. But if numerous shots were fired by more than one hunter at a time then no one was given credit and recorded as anonymous.
- [11] Hunting of Hyena was not allowed.
- [12] Initially persons engaged in 'Hanka' used to hunt hares by sticks and stones. Due to large number of killing it was also prohibited later.

During the period in between year 1885AD to 1899AD that in a span of 15 years, 82 Tigers and 220 Leopards were hunted in such state organized 'Shikar' expeditions in Mewar (Udaipur) state. (Source 'Shikar ka Naqsha' Mewar state.)

Electrocution and Birds in Udaipur City, Rajasthan, India

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Electrocution is responsible for death or severe injury to birds. Generally, birds use to sit on wires but they don't get shocked but in contrast, sometimes their carcasses are seen hanging on the electric wires. This dual nature of avian electrocution is due to the fact that birds get shock only and only if they become part of the electric circuit. Birds get shock if the current passes through their bodies if they touch two wires of different potential or it may touch earthing wire or grounded wire/body or live wire through which current flows. Effects of electric current and electric shock mainly depend on potential difference between which the bird is in contact, voltage and amount of current flowing through body. If a bird comes in contact with high voltage lines it will die immediately whereas in case of supply lines, they might get unconscious or die after sometime. In electric shock the current will forcefully throw away the bird whereas in electric current the bird generally gets stucked to the wire and body starts burning.

Birds carcasses generally sighted due to electrocution are mostly House Crow (*Corvus splendens*), Indian Roller (*Coracias benghalensis*), White-eyed Buzzard (*Butastur teesa*), Common kestrel (*Falco tinnunculus*), Eurasian Collared-Dove (*Streptopelia decaocto*), Common Myna (*Acridotheres tristis*), Rock Pigeon (*Columba livia*) and Rose-ringed Parakeet (*Psittacula krameri*).

Reasons behind electrocution of birds include short distance between phase, neutral and earthing wire, using insulator only at poles, insulators used on poles are much smaller, quality of insulator and life span of insulator, jumpers, wooden poles, hierarchy of wires, non-insulated power lines and use of low-grade parts.

Solutions for stopping or controlling electrocution of birds are economically not so expensive and provide good results. Some of them perch deflector brushes, rotating-mirror perch deterrents, and insulation covers on the conductor wires, conductor separation etc. Udaipur city included under Smart City Mission of Ministry of Housing and Urban Affairs to develop Udaipur into citizen friendly and sustainable for which large amount of fund is disbursed from Government of India. Hence developers and planners should consider this problem and renovate electric lines and poles in such a way that it costs minimum and provide maximum benefits. This will reduce avian electrocution and also enhance the beauty of City of Lakes as webs of electric lines deteriorates the landscape and scenic beauty of the city.

Potential of Kumbhalgarh area as a Tiger Reserve

Anil Rodgers

Wildlife Conservationist and member WCCB

UDAIPUR

Forests of Kumbhalgarh and Todgarh-Raoli are heaven for wild animals and birds. Once tiger ruled these jungles and there are evidences of tigers at Kumbhalgarh till 70's in a study report by Priya Singh entitled "Lost Tigers and Plundered Forest" and also in a book by Dr. Satish Sharma. Recently made proposal of Kumbhalgarh Tiger Reserve is based on scientific observations and past and present records, also what will be the future of tigers here. Proposed "Kumbhalgarh Tiger Reserve" is consisting an area of 1955 square kilometers. If it becomes a tiger Reserve, it will be

one of the largest Tiger Reserves of Rajasthan. The stretch of proposed Kumbhalgarh Tiger Reserve includes area of Udaipur, Rajsamand, Pali and Ajmer districts. Sometimes a hue and cry emerging saying that it has narrow belt and low prey base. According to my personal views, if tigers are shifted to Kumbhalgarh, this area will accommodate the tigers very well. Prey base can be increased by conservation breeding method and grassland development. Right now good and healthy population of Sambhar is there which is one of the main prey of tigers. A sizeable population of Chinkara, Wild pig, Langur, Peafowl, Jungle Fowl, Porcupine etc. is there in this area. Kumbhalgarh is also home to Green Munia other than Mt. Abu. Grey Jungle fowls here are in good numbers along with Aravalli Red Spurfowl. White-naped Tit is another endemic bird which can be seen here. Wolf, Hyena Leopard & Jackal are the co-predators which are major attractions of Kumbhalgarh. Biodiversity of Kumbhalgarh and Todgarh – Raoli is unique. After introduction of tigers here, Mewar and Marwar will get back their lost glories and memories.

Increasing Flood Lighting in Urban Areas and Its Impact on certain Bird species

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Due to modern development and fast urbanization, environment of cities is changing fast which is also compelling many bird species to change their behavior. Erection of high towers, high mast lights, lamp posts etc. is now increasing in the cities. Besides streets and road sides of the cities, flood lights can be seen at crosses and road junctions, railway stations, bus stations, office campuses, markets, entertainment areas, marriage halls, hotels, resorts, ring roads etc. From Center to peripheral zone in the cities and at peri-urban areas, everywhere high flood lights are visible. Since such lights are visible from far distance during night time, hence photophilic insects starts their flight movement towards light source of the cities. Since dense forest patches are present at the periphery of many cities and towns of southern Rajasthan, hence not only insects of agriculture zone but of forest areas also move towards light source of the urban areas. Since insects are favourite food of many birds, hence few of them move towards cities and become "urban bird" or "semi-urban bird" and enjoy opportunistic feeding near light sources during night time.

It was noticed at many places of Udaipur and Pratapgarh districts, and even near or inside campuses of forest outposts amidst forested areas, that Savanna Nightjars (*Caprimulgus affinis*), Indian Nightjars (*Caprimulgus asiaticus*), Jungle Nightjars (*Caprimulgus indicus*), Indian Scops Owl (*Otus bakkamoena marathae*), Jungle Owlet (*Glaucidium radiatum*), Spotted Owlet (*Athene brama*) and Black Kite (*Milvus migrans*) reach at urban, peri-urban and amidst forest light sources for hawking the insects. Savanna Nightjars can be seen in fairly good numbers upto deeper zones of Udaipur city near light posts for the insects. Interestingly, Black Kite is diurnal bird, but sometimes seen involved in opportunistic feeding near light source in MB Hospital, Udaipur during dawn period (i.e. 04:30 hrs - 05:46 hrs). This behavior of Black Kite was seen from August to October, 2008. Jungle owlet is a forest species, which also becomes opportunistic feeder near forest outposts.

Adaptations always pave a path of survival of a particular species. If any species fails to develop certain adaptations, its survival becomes questioned in the nature. Nightjars, owls and Black Kites are developing new behavior in changing conditions. This would help to ensure their long term survival in the nature.

Effect of Buffotoxin on a Monitor Lizard juvenile-An experience

Dharamveer Singh Jodha

It was the month of June 2020. Dharmveer Singh Jodha I was walking in my garden looking for sparrow juveniles. Suddenly, something shifted my attention towards the water tank need by. It was a juvenile monitor lizard there. Its skin was tender with light yellowish green colouration. It was appearing very bold and gave me freedom to approach it and capture some shots. I took some portraits and then left it alone sunba for toking the on the wall.

I observed it almost regularly eating insects in the garden and then resting on the tank wall. It grew even bolder and became used to human presence.

One month passed and it was July. It grew in size and its coloration changed to brownish. It's skin wasn't tender anymore. gt was still following the same routine as before.

Then one day I saw something I have never seen before. The monitor was trying to swallow an Asian common toad. I quickly brought my camera and started capturing the moment. I took some pictures and made one video. Then the monitor climbed the itolics tree with toad in it's mouth. I was satisfied with my pictures so I left it.

The next day when I observed it, it appeared a bit drowsy, like its body was paralyzed. In the evening, I found it dead under a mosammi tree. I couldn't think any reason for its sudden death. I asked Dr.Anil Tripathi Asstt.Pro. Depott of zoology Govt.collage Bhilwara about the incident. He told me that toads have parotid glands on their shrenders through which they secrete buffotoxin, a toxin when they are attacked by predators. In most cases the predators never attacks toad because of this defense mechanism. But according to my conclusion the juvenile monitor didn't knew about the defense mechanism of the Asian common toad. As the monitor tried to swallow the toad starting from its head and the toad released the toxin inside its bnccol cavity. Possibly this led to cardiac arrest and blockage of neural activity and then eventually caused death.



Juvenile Monitor Lizard lying dead

Wetland Ecology : A Case Study of Bird Village Menar

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Freshwater has been of great importance to human beings and other organisms of environment for supporting life and maintaining the balance of nature. Water quality plays an important role in determining productivity and diversity of aquatic biota and plankton in particular.

Wetlands supposed to be "the world's most productive ecosystems" are home of rich bio-diversity, providing the water and primary productivity on which several species of flora and fauna depend for their survival. Thus, they support high number of chordates and several invertebrate species. Wetlands are also important repository of plant genetic material. Ramsar convention defines "wetland as areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land or where the land is covered by water".

Carbon is known to be a major nutrient within wetlands. Most of the nutrients, such as phosphorous, sulfur, nitrogen and carbon are found within the soil of wetland. Anaerobic and aerobic respiration in the soil influences the nutrient cycling of carbon, hydrogen, oxygen and nitrogen and solubility of phosphorous. This contributes to the chemical variations in water. Microbes, plants, reptiles, amphibians, migratory and native birds, fish and insects seek refuge in wetland. Wetlands provide essential habitat and food for numerous wildlife species. In addition to serving as a food source, the dense vegetation found in most wetlands provides places for wildlife to build home and to hide from the predators.

The benefits of wetlands are therefore, immense. Moreover, these control the climate, keep the surrounding pollution free, prevent floods, provides home to many species etc. But unfortunately wetlands are disappearing very fast mainly due to our negligence, unplanned development activities and urbanization.

Rajasthan shares 10.74% land area of our country where more than 3.3 lakh hectares of freshwater resources in the forms of lakes, rivers, canals and ponds are available. The state of Rajasthan thus possesses vast aquatic resources in the form of small, medium and large sized reservoirs.

Two wetlands of Menar village situated in Udaipur district namely, *Bharmela* and *Dhand* have been recently declared as Important Bird Area (IBA) by Bombay Natural History Society (BNHS, Mumbai) and Bird Life International. Moreover, efforts are being made to declare both the ponds of Menar as the 'Wetlands' by the local authorities.

This clearly signifies the importance of Menar wetlands, from bird watching point of view. Both these wetlands are like birds paradise where local and migratory birds come in large numbers in the winter season. The main source of water for these wetlands is from the catchment area and rains. Both the wetlands are interconnected through a narrow channel during monsoon.



Bharmela (left) and Dhand (Right) wetlands

These wetlands receive sizable amount of organic matter from the nearby agricultural fields and catchment area thus there is rich supply of organic matter and biogenic nutrients into wetlands. These help in enhancing aquatic productivities, therefore, ample amount of aquatic food resources are available to attract several types of local and migratory birds of about 150 types. Some of prominent birds are: Greater flamingo, Black kite, Green sandpiper, Wood sand piper, Little ringed plover, Red-wattled lapwing, Common crane, Northern shoveler, Northern pintail, Bar-headed goose and many others.

Dhand pond is one of the prominent wetland in this village, which is harboring large number of aquatic and semi aquatic floral and faunal species including several types of fishes. These mainly comprising of carps, minnows and cat fishes. Several isolated shallow water bodies are created in summer and this results into large scale predation of small fish by the birds. In the summer of 2018, there was large scale mortality of carps and other aquatic life due to reduced water level (Dave and Rathore, 2018) During this period, the fish biodiversity was found to decline drastically as most of the relatively sensitive fish species were affected adversely due to low water depth, high turbidity, high temperature and low dissolved oxygen (1.9 mg/litre). During this period, many fish species were found to struggle for their survival such as *Heteropneustes fossilis*, *Wallago attu*, *Puntius sarana*, *Sperata seenghala* and *Channa striatus*.



Singhi fishes struggling in muddy water of Dhand wetland (May, 2018)

A large number of fishes were either consumed by the predators & birds, and remaining relatively hardy air breathing fishes like Singhi (*Heteropneustes fossilis*) were rescued and transported live into nearby Bharmela wetland.

At this wetland the birds are normally found during the period of November to march especially the migratory birds, which picks up food of their choice from this wetland or in turn produce bird excreta in large amount in and around the wetland. Therefore, birds do contribute to the enhancement of aquatic productivity in the form of primary producers such as macrophytes and phytoplankton. The excessive production of phytoplankton encourages production of zooplankton which is beneficial for aquatic animals and fish in particula. This wetland also exhibits typical settings of wetland emergent vegetation such as grasses and Typha (elephant grass).

In the ponds of Menar, birds are mainly attracted due to the biodiversity and abundance of plankton as the abundance of zooplankton in the Dhand and Bharmela wetlands has a major role in preparing excellent food for the birds visiting here. The rich food chains here provide plankton as delicious food items for the fish and other aquatic animals present in these water bodies.

While investigating wetland ecology of these wetlands (Darshana, 2020) total 37 types of zooplankton were found in the Dhand pond which mainly comprised of 21 types of cladocerans, 14 types of rotifers and 2 types of copepods. Similarly, 24 types of cladocerans and 16 types of rotifer zooplankton are found in Bharmela pond of Menar village.

List of zooplankton in two wetlands studied from 2017 to 2018 is as following :

A. ROTIFERA: *Branchionus calyiflorus* (1,2), *Branchionus calyiflorus f. heterospina* (1,2) *Branchionus falcatus* (1) *Branchionus bidentatus*(2), *Branchionus forficula*(1,2), *Branchionus quadridentatus f. rhenanus* (1), *Branchionus caudatus* (1,2), *Branchionus caudatusapsteini* (1,2), *Branchionus caudatus var. aculeatus* (1) *Keratella tropica* (1,2), *Keratella tropica f. reducta* (1,2), *Keratella tropica f. asymmetrica* (1,2), *Keratellacochlearis* (2) *Keratella valga* (1,2), *Keratella procurva* (1,2), *Keratella tropica f. heterospina* (1), *Filinia longiseta* (1,2), *Filinia opoliensis* (1), *Filinia terminalis*(2)

B. CLADOCERA : *Daphnia carinata* (1,2), *Daphnia lumholtri* (1,2), *Daphnia magna* (1,2), *Daphnia pulex* (1), *Daphnia dubpia* (1,2) *Daphnia ambigua* (1), *Moina micrura* (1,2), *Moina hutchisoni* (1,2), *Moina macrocopa* (1) *Moina brachiata* (1,2), *Macrothrix rosea* (1,2), *Macrothrix laticornis* (1), *Macrothrix hersuticorni* (2), *Macrothrix montana* (1,2), *Chydorus gibbus*(1,2), *Chydorus globosus* (1,2), *Chydorus faviformis* (1,2), *Chydorus ovalis* (1), *Chydorus bicornutus* (1,2), *Chydorus sphaericus* (2), *Alona intmedia* (1,2), *Alona costata* (1,2), *Alona rectangular* (1,2) *Alona karia*(1,2), *Alona guttata* (1), *Protonecta* (1,2),

C. Copepoda : *Cyclops sp.* (1,2), *Diaptomus* (1,2), *Nauplius larva* (1,2),

D. Ostracoda : *Cypris sp.* (1,2), *1. = *Bharmela wetland* 2. = *Dhand wetland*

Table 1 : Water quality parameters of Bharmela wetland (2017-18)

S.no	Water parameters	6.6.2017	10.9.2017	21.1.2018	6.5.2018	10.9.2018	Average
1.	Water temp. (°C)	26.6	23.9	18.2	27.3	24.6	24.12
2.	Hydrogen ion(pH)	8.1	7.6	8.2	9.3	7.8	8.2
3.	Dissolved oxygen(mg/l)	8.9	7.4	8.7	9.4	7.3	8.34
4.	Depth of visibility(cm)	28	56	30	27	54	39
5.	Chloride(ppm)	31.24	22.7	22.72	36.92	36.92	30.104
6.	Nitrate(ppm)	1.00	1.00	2.00	2.00	1.00	1.4
7.	Sulphate(ppm)	32.00	30.0	28.00	28.00	38.00	33.2
8.	Phosphate (ppm)	0.02	0.02	0.05	0.10	0.10	0.058
9.	Total alkalinity (ppm)	70.00	40.00	80.00	70.00	80.00	68

Table 2 : Water quality parameters of Dhand wetland (2017-18)

S.no	Water parameters	6.6.2017	10.9.2017	21.1.2018	6.5.2018	10.9.2018	Average
1.	Water temp. (°C)	27	24.2	16.0	27.3	24.0	23.7
2.	Hydrogen ion(pH)	7.4	8.4	8.9	7.9	8.6	8.24
3.	Dissolved oxygen(mg/l)	1.8	13.6	9.7	1.9	13.4	8.08
4.	Depth of visibility(cm)	24	57	38	23	58	40
5.	Chloride(ppm)	39.98	31.24	53.96	161.9	42.60	65.932
6.	Nitrate(ppm)	5.00	1.00	2.50	5.00	1.00	2.9
7.	Sulphate(ppm)	168.0	34.00	56.00	166.0	45.00	93.8
8.	Phosphate (ppm)	0.05	0.03	0.05	0.05	0.10	0.056
9.	Total alkalinity (ppm)	160.0	50.00	110.0	150.0	60.00	106

As shown in the Tables 2 & 3 the alkaline pH (7.4-9.3) of Bharmela pond is favourable for the growth and survival of zooplankton as well as fishes. Both these water bodies were alkaline which indicates that there was no sizeable influx of pollution causing material. Dhand wetland had lowest value of 1.8 mg/l dissolved oxygen during the summer 2017-18 and highest 13.6 mg/l during rainy season of 2017-18. On the basis of seasonal and average value of transparency Bharmela and Dhand ponds may be categorized as eutrophic water bodies. The average chloride value of Dhand wetland is appreciably high and can be associated the high population of birds in this wetland.

Phosphate value in Bharmela and Dhand wetlands can be correlated to the activities of sizeable bird population of various species in these wetlands. Birds directly interfere in the littoral as well as open zones of wetlands in search of their food. While doing so birds do release good amount of droopings which enrich phosphate into wetlands. Likewise, movement of birds in shallow marginal area of wetland also helps to release sedimental phosphorus.

In both these wetlands, the dominance of cladocera group was observed which testifies to the high nutritional levels of these waters. It has also been reported that the presence of birds in reservoirs leads to an unprecedented increase in the amount of nutrients in the water ecosystem, especially in organic carbon to about 40%, nitrogen about 25% and phosphorus 70%. In general, organic production is also high which makes it a major source of food for other invertebrates living here and the naturally produced different types of food is effectively used by different types of fish that live in these wetlands.

The quantity of Zooplankton measured in these wetlands revealed the maximum quantity of animal plankton of Cladocera group in the wetland of the Dandh was 825 no./Liter whereas the quantity of rotifers was 375 no./liter.

It has also been observed (Darshana, 2020) that the environment friendly relationship established between the ecosystems and the inhabitants around both the wetlands of Menar village and especially with the ecosystem of Dhand Wetland is unique example of environmental protection in itself. This model can be adopted at other places for similar wetland conservation. It is also suggested that the wetlands of Menar village should also be used to increase eco-tourism by creating appropriate action plans which can be a good to generate employment for the local people. Aquatic environment of these wetlands in general shows that an ideal and strong system is established between ecosystem-birds and humans.

Both the wetlands ecosystems are gaining increasing attention of bird watchers and local community. Thus, it is important to manage these ecosystems in a scientific manner so that this bird village may continue to attract birds and bird watcher so as to develop ecotourism in this village. Villagers have also set up a group of volunteers known as 'Pakshimitras' (Friends of Birds) who also conduct regular anti poaching patrols and thus help for conserving the ecosystem of this bird village.

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दारस्तान जिसने मेनार को वास्तविक 'महत्वपूर्ण पक्षी स्थल' बनाया

उमेश मेनारिया पक्षी मित्र, मेनार

महत्वपूर्ण पक्षी स्थल घोषणा के पहले चरण में राजस्थान से 24 स्थानों का चयन हुआ। यह चयन 2004 में सम्पन्न हुआ। इस सूची में मेनार का नाम नहीं था। लेकिन वर्ष 2016 यानी 12 साल बाद जब महत्वपूर्ण पक्षी स्थलों के चयन का दूसरा चरण पूर्ण हुआ तो राजस्थान के 31 स्थल महत्वपूर्ण पक्षी स्थलों के रूप में नामित हुये, जिसमें मेनार को भी शामिल किया गया। मेनार गाँव के ब्रह्म तालाब तथा ढंढ तालाब को संयुक्त रूप से महत्वपूर्ण पक्षी स्थल का दर्जा मिला। यह दर्जा सिर्फ इसलिए ही नहीं मिला कि यहाँ के तालाबों में पक्षियों की विविधता अच्छी है या तालाब सुन्दर हैं। बल्कि इसके मूल में लगभग दो शताब्दियों पूर्व हुई वह घटना भी है, जहा से पक्षी संरक्षण के स्थानीय प्रभावों से तत्कालीन शासन एवं ब्रिटिश हुकुमत भी रुबरु हुई थी।

उदयपुर जिले में उदयपुर चित्तौड़गढ़ नेशनल हाइवे पर स्थित मेनार गाँव को अपनी अनूठी विशेषताओं के लिए जाना जाता है। यहां सवा चार सौ साल पहले मुगलों से युद्ध की शौर्य गाथाओं से परिपूर्ण गौरवशाली इतिहास है। लेकिन इससे हटकर एक नयी रोचक घटना भी शौर्य का अहसास कराती है। पिछले कुछ वर्षों में दुनियाभर में प्रवासी परियों के आश्रय स्थल के रूप में विश्व विख्यात हुए बर्ड विलेज मेनार में पक्षियों के संरक्षण की कहानी एक दशक नहीं बल्कि कई सदियों पुरानी है। यहां के मेनारिया ब्राह्मणों ने एक अंग्रेज द्वारा एक पक्षी का शिकार पर उसका हुक्का पानी तक बन्द कर दिया था। उक्त घटना का उल्लेख कई वर्षों पहले तत्कालीन महाराणा से स्वीकृति के बाद अधिकृत यात्रा के रूप में आये अंग्रेज यात्री द्वारा मेनार विजिट के बाद लिखी पुस्तक में उल्लेख किया है। पुस्तक में लिखी घटना से मालूम होता है कि हाल ही में जो बर्ड विलेज नाम से मशहूर मेनार जो वर्तमान में देशी-विदेशी पर्यटकों का पसंदीदा हॉट डेस्टिनेशन बन चुका है वहाँ स्थानीय ग्रामवासियों द्वारा पक्षी संरक्षण की मिसाल वर्तमान में नहीं बल्कि सेकड़ों वर्षों पूर्व अंग्रेजो व राजा महाराजा के शासनकाल के समय से चली आ रही है। अंग्रेजी शासन काल में प्रकाशित एक पुस्तक से इसके प्रमाण सामने आये हैं। आज से करीब 187 वर्ष पूर्व भारत यात्रा पर आये जॉन टिल्डसन ने मेवाड़ यात्रा के दौरान मेनार यात्रा में अपने साथ

घटित वाक्ये को अपनी पुस्तक षपिक्चरेस्क सीनरी इन इंडिया में उल्लेखित करते हुए मेनार के ब्राह्मण समुदाय को इंगित करते हुए अपनी यात्रा का विस्तृत उल्लेख किया है। जॉन टिलटसन ने मेनार में दो दिन व एक रात्रि रुककर उनके साथ हुए वाक्ये को अपनी पुस्तक में लिखा है जो कुछ इस तरह था.....।

जॉन टिलटसन की मेनार यात्रा:

राणा से स्वीकृति लेकर जॉन टिलटसन मेनार की यात्रा पर आया था। जॉन टिलटसन अपनी पुस्तक में लिखा की..... 6 मार्च 1832 को ढलती शाम के समय लवाजमे के साथ मेनार पहुँचा ही था की आस पास के गाँवों के मुखिया प्रतिनिधि के तौर पर सलाम करते हुए मुझसे मिलने आये। राणा के खर्चे पर 12 मील की यात्रा के बाद हम मेनार पहुँचे थे। यहां पहुंचने के बाद नोकर ने सुंदर झील (कल्पना के अनुसार ब्रम्ह सागर) के किनारे विशाल पेड़ों से आच्छादित जगह पर हमारा टेंट लगाया गया। इस दौरान मैंने देखा सामने पानी और दलदली भाग में बड़े बड़े पत्तों पर डक्स (बत्तख) बैठी हुई थी मैंने तत्काल उस दिशा में अपनी गन (बंदूक) उठाई और पहले ही निशाने में बत्तख को मार गिराया। मैंने अपना शिकार कर लिया और धमाके से दूसरे पक्षी इस तरह हवा में उड़े जैसे घने बादल सूर्य को अपने आगोश में ले लेते हैं। शिकार के बाद मैं अपने आप को सर्वश्रेष्ठ महसूस कर रहा था। मैंने अपने नोकरो से शिकार किये पक्षी को नाश्ते के लिए अपने शिविर में मंगवा लिया।

आगे की पंक्तियों में यात्री ने लिखा..... पक्षी के शिकार की खबर आग की तरह पूरे गांव में फैल गयी थी। मैंने बमुश्किल अपना नाश्ता किया ही था कि एक तगड़ा ब्राह्मण (पोषाक देख वर्णन) मेरे शिविर में आया जिसे मेरा सामना हुआ; उसके हाव भाव काफी हिसंक थे। आते ही उसने चेतावनी भरे लहजे में कहा इस तालाब पर शिकार करना हमारे नियमों के सख्त खिलाफ है। यह गांव एक पवित्र स्थल की तरह था जहां शिकार करना पूर्णतया वर्जित था। मैंने ब्राह्मण से कहा अज्ञानता वश मुझसे गलती हुई लेकिन मेरे पास महाराणा की लिखित अनुमति है कि किसी भी प्रतिबंधित क्षेत्र में जाकर मैं शिकार कर सकता हूँ। लेकिन ब्राह्मण इन बातों से सन्तुष्ट नहीं हुआ। मैंने उसे वहां से जाने को कहा.. दिन पूरा अन्य घटनाक्रम में गुजर गया। शाम को राणा का हल्कारा आया। उन्होंने कहा की यहाँ के लोगो ने परवाने का पालन करने से मना कर दिया है ओर मुझे सजा देना चाहते है। मैंने हलकारे के माध्यम से उन्हें समझाने की कोशिश की लेकिन वह भी निर्थक साबित हुई। हम 50 लोग भूखे थे। अब हमने गांव के मुखिया के घर कि तरफ जाने का फैसला किया गांव का मुखिया भी अकड़ स्वभाव का था लेकिन मैंने बहस करने की असफल कोशिश की लेकिन उसने भी हमारी एक बात नहीं मानी और आदेश कि तरह कहा की तुम्हारा शिविर गांव से 3 मील दूर ले जाओगे तो मैं थोड़ा बहुत खाना भेजने के बारे में सोचूंगा मैंने उसकी इस दृढ़ता से उद्वेलित होकर उसकी शिकायत राणा से करने की बात कही तो वह ब्राह्मण मुखिया आग बबूला हो गया और उसने हाथ में नुकीले लोहे व बांस की लड़की से बनी हुई वस्तु उठाई एवं उसे मेरे सिर पर लहराने लगा और दोनों में धक्का मुक्की और झड़प भी हुई। इसके काफी देर बाद मामला शांत हुआ आटा अनाज और दूध के जग से भरे लड्डे केम्प पहुँचे। शाम को व्यक्ति ने अपने व्यवहार के लिए खेद जताया। इसके बाद हम 7 मार्च को 15 मील दूर मगरवाड़ा (मंगलवाड़ा) की यात्रा के लिए निकल गए।

अंग्रेज ने मेनार को दैवीय भूमि बताया

मेनार यात्रा के दौरान अंग्रेज यात्री ने मेनार के खूबसूरती के बारे में भी लिखा है। उन्होंने लिखा की जिस ग्रामीण क्षेत्र की हम यात्रा कर रहे थे, उस पर प्रकृति पुरी तरह से महेरबान थी। दूर से ही पहाड़ी पर गांव को देखा जा सकता है। यहां के घर-बगीचे पेड़ पौधों और फूलों से आच्छादित थे। एक तरह से ये गांव समृद्ध लग रहा था। पहाड़ी पर सुंदर मन्दिर और ताज नुमा घर दिख रहे थे। घरों का विस्तार पानी के किनारे तक था। साथ ही जॉन ने अपनी यात्रा के दौरान लिखा की मेनार एक शसुशन है दैवीय जगह है। यहां के पुजारी मानते हैं की ये भूमि राजा मान्धाता के द्वारा दान की गई हुई है जो विक्रमादित्य से पहले के थे।



मेनार तालाब में अठखेलियां करते पक्षी

Observations on Grasslands and Their Avian Fauna in Vallabhnagar Area of Udaipur District, Rajasthan

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ABSTRACT: Besides water bodies, Udaipur district is also blessed with varied sized Grasslands. Grassland habitat plays a vital role for being a home to various resident as well as migratory bird species and is utilised as nesting, feeding and hunting ground for a variety of birds, ranging from small sized Prinias to the larger ones like Vultures. Here, in this article, I shall discuss my field observations on grassland habitats of Vallabhnagar area in Udaipur district and the avifaunal diversity inhabiting them, along with concerns for conservation of such precious habitat.



A Grassland

ABOUT THE AREA : The area under discussion lies in Vallabhnagar tehsil of Udaipur district, with Bhatewar, Menar and Rundera being major villages around. As per forest classification by Champion and Seth (1968), the major forest type is Northern Tropical Dry Deciduous Forest having major plant species like *Anogeissus pendula* (Dhok), *Acacia catechu*, *Acacia leucophloea* (Ronjh), *Butea monosperma* (Palash) etc. The landscape is plain and undulating with presence of short and medium grass species like *Sehima nervosum*, *Heteropogon contortus*, *Dicanthium annulatum*, *Apluda mutica*, *Saccharum spontaneum*, *Sorghum halepense*, *Cynodon dactylon* (Doob) etc. Most of them grow during monsoon season and become dry by the onset of summers. There are grassland and scrubland patches with scattered vegetation and agricultural lands having maize, wheat, sorghum and sugarcane cultivation (which also acts as grasslands for many bird species). These grassland habitats maintain large populations of insects and other invertebrates, small mammals, and reptiles; which attract many bird species towards them. Some places in Vallabhnagar area are used to dispose off carcasses of livestock, which attract scavengers like Vultures and other predatory birds.

AVIAN FAUNA : These observations have been taken since October 2017, when I first visited these sites. I did random monthly field visits to have observations for the presence of birds. From the beginning in 2017 till date, 95 species of resident birds, 38 of winter visitors, 1 summer visitor and 2 passage migrants, totalling 136 species of birds have been recorded which belong to 46 families.

There are a few globally threatened species recorded as well; such as the Steppe Eagle (*Aquila nipalensis*), Egyptian Vulture (*Neophron percnopterus*), Indian Vulture (*Gyps indicus*), Red-headed Vulture (*Sarcogyps calvus*) and Eastern



Short-eared Owl (*Asio flammeus*) in its grassland habitat at Udaipur



Eurasian Hobby (*Falco subbuteo*), Resting on the grassland patch around Udaipur



Globally threatened Eastern Imperial Eagle (*Aquila heliaca*)

Imperial Eagle (*Aquila heliaca*) and a few near threatened species like Cinereous Vulture (*Aegypius monachus*), Red-necked Falcon (*Falco chicquera*) and Laggar Falcon (*Falco jugger*); Vulnerable specie Sarus Crane (*Grus antigone*) feeds in these small grassland patches. Another vulnerable specie Shaheen Falcon (*Falco peregrines peregrinator*) is also recorded. Lesser seen migrants in Udaipur region, like the Short-eared Owl (*Asio flammeus*) and Eurasian Hobby (*Falco subbuteo*) have also been recorded in winters.

ANTHROPOGENIC ISSUES & OTHER CONSERVATION CONCERNS:

Many non-bird friendly activities are seen in and around grasslands of Vallabhnagar area. Few of them are as follows.

- Heavy excavation.
- Dumping of non biodegradable waste.
- Treating grasslands as wastelands.
- Risk of overgrazing by livestock.
- Risk of predation by feral dogs (to migrant birds eg: Common Cranes, Geese and residents like Sarus Cranes.)
- Spread of invasive alien species (like *Prosopis juliflora*, *Lantana camara*, *Parthenium hysterophorus* etc.).

SUGGESTIVE MEASURES :

- A systematic survey of the grasslands should be conducted and mapped to identify potential grassland areas that could be conserved as bird habitats.
- Identification of land titled as wasteland and uncultivated land in revenue records can be converted into grasslands.
- Consultation with Gram Sabha and Panchayat for constitution of local teams of volunteers for conservation of grassland habitats (Village Grassland Protection and Management Committees – VGPMC)

Synergising efforts of researchers and village volunteers in a way that would result in better management of grasslands and conservation of avian fauna.



Short-toed Snake Eagle (*Circaetus gallicus*)
flying over the grassland patch



Steppe-eagle (*Aquila nipalensis*),
an endangered species



Nilgai grazing over the exquisite
grassland patch at Udaipur

Suthar Madara : A Birding destination in the offing

Rahul Bhatnagar
IFS (Retd.)

Looking to the success of Menar and Kishan Kareri wetlands as birding destinations and that too by the active support of the local communities, it was decided in the Executive Committee meeting of the Green Peepal Society (GPS), Udaipur held on August 13, 2020 to adopt a wetland near Udaipur and to develop it into a Birding Destination through the involvement of local communities, thereby conserving the wetland and in turn creating livelihood opportunities for the local people. Accordingly few perennial water bodies were visited by the members of the Green Peepal Society and the search was zeroed on to Suthar Madara water body. The Suthar Madara wetland is situated in Gogunda Tehsil at a distance of 50 kilometers from Udaipur on Udaipur - Jodhpur and Udaipur - Mt. Abu road. It is 3 kms far from Jaswantgarh village on Nandeshma road towards North-west. The reason for selecting this water body was due to the following reasons namely, vicinity to Udaipur, near to tourist route to Mt. Abu and Jodhpur, year round availability of water, presence of planktons in the water body and the communities mainly are of Brahmins and Suthars who are vegetarian and law abiding. Once the waterbody was selected, the village community has to be taken into confidence and thus the local forest officials played an important role by organizing a village meeting in which GPS members apprised the villagers about developing their waterbody into a birding destination. Having done so, a Village Forest Protection and Management Committee (VFPMC) was constituted with consensus and was registered with DCF, Udaipur (North), giving it a legal sanctity. The foremost action needed for developing this water body into a birding destination was to stop fishing contract. GPS members met the Jila Parishad and Panchayat Samiti officials and they were persuaded to stop the fishing contracts. They agreed upon and no fishing contract was issued. The next step was to supplement the water body with fish seeds. GPS members arranged 50 thousand fingerlings of native fish species from Jaisamand and all the fingerlings were released scientifically under the guidance of Shri Ismail Ali Durga Dy. Director, Fisheries (Retd.) in a village function in which the locals actively participated. The overwhelming support of the villagers was a positive sign. The shore line of the water body had no tree cover and thus a tree planting programme was organized by GPS with the active involvement of Forest Department. Planting was done patchily to fulfill ecological requirement of different groups of the avian fauna. The Territorial DCF, DCF Wildlife, concern ACF, Range Officers, Panchayat officials, GPS members, students, NGOs and village communities participated in the tree planting programme. A total of 51 tree seedlings were planted, in which most were fruit bearing plants which are useful to frugivorous birds. A base line survey was conducted on December 31, 2020 to ascertain the present bird population in this water body. As many as 31 bird species were recorded in and around the water body. During survey, Greylag goose (*Anser anser*), Comb duck (*Sarkidiornis melanotos*), Cotton pigmy – goose (*Nettapus coromandelianus*), Spot – billed duck (*Anas poceilorhyncha*), White – throated kingfisher (*Halcyon smyrnensis*), White – breasted waterhen (*Anaurornis phoenicurus*), Common moorhen (*Gallinula chloropus*), Common coot (*Fulica atra*), Black – tailed godwit (*Limosa limosa*), Common sandpiper (*Actitis hypoleucos*), Red – wattled lapwing (*Vanellus indicus*), River tern (*Sterna aurantia*), Indian pond heron (*Ardeola grayii*), Little egret (*Egretta garzetta*), Purple heron (*Ardea purpurea*), Black-headed ibis (*Threskiornis melanocephalus*) etc. aquatic species were seen in the water body. Many terrestrial birds were also seen near the shore line.



A Bird Habitat Improvement Plan of Suthar Madra Wetland
Temperature Equalizing Process of Fish Containers before Actual Release

A project proposal for the development of this wetland has been prepared for Rs 11.60 Lacs and same has been submitted to various donor agencies including CEO, Jila Parishad, Udaipur.

Challenges of the Wildlife crime Surveillance with special reference to Avifauna

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'Wildlife' includes all the uncultivated plants and wild animals confined to nature. 'Wildlife crime' involves taking, trading (supplying, selling or trafficking), importing, exporting, processing, possessing, obtaining, and consuming wild fauna and flora, including timber and other forest products, contravention national or international law.

Wildlife Crime is one type of transnational crime that extends beyond borders and is ever increasing. It is often associated with trade, which predominantly follows patterns from the less developed countries to the more developed ones. Significant demands for exotic pets and flowers, ivory, and animal products for the use in traditional medicines. These products are worth billions of dollars globally, and their network is challenging to detect. Such illicit trade is spoiling decades of conservation work, development, and security of the world's countries. Wildlife trafficking and natural resource crimes infuse corruption, threatening the rule of law, peace, and security. It also spread zoonotic diseases. Many communities fully or partly depend on Wildlife, biodiversity and eco-tourism for livelihood. Criminal groups are increasingly involved in many illicit trade activities, especially the illegal movement of many restricted things from source countries to demand countries. Traffickers exploit borders and weak law enforcing institutions to profit from illegal Wildlife trade. Wildlife and wildlife products transported through multilevel illicit networks of criminal intermediaries and government officials.

Rajasthan has a rich natural heritage which has the uniqueness due to the water deficit western desert region to the world's one of the oldest hills in middle to the eastern ravine and plains and plateau regions with relatively high moisture levels. Owing to these physiographic features, the diversity of the vegetation resulting into habitats harbors a great variety of fauna. Over five hundred avian species from terrestrial to aquatic and resident to migratory, the birds of the state faces number of challenges. Whereas, the poaching of birds is many fold more than detected all over the state. Wildlife crimes are least caught or registered due to lack of surveillance. Further, the trade of the birds and their products remain unnoticed many times. Also, the intentional killing for the entertainment or keeping away from the business activities is often unseen. The present review highlights such challenges of wildlife crime surveillance, in general.

Currently, our law enforcement for the wildlife crime surveillance needs to be technologically upgraded. The government institutions like the Wildlife Crime Control Bureau (WCCB) possess small guns with limited bullets against big targets whereas the non-governmental agencies limit their actions to certain aspects.

The lack of wildlife animals and criminal information in the Inventory Database gives an easy way out for criminals to get away with illegal wildlife trade quickly as prosecution isn't vigorous. The trial of such cases usually takes years to implement; then, the pieces of evidence and eye-witness are vanished by that time.

Currently, law enforcement like the WCCB usually forms the second-hand seizure or information data provided by Forest Departments or officials, partner NGOs, and individuals. With a lack of first-hand data, the execution time of implementation is delayed, and until further action, the crime gets executed. Therefore, sizing up the human capacity investigation team in the field to counter efficiently is the need of the time.

Using Artificial Intelligence's intervention over the first hand provided databases, we believe it could provide Law enforcement the high probability of poaching zones and chances of forming the right underground network through caught poacher. The Wildlife Inventory of Database could offer the correct route of transport of species. The fauna

which is highly trafficked needs to be present in the India Gene Bank of Animals. So, the trafficked or poached species are compared with recent seizures to form a transparent system. Since presently, very few seizures are being done due to such lack of the framework. It is a tedious work in case of all the birds but the big sized birds like Bustards which are affected by the poaching and killing could be worked out.

Hospitality places should be used as the precursor of an Alert System near the hotspots regions. They shall be identified and contacted to place in a Surveillance Camera System with in-built voice recognition to identify dealers' correct identification report law enforcement to reach the higher syndicates in this Wildlife Trade network.

Further strengthening of Alert-based Internet Monitoring as the Internet is the primary platform for bidding and trading such wildlife goods, investing in it while focusing on the cyber tracking principles with the excellent capacity team built to track the sale within Inter-state and the international borders.

- strengthening ground level crime mitigation tactics
- the orderly use of financial and economic intelligence in detection and investigation into organized crime,
- challenging the use of technology by criminals by improved and effective use of technology by law enforcement agencies.
- fostering multi-disciplinary intelligence-led law enforcement
- efficient prosecution and flourishing conviction.
- enhancing national and regional skills to prosecute and settle cases against wildlife crimes and related offenses with appropriate sentencing structures.
- strengthening anti-corruption efforts within relevant agencies to enhance government response, improve government accountability, and wildlife crime transparency.
- improving national and regional wildlife law enforcement capacity to prevent, detect, and investigate wildlife crime through specialized training and equipment.
- increasing law enforcement's capacity to detect, interdict, seize, and transfer to investigatory agencies illegal wildlife products through raising awareness, training, and equipment.

In the present scenario, the wildlife protection status is just getting depleted over time. For example, birds are generally overlooked, and individual states have no action plan beyond the Protected Areas Network. Accountability of doing work and taking action from top to bottom is being lost due to the high margin in this trading domain.

The concerned department in various states has least interest in Wildlife Crime Control which might be due to the lack of glamour. Despite of the massive expenses over plantation and infrastructure development, the avian fauna is overlooked, and the plant species are mostly of the human interest, least supportive to the nesting, feeding or roosting.

Therefore, in the upcoming 5-10 years, the situation is trending towards the worst spaces, if not learned from the recent Pandemic and the Avian Influenza or the Bird Mortality of Sambhar!

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Electromagnetic Radiation - An Invisible Threat For Avian Communities

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Mobile phone technology has changed India's communication sector. Thanks to its many benefits, smartphone technology has grown massively throughout the last decade. Actually, there are more than 50 crore mobile phone users and almost 4.4 lakh cell phone towers to fulfil the need for connectivity. Today, in the absence of any law on the advancement of networks and the placement of cell phone towers, a vast number of mobile towers are being carelessly built across urban and sub-urban landscapes in the country. Electromagnetic radiation from mobile phone base stations has become a worldwide issue for its harmful effects on human health as well as on flora and fauna. Uncontrolled radiation from cell towers has taken its toll on wildlife especially on birds. Actions and behaviour of the birds can be modified when subjected to a high degree of radiations.

The numbers of cell phones and cell towers are increasing. There are lots of companies continue claim that there are no health issues on flora and fauna. Organizations such as WHO, ICNIRP (International Commission on Non-Ionizing Radiation Protection), FCC (Federal Communications Commission), etc. have recommended safe Radiation criteria, although some nations have adopted radiation standards, which are 1/100th or 1/1000th of these values depending on their research. Radiation effects are classified into both thermal and non-thermal effects. Thermal effects are close to that of cooking in a microwave. Non-thermal effects are not clearly described, although it has been stated that non-thermal effects are 3 to 4 times more dangerous than thermal effects. There are lots of migratory birds which are seen in different parts of our country throughout the year. If we compare the migratory birds as well as regional birds over the year, we can clearly see that the due to this increased infrastructure and high frequency towers, bird's populations is dramatically decreased. During recent decades, there has been a marked decline of the house sparrow population in our country as well. The house sparrow is connected to human habitation. Being very sensitive to environmental changes, it is one of the most favoured indicators of urban habitats. A stable house sparrow population reflects a balanced human habitat in terms of air and water quality, vegetation and other habitat quality parameters. Whereas the decreasing bird population indicates that the urban environment is facing certain environmental changes which are not suited to public health in the near future. Bird habitat decline has been a major issue around the world as a significant portion of bird species is rapidly declining. Electromagnetic pollution, whether on its own or in addition with other factors, are responsible for the decline of common birds, such as House

Sparrow. When birds are exposed to radiation, they distract and fly in all directions that damage their natural navigational ability. A huge number of birds, such as pigeons, sparrows, eagles, are killed due to interference from the "invisible enemy" which is radiation. It is also important to carry out further studies in the future so that the negative impacts of technology can be effectively measured by a common man in order to have a better future.

Bhupalsagar : A New Site For Udaipur Bird Festival

Ujjwal Dadhech

Bird Watcher and Wildlife Photographer

Bhupalsagar waterbody is one of the major reservoirs of Chittorgarh, which attracts the local and migratory birds here. Every winter hundreds of species of birds come in thousands. Bhupalsagar is a small village situated on the number nine on Chittorgarh-Udaipur via Mavli State Highway, 50 kilometres from the city of Chittorgarh in Rajasthan. Bhupalsagar has retained its place on the map of Rajasthan due to some ancient sources. The name of this village is immortal in history due to the ancient Jain temple located here, the huge pond and sugar mill. The ancient name of Bhupalsagar was 'Karera'. The name of this village was changed from 'Karera' to 'Bhupalsagar' in the revenue record because of a huge pond built here by the then Maharana Bhupalsingh of the princely state of Mewar. It is said that the spread and filling capacity of the lake at Bhupalsagar is more than the Fatehsagar lake in Udaipur. This pond provides irrigation and water supply to many nearby villages. The main attraction of Bhupalsagar's Birds are : Sarus Cranes, Greater Flamingos, Greylag Goose, Ruddy Shelduck, BarHeaded Goose, Palla's Gull, Rivertern, Black headed Gulls, Comman Pochard, Tufted Pochard, Common Teals, Pintails, Garganey, Northern Shovelers which comes here in large number. A Birdwatcher can see Raptors like Osprey, Brahmini Kite, Greater spotted Eagle, Egyptian Vulture, Shikra, Oriental Honey Buzzard, Storks Sandpipers, Egrets, Plovers, Coots, Herons, Thicknees. Besides this many Diving birds like Rosy pelican, Cormorants and various Ducks can also be seen here. Ever since the Bhupalsagar was added to the field visit during the Udaipur Bird Festival, it has become a centre of attraction for the people. The prominent personalities

associated with the country's wild life have also visited the birds on the Bhupalsagar. Last year on the second day of Udaipur Bird Festival, many people were eager to go to Bhupalsagar in the field visit. Many school students and environmental lovers expressed happiness after capturing the beauty of Bhupalsagar and the bird's movement.



Birding Glimpses at Bhupalsagar (Above & Below)



Environmental Education for a Better Future and Harmony with Nature

Arun Soni

Officer-In-Charge
WWF-India Udaipur Division

Environmental education represents a growing area of interest in childhood education time, especially since the inclusion of environmental principles and practices in the early years learning format.

Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and motivations, fosters attitudes, and commitments to make informed decisions and take responsible action.

This considers how educators in particular see different types of pedagogical play, such as open-ended play, modelled play, and purposefully framed play, Competitions, Eco Trails and Bird Watching, Training, Exhibition and Workshops from various kind of environmental experts as providing opportunities for growing students and educators to develop knowledge through experiences about environmental education in childhood period. Education in childhood is proposed as a way of integrating these pedagogical emphases traditionally associated with environmental and childhood education.

Udaipur Bird Festival provides platform to every citizen for awareness trainings and programs to enhance peoples' understanding regarding the human and environment relationship and to enhance skills and capabilities to protect the environment and improve it at all levels. It gives importance to creating environmental awareness among the citizens through various outreach activities like seminars, birding in different habitats, exhibitions, workshops, competitions and training programs.

The reach, the impact and the success of environment education initiatives could not have been possible without the support of the government, all partner organizations, schools, colleges, teachers, researchers, scholars, youth, students and common men. Our gratitude to everyone who has been a part of this journey where we made the best out of the worst in this present time. Gradually we are reaching in remote areas and various sectors of our community coming forward to associates with our various activities related to nature conservation. Now Impact is also visible in various fields which is visible in few of under displayed pictures.



Birds of Rajasthan WWF Publication inaugural session by Mr. Ravi Singh, SG & CEO WWF-India and Mr. Sukhram Vishnoi, Hon'ble Forest Minister, Rajasthan



Sh. Ashok Chandana, Hon'ble. Youth Affairs Minister, Rajasthan and Dr. N.C. Jain, PCCF at Closing and award Ceremony Conservation award



Painting Competition



Wildlife Written Quiz



Mr Ravi Singh SG & CEO WWF-India With Mr R.K. Singh CCF Wildlife Udaipur



Volunteer appreciation (2)



Prize distribution to painting and wildlife quiz winners (2)



Prize distribution by WWF team



WWF India Udaipur Division Volunteers Team member on WWF Stall With Arun Soni And Mr Govind Singh Tank Mayor Udaipur City



WWF India Udaipur Division Volunteers Team And WWF Stall

Sparrow from the Stamps

Pushpa Khamesra, Ravi Khamesra, Satya Prakash Mehra

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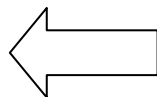
The little chirping social creature is **House Sparrow** (In Hindi *Chiriya* or *Goraiyya*), scientifically named as *Passer domesticus*. Interestingly, House Sparrow was among the first animals to be given a scientific name in the modern system of animal classification. The extent of its range makes it the most widely distributed wild birds on the planet in the 19th century. The only terrestrial habitats that the House Sparrow does not inhabit are dense forest and tundra. The reasons for its wide distribution might be several but the introduction by humans was highly successful in the case of sparrows. Also, the main causes include its early adaptation to living with humans along with wide range of environment. They are believed to have become associated with humans around 10,000 years ago.

Despite of the fact that it has an extremely large range and population giving it a status of 'Least Concern' and considered second among all birds in abundance, its population is diminishing. Before 2000s, a very commonly seen bird species amidst human habitation which was a starting point for the parents or elderly people to make their children learn about birds, has lost its commonness after 2000s but now its population is again improving. To observe the liveliness of this little bird and relevance in our life, **20 March** is assigned as the '**World Sparrow Day**'.

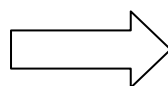
To many people across the world, the house sparrow is the most familiar bird. It is well represented in the stamps of the world. So for twenty two nations or and stotes nations of the world have seen issued Postage Stamps on the sparrow. Although, San Marino was first ever state to launch postage stamp on sparrow in 1972 but as a first nation, it was Yugoslavia to launch the postage stamp on sparrow in 1982 whereas India launched a postage stamp in 2010 (9th July). A list of the nations which showed their concern for this little common bird through their postage stamp is given below.

Year/s	Nation/s or State/s
1972, 2002	San Marino
1982	Yugoslavia
1991	Syria, Bahrain
1994	Denmark, Belgium
1996	Ascension Island
1998	Uganda
1999	Faroe Island
2002	Eestonia
2003	Belarus
2004	Turkey
2007	Alderney, Jersey
2010	India, Bangladesh, Moldova
2011	Kazakhstan
2014	Maldives
2016	Malawi
2017	Bulgaria
2019	China
2020	Isle of Man

Tableenlists the year of release of postage stamps by any nation or state.



Images of the postage stamps from India and few other nations or states



Sighting of the Puff-throated Babbler *Pellorneum ruficeps* in Phulwari ki Nal Wildlife Sanctuary, Udaipur district, Rajasthan

Dharmendra Khandal, Satish Kumar Sharma and Harkirat Singh Sangha

Phulwari Wildlife Sanctuary (better known as Phulwari -ki- Nal) is an important sanctuary of Rajasthan which is situated in Kotra and Jhadol Tehsils of Udaipur district, along the Rajasthan – Gujarat border. It is situated between 73° 7' and 73°20' E longitude and 24°0' and 24°30' N latitude. Phulwari Sanctuary is known for its rich biodiversity and dense varied type of forests. This sanctuary is rich in avian fauna also. As many as 227 species of birds belonging to 154 genera and 49 families have been recorded in this sanctuary (Sharma, 2007).

On 10 March 2019, in Gamdi ki Nal area of Devli Forest Block of Phulwari ki Nal Wildlife Sanctuary (73.116667 - 73.333333 E, 24.000000 - 24.500000 N), Udaipur district, Rajasthan, a flock of 5 or 6 Puff-throated Babbler *Pellorneum ruficeps* were observed foraging on the ground; rummaging amongst, and turning over dead leaves. They were noticed, as they were quite vocal with their distinct calls. After the sighting the flock was present for about 12-13 minutes before moving away. At times the birds were in fairly open area affording good views, and allowing photographic documentation. Their identification was fairly straight forward on the basis of the following main features: Greyish brown under parts, white throat, bold dark brown streaks on breast and flanks, rufous brown head, and buffy supercilium. It is rather a smallish babbler (about that of the bulbul) with long tail (Khandal et al. 2020).

There is considerable racial variation in the species, with much variation in colour of crown, ear-coverts mantle and darkness and size of brown streaking (Grimmett et al. 1998). Collar and Robson (2020) recognize twenty-eight subspecies. On the basis of photographs of the birds in Phulwari ki Nal, the location of the sighting being contiguous with Gujarat and the field characters of subspecies, including overall paler plumage, light streaking and spotting below, as described in the literature (Ali & Ripley 1996; Grimmett et al. 2011; Rasmussen & Anderton 2012), we ascribe the Phulwari ki Nal Wildlife Sanctuary birds to the nominate *P. ruficeps ruficeps*.

Abdulali (1983) stated that *ruficeps* becomes paler north of Mumbai and birds from Gujarat are paler than those from further southwards in the Western Ghats. The birds observed in Phulwari ki Nal were definitely paler compared to the birds from Western Ghats and generally resembled birds from Gujarat. Moreover, these birds were not only streaked dark brown (vs. black) below but also showed rather indistinct supercilium (vs. broad and pale).

A scrutiny of images on Oriental Bird Images (www.orientalbirdimages.org) reveals that the birds photographed in Gujarat from Shoolpaneshwar Wildlife Sanctuary on 8 April 2016 (Patel & Maharia 2016); Vansada National Park, 14 April 2017 (Patel & Maharia 2017), and Madhya Pradesh at Pachmarhi, 8 May 2010 (Gohil 2017) are comparatively paler than the birds photographed in Goa, Karnataka and Maharashtra.

Habitat: The species is known to inhabit floor and understorey of deciduous or broadleaf evergreen forest, teak forest, secondary growth, bamboo, tea gardens, scrub, sholas, lantana thickets at forest edge, thickets in ravines and along watercourses, Acacia, Ziziphus, etc (Collar & Robson 2020).

In Phulwari ki Nal, the birds were observed in Gamdi ki Nal area bordering the northern bank of the Wakal river. Gamdi Ki Nal is nearly 12 km long very narrow valley and looks like a gorge between two parallel running hills. Being a part of the Aravalli hill range, the sanctuary has many narrow "V" shaped valleys which are known as nal in local dialect (in Vindhya "U" shaped gorges are common). As water regime in a nal area is usually higher than the adjacent zone, well developed riparian strips are visible along the banks of the streams of a nal. These strips are commonly comprise of semi-evergreen and evergreen species in Phulwari ki Nal Sanctuary.

Discussion: In Kazmierczak (2000) and Grimmett et al. (2011) its occurrence in Rajasthan is not shown in the distribution map although a '?' is marked in southern Rajasthan. Very obviously it is based on Ali (1949) who also indicated its status from Mt Abu as '?'. But surprisingly, in his much later co-authored work he did not give its distribution in Rajasthan and Gujarat (Ali and Ripley 1996). Ripley (1982) also did not record it from Rajasthan. More recently, Sangha & Devarshi (2006) did not record the species at Mt. Abu during ornithological survey covering all seasons. Rasmussen and Anderton (2005, 2012) recorded it only from Gujarat and mention that it is 'widespread resident in wooded parts of Peninsular India, south from Gujarat to south-west from W Bengal, and disjunctly in Himalayan foothills and adjacent plains from west Himachal to Arunachal, Assam valley, south Assam hills, and east Bangladesh'.

Although the sighting of the species in the Phulwari ki Nal area of southern Rajasthan constitutes the first record for the state, it is not difficult to explain its presence there. It is an uncommon resident in forest belt of Gujarat (Ganpule 2016). Two birds were recently recorded in Polo forest near Abhapur village, Sabarkantha district on 4 Dec 2019 (Theba 2019) a mere 40 km, as the crow flies, from Phulwari ki Nal. The species is probably resident in Phulwari ki Nal but has been overlooked in the past. Conditions prevailing in the Gamdi ki Nal, are available in many forest blocks of Udaipur district like Ramkunda, Ladan, Har, Tinsara, Samoli and Kamalnath. Surveys in these forest blocks and other forest blocks of Phulwari Sanctuary itself namely, Ambasa, Umaria, Dhedmariya, Asawara, Phulwari, Mamer, Harwa and Daiya are needed to know the status of this species in Phulwari Sanctuary and its surrounding forest areas. With this present record, known species numbers recorded from Phulwari Sanctuary have reached 228.



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A birder with spiders at home during covid-19 lockdown

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Most countries in the world are either in health emergency or in lockdown to control the spread of coronavirus pandemic. The India was under lockdown since March 25, which was extended to May 17. People were asked to stay at home and work from home. But the sudden stop of movements by the government ceased the daily routine of a lot of people like me who are very field oriented. Initial days were a desert-like experience for me, but after few days, I started to get acclimatized to a new daily routine within a restricted boundary of my house including few rooms, a kitchen, a small garden, a small car parking area and little space in the backyard. Laziness started to overcome on me. The morning began after 8'o clock in bed and there was no time to sleep in the night. However birds were chirping around the house and butterflies were wandering in my small yard, but the impact of lockdown and impression of many disheartening news was heavy on my mind.

One day, I was watching a desolate road outside my home from a window, I saw a tiny creature was jumping on the window doors. Of course! It was a tiny jumping spider, but all of a sudden I realized that I never notice it, however it was our home mate. I observed it carefully. It had eight legs, eight eyes, and was black in colour. A broad white stripe was present and was continuous from the head to the back of the abdomen. There were other white stripes on either sides and some white spots on the posterior side of the abdomen. I took my mobile immediately and tried to capture few images. But the individual was very agile and quick, and almost impossible to catch with a mobile. But an advantage of being a birder and nature lover was that I had a DSLR camera at home. I rushed to another room and tried to get it as fast as possible without losing the spider in the next few seconds. Luckily, the individual was there in due time, and I took a few photographs. Initially, I put a single image of that individual in the Google lens application and identified it as *Plexippus peukkeii* male.

After this incident, various new individuals were started to encounter within 2- 3 days with different colourings, different body shapes and different waking habits. These encounters had increased my curiosity in this new world of eight legs animals. I joined a few Facebook groups, and also started reading about the spiders on internet. Literature indicated that the majority of spiders are difficult to identify and examine at species level without genitalia dissection. Slowly slowly, however, I started to observe various spiders individuals and try to identify them on the basis of morphological features. I also consulted literature for identification (Sebastian et al. 2009, Dhamorikar 2016).

Luckily, I was able to observe 62 species during the entire lockdown time and a few days after that period (Table 1), which was an amazing number to me. Many species are not yet identified even at the family level due to very similar morphological characteristics. The larger number of species was found in the family Salticidae, which is commonly known as Jumping Spiders due to its jumping ability to capture prey and movement. In the community of jumping spiders, few species were observed in the *Myrmarachne* genus and looked similar to ants. They are commonly known as Ant-mimicking spider. They have Batesian mimics in which animal resembles its morphological and behavioural properties of ants to near perfection. It helps them escape from predators and helps them to hunt prey.

Various Species with their families seen during the study are depicted below :

Araneidae	: <i>Argiope pulchella</i> , <i>Argiope aemula</i> , <i>Argiope anasuja</i> , <i>Argiope sp.</i> , <i>Araneus mitificus</i> , <i>Neoscona crucifera</i> , <i>Neoscona mukerjei</i> , <i>Neoscona theisi</i> , <i>Cyrtophora cicatrosa</i> , <i>Cyrtophora sp.</i> ,
Clubinoidea	: <i>Clubiona sp.</i> ,
Corinnidae	: <i>Castianeria sp.</i> , <i>Corinnidae sp.</i> , <i>Corinnidae sp.</i> ,
Filistatidae	: <i>Pritha sp.</i> ,
Hersillidae	: <i>Hersilia sp.</i> ,
Lycosidae	: <i>Pardosa sp.</i> , <i>Lycosidae sp.</i> ,
Oecobiidae	: <i>Oecobius sp.</i> , <i>Oecobius sp.</i> ,
Oxyopidae	: <i>Oxyopes javanus</i> , <i>Oxyopes macilentus</i> , <i>Oxyopes sp.</i> , <i>Oxyopes sp.</i> , <i>Oxyopes sp.</i> , <i>Peucetia viridans</i> ,
Philodromidae	: <i>Philodromus sp.</i> ,
Pholcidae	: <i>Crossopriza lyoni</i> , <i>Artema atlanta</i> ,
Pisauridae	: <i>Tinus sp.</i> ,
Salticidae	: <i>Telamonia dimidiata</i> , <i>Plexippus paykulli</i> , <i>Plexippus sp.</i> , <i>Menemerus sp.</i> , <i>Menemerus bivittatus</i> , <i>Chrysilla volupe</i> , <i>Thyene imperialis</i> , <i>Langona sp.</i> , <i>Hyllus semicupreus</i> , <i>Myrmarachne sp.</i> , <i>Myrmarachne sp.</i> , <i>Myrmarachne sp.</i> , <i>Myrmarachne sp.</i> , <i>Myrmarachne sp.</i> , <i>Hasarius adansoni</i> , <i>Harmochirus brachiatus</i> , <i>Phintella vittata</i> , <i>Brancusa calebi</i> , <i>Harmochirus sp.</i> , <i>Carrhotus sp.</i> , <i>Binor sp.</i> ,
Scytodidae	: <i>Scytodes sp.</i> , <i>Scytodes sp.</i> ,
Sicariidae	: <i>Loxosceles refescens</i> , <i>Loxosceles sp.</i> ,
Tetragnathidae	: <i>Leucauge decorate</i> ,
Theridiidae	: <i>Achaearanea sp.</i> , <i>Nesticodes trufipes</i> ,
Thomisidae	: <i>Thomisus sp.</i> , <i>Indoxysticus sp.</i> , <i>Runcinia sp.</i>
Uloboridae	: <i>Uloborus sp.</i> ,

Spiders play important ecological role in our environment. They eat a lot of insects, often smaller than themselves, thus regulating the insect population in almost every ecosystem and habitat such as agriculture, gardens, grasslands, etc. Spiders of orb weaver group are hunt at large-scale flying insects with their signature web. Even they kill their own same species and helping to keep their own number in check. In addition, spiders are also a major food source for a variety of birds, lizards, wasps and small mammals.

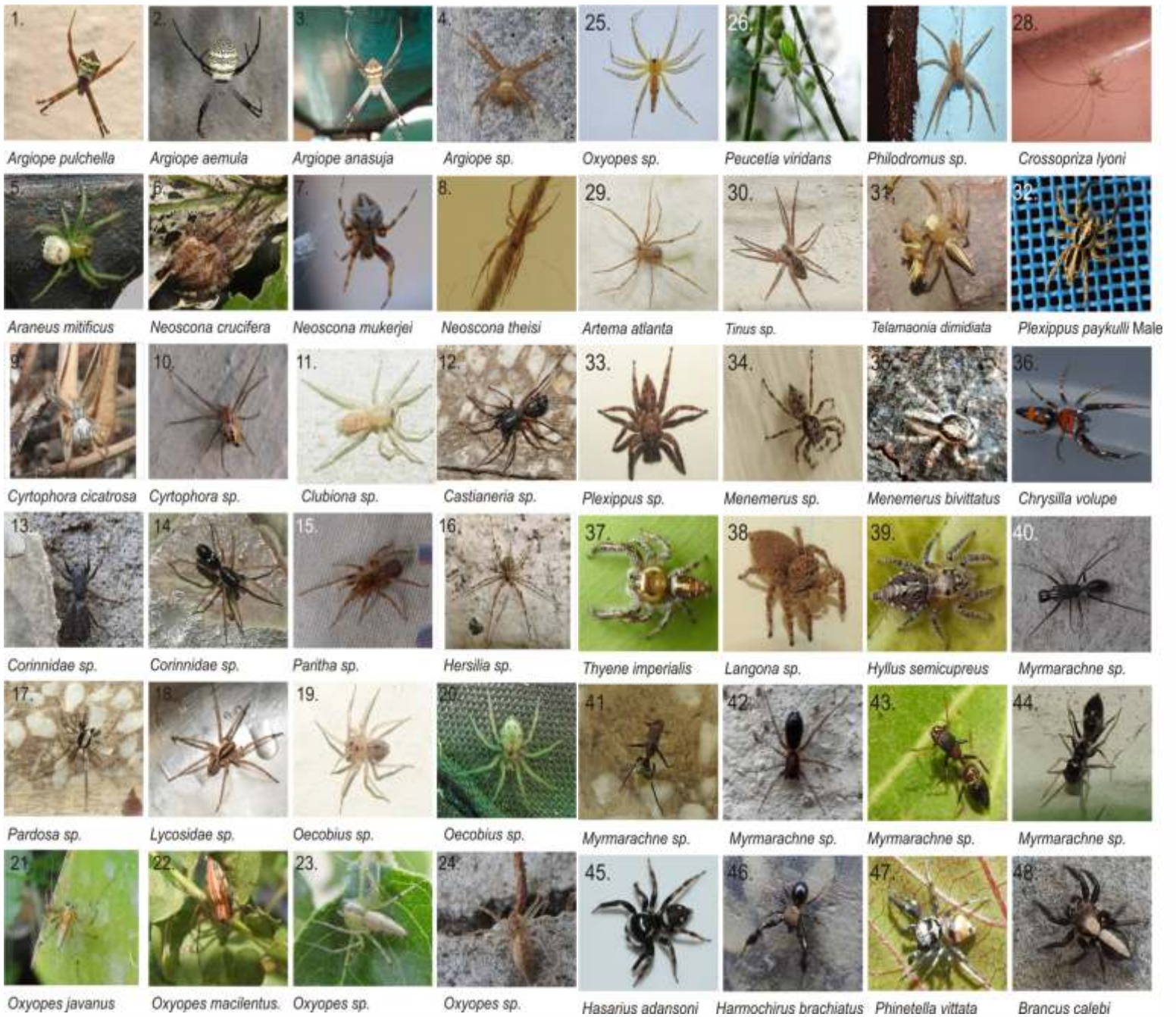
Literature suggests that information about this group from the southern part of Rajasthan is almost negligible. I wonder that a couple of days in the lockdown gave me this wonderful opportunity to observe this community found in and around of my house. There are lots of opportunities in the field of Arachnology in southern Rajasthan, where there are a large number of protected areas with a range of habitats.

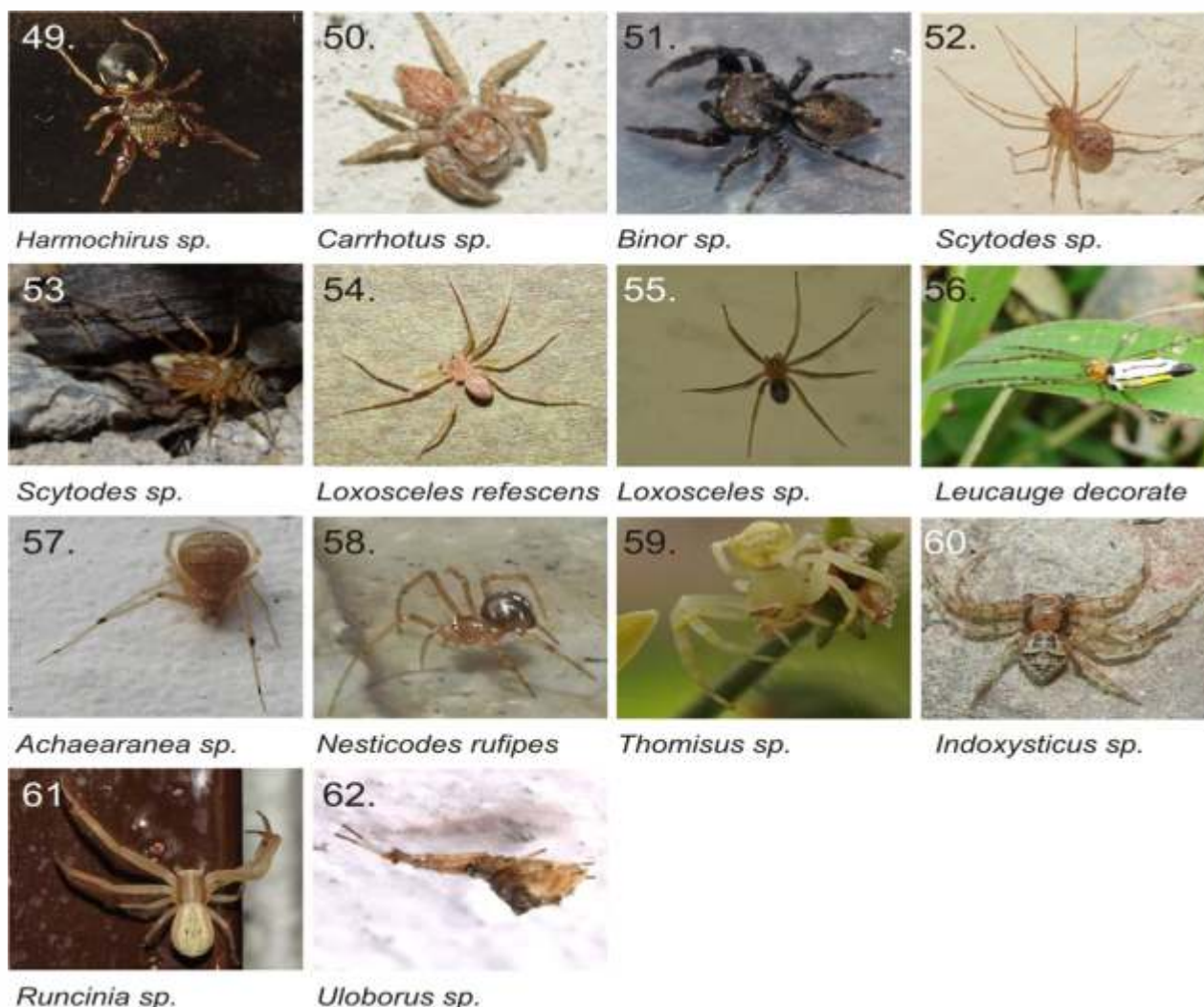
Acknowledgement : I thank to various anonymous reviewers of various Facebook groups, Mr Asish and Mr Rishikesh Tripathi who helped in the identification.

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Birds diversity in Badgaon area, near Udaipur City

Shailendra Tiwari

Udaipur is situated in the southern part of Rajasthan. This region is traditionally known as Mewar. Udaipur overlaps three agro-climatic zones of Rajasthan namely- (i) Sub humid southern plains (ii) Aravali hills and (iii) Humid southern plains. Dominant climate type of Udaipur is tropical monsoon continental. Long term average rain fall of the district is 586 mm.

Udaipur region is situated in the Aravali hill range which is one of the oldest mountain ranges in the world. Dominant forest type in Udaipur is Dry tropical Forests. Major forest sub types are the Northern Dry Mix Deciduous Forest and the Tropical Riverine Forest. The edaphic climax type of forest is composed of Anogeissus Pendula forest, Boswellia forest, , Acacia nilotica & Phoenix groves, Butea and Aegile compositions and dry bamboo brakes. There are also dry deciduous scrub type forests with Euphorbia scrub and grasslands.

Udaipur is known as city of lakes has abundance of ponds and other water bodies. Water bodies support diverse species and maintain biotic integrity of many functional ecosystems.

Udaipur occupies a wide plant genetic base. Over 400 species of angiosperms or higher plants have been recorded in the region. About thirty two species of wild mammals (including both herbivorous and carnivorous species) are found in Udaipur. Around 150 species of both resident and migratory birds have been recorded here.

Birding in Udaipur City

Being one of the most beautiful city in the world, Udaipur is a major tourist destination. People usually come to see its lakes, historical

buildings & museums.

In addition to its scenic beauty Udaipur City is also an ecological paradise. Nature has endowed it with a variety of habitats which host a range of flora & fauna. The city is also quite rich in terms of bird diversity. A number of bird species can be observed in almost all corners. Lakes of Udaipur city also attract a variety of water birds including many migratory species. Gardens of Udaipur like Gulab Bagh and Moti Magri are host to a number of arboreal birds. Apart from lakes and gardens there are many natural landscapes in the city which have a variety of habitats like spreads of agricultural fields interspersed with dry scrubs and patches of non cultivable land occupying dry deciduous & evergreen canopies.

These areas are regularly visited by citizen of Udaipur regularly. Many people especially senior citizen go daily for morning walk. If birding is encouraged among citizens, people will become more aware about nature & natural wealth of these areas without any extra effort. If citizen acquire knowledge of flora & fauna they will be able to have a track of changes in local eco system. They may also play a significant role in care & conservation of habitats of the city.

One of such landscapes stretches between Vidya Bhawan Krishi Vigyan Kendra & Vidya Bhawan Rural Institute situated in the western part of the city. This habitat accommodates the birds which are common in farming areas and scrubland. In addition to this, other commonly occurring species near human habitation can also be spotted in this area.

From a few individual numbers of species like black winged kite, one can spot Rock Pigeon & Rose Ringed Parakeets like species in a few hundreds.

Family wise number of species is given below :

SN	Family	No. of species	SN	Family	No. of species
1	Columbidae	6	24	Muscicapinae	1
2	Psittacidae-	2	25	Monarchinae	2
3	Psittacidae	4	26	Rhipidurinae	2
4	Phasianidae-	2	27	Alaudidae	2
5	Charadriidae-	1	28	Pycnonotidae	1
6	Recurvirostridae	2	29	Irenidae	2
7	Threskiornithidae-	4	30	Laniidae	3
8	Ardeidae	1	31	Turdinae	8
9	Falconidae-	4	32	Timliinae	5
10	Accipitridae	2	33	Turdinae	8
11	Strigidae	1	34	Sturnidae	4
12	Upupidae	1	35	Sylviinae	12
13	Bucerotidae	1	36	Paridae	3
14	Alcedinidae	2	37	Nectariniidae	2
15	Meropidae	2	38	Dicaeidae	1
16	Coraciidae	1	39	Zosteropidae	1
17	Capitonidae	2	40	Fringillidae	1
18	Piciidae.	4	41	Emberizinae	2
19	Campephgidae	2	42	Estrildidae	2
20	Cuculidae	1	43	Passerinae	2
21	Oriolidae	3	44	Ploceinae	1
22	Dicuridae	3	45	Motacillidae	6
23	Corvidae	3			

राजस्थान में नई तितलियों की खोज

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उदयपुर/दक्षिण राजस्थान में स्लॉथ बियर (भालू) पर शोध कर रहे उदयपुर अंचल के पर्यावरण वैज्ञानिकों ने जून, 2020 में एक नवीन प्रजाति की तितली को खोजा है। मेवाड़ के साथ ही राजस्थान में इस तितली को पहली बार देखा गया है।

उदयपुर में प्रवासरत इंटरनेशनल क्रेन फाउण्डेशन व नेचर कंजरवेशन फाउण्डेशन के पक्षी विज्ञानी डॉ. के.एस.गोपीसुंदर के अनुसार प्रकृति संरक्षण फाउंडेशन की पर्यावरण वैज्ञानिक डॉ. स्वाति किट्टूर और मोहनलाल सुखाड़िया विश्वविद्यालय के शोधार्थी नाथद्वारा निवासी उत्कर्ष प्रजापति ने दक्षिणी राजस्थान के कुंभलगढ़ अभयारण्य में स्लॉथ बीयर की पारिस्थितिकी पर अपने शोध के दौरान दुर्लभ लाइलक सिल्वरलाइन नामक तितली को खोजा है।

हल्के पीले रंग की इस दुर्लभ तितली को दोनों शोधार्थियों ने गत दिनों अपनी जैव विविधता के लिए समृद्ध कुंभलगढ़ अभयारण्य की एक चट्टान पर सुबह-सुबह धूप सेंकते हुए देखा। डॉ. स्वाति किट्टूर और उत्कर्ष प्रजापति ने तत्काल ही इसे चांदी की तितली की एक अजीब प्रजाति मानकर इसकी कई सारी अच्छी तस्वीरें क्लिक की, जिसे बाद में वेबपोर्टल आईकॉनिस्ट के लिए अपलोड किया गया।

1880 में खोजी गई थी यह तितली :

डॉ. गोपीसुंदर ने बताया कि वेबपोर्टल पर इसे अपलोड करने के बाद देश के कई वैज्ञानिकों व तितली विशेषज्ञों ने उनसे संपर्क किया और बताया कि जिस प्रजाति की तितली की तस्वीर खींची गई है वह बहुत ही दुर्लभ लाइलक सिल्वरलाइन थी। उन्होंने बताया कि तितली की इस प्रजाति की खोज 1880 के दशक में की गई थी, और इसे बेंगलुरु में मात्र एक की संख्या में ही देखा गया था।

शोधपत्र भी हुआ प्रकाशित :

पर्यावरण वैज्ञानिक इस तितली प्रजाति को खोजने मात्र तक ही सीमित नहीं रहे अपितु उन्होंने इस तितली पर एक विस्तृत शोधपत्र भी तैयार किया जिसे अन्तर्राष्ट्रीय ख्याति की शोध पत्रिका 'जर्नल ऑफ थ्रेटण्ड टेक्सा' में 26 जून को ही प्रकाशित किया गया है। इस शोध पत्र को संयुक्त रूप से डॉ. के.एस.गोपीसुंदर, प्रकृति संरक्षण फाउंडेशन की पर्यावरण वैज्ञानिक डॉ. स्वाति किट्टूर, मोहनलाल सुखाड़िया विश्वविद्यालय के शोधार्थी नाथद्वारा निवासी उत्कर्ष प्रजापति तथा मोहनलाल सुखाड़िया विश्वविद्यालय



के असिस्टेंट प्रोफेसर व पक्षी विज्ञानी डॉ. विजय कोली द्वारा तैयार किया गया है और इसमें बताया गया है कि राजस्थान के लिए लाइलक सिल्वरलाइन की पहली साईटिंग है। वैज्ञानिकों ने बताया कि यह भारतीय वन्यजीव संरक्षण अधिनियम की अनुसूची द्वितीय के तहत संरक्षित है। शोध पत्र में यह भी बताया गया है कि यह प्रजाति पहले कर्नाटक, आंध्र प्रदेश, अरुणाचल प्रदेश, मध्य प्रदेश, पंजाब और भारत के उत्तरी राज्यों और पाकिस्तान में रावलपिंडी में बहुत कम संख्या में देखी गई थी।

राजस्थान में अब तक 112 प्रजातियां दिखी :

इधर, राजस्थान में तितलियों पर शोध कर रहे डूंगरपुर जिले के सागावाड़ा निवासी मुकेश पंवार ने बताया कि उन्होंने अब तक राजस्थान में 111 प्रजातियों की तितलियों को देखा और पहचाना है वहीं उन्होंने इनमें से 82 प्रजातियों के जीवनचक्र का अध्ययन कर क्लिक भी किया है। पंवार ने बताया कि लाइलक सिल्वरलाइन को देखा जाना वास्तव में उपलब्धिपरक है जिससे यह उद्घाटित होता है कि कुंभलगढ़ जैसे अभयारण्य न केवल भालू और लकड़बग्घे जैसे स्तनधारियों के लिए महत्वपूर्ण हैं, बल्कि लीलैक सिल्वरलाइन जैसी दुर्लभ प्रजातियों की तितलियों के भी आश्रयस्थल है।

स्पीआलिया जेब्रा तितली की खोज

डॉ. कमलेश शर्मा

उदयपुर/देशभर में तितलियों को गिनने, समझने व संरक्षण की मुहिम को आमजन तक ले जाने के लिए मनाए जा रहे तितली माह यानी "बिग बटरफ्लाई मंथ" के तहत सितंबर माह में राजस्थान में देश की 1328 वीं तितली की खोज हुई है। स्पीआलिया जेब्रा नामक इस तितली की खोज झुंजरपुर जिले के सागवाड़ा क्षेत्र में हुई है।

पिछले 15 वर्षों से तितलियों पर शोध कर रहे वागड़ नेचर क्लब के सदस्य व सरकारी स्कूल के शिक्षक मुकेश पंवार ने इस स्पीआलिया जेब्रा तितली को 8 नवम्बर 2014 को सागवाड़ा के धनराज फार्म हाउस पर देखा था और उसी दौरान उन्होंने फोटो क्लिक कर इसकी पहचान के लिए उत्तराखंड के भीमताल स्थित बटरफ्लाई शोध संस्थान को भेजा था। बटरफ्लाई शोध संस्थान ने इस तितली की पहचान में महत्वपूर्ण भूमिका निभाई और इस तितली पर करीब 6 साल की लंबी शोध प्रक्रिया के बाद संस्थान के निदेशक पीटर स्मेटाचौक ने मंगलवार को इसकी घोषणा करते हुए बताया कि यह तितली भारत की 1328 वीं तितली है।

तेज उड़ान भरती है 2.5 सेमी चौड़ी यह तितली :

बटरफ्लाई शोध संस्थान के निदेशक पीटर स्मेटाचौक ने बताया कि तेज गति से उड़ान भरने वाली इस तितली की चौड़ाई मात्र 2.5 सेंटीमीटर होती है। इस तितली को वर्ष 1888 में पाकिस्तान के अटौक शहर में देखा गया था। उस समय इस शहर का नाम कैंप बैलपुर था। वे बताते हैं कि वर्ष 2016 में पाकिस्तान की पुस्तक बटरफ्लाई आफ पाकिस्तान में भी इसके बारे में जिक्र है। उन्होंने यह भी बताया कि मुकेश पंवार द्वारा खोजी गई इसी तितली की विस्तृत जानकारी को संस्थान की मैगज़ीन बायोनोट्स के 28 सितंबर के अंक में प्रकाशित भी किया गया है।

82 तितली प्रजातियों का जीवनचक्र क्लिक कर चुके :

राजस्थान की तितलियों पर शोध कर रहे मुकेश पंवार ने अब तक राजस्थान में 111 प्रजातियों की तितलियों को देखा और पहचाना है वहीं उन्होंने इनमें से 82 प्रजातियों की तितलियों के जीवनचक्र का अध्ययन कर क्लिक भी किया है। इससे पहले पंवार की पहल पर ही वन विभाग, राजपूताना सोसायटी आफ नेचुरल हिस्ट्री, वागड़ नेचर क्लब के संयुक्त तत्वावधान में 24 फरवरी 2018 को राजस्थान राज्य का पहला बटरफ्लाई फेस्टिवल भी सागवाड़ा में ही आयोजित किया गया था।

पर्यावरण प्रेमियों ने जताई खुशी :

बिग बटरफ्लाई मंथ में मुकेश पंवार की इस उपलब्धि के साथ ही गत 9 सितंबर को टाइगर वॉच के फील्ड बायोलोजिस्ट डॉ. धर्मेन्द्र खण्डाल एवं उदयपुर के पर्यावरण वैज्ञानिक डॉ. सतीश शर्मा द्वारा रणथम्भौर बाघ परियोजना क्षेत्र के बाहरी भाग में दक्खन ट्राई कलर पाइड फ्लेट तथा स्पॉटेड स्माल फ्लेट नामक दो नई तितलियों की खोज पर क्षेत्र के पर्यावरणप्रेमियों ने हर्ष व्यक्त किया है। वागड़ नेचर क्लब के डॉ. कमलेश शर्मा ने इन दोनों उपलब्धियों पर खुशी जताते हुए इसका श्रेय दक्षिण राजस्थान में पर्यावरण संरक्षण के क्षेत्र में किए जा रहे विविध कार्यों के कारण हुई जागरूकता को दिया है।



Memories



Memories

