Rahul Bhatnagar
IFS
Chief Conservator of Forests
Wildlife, Udaipur

ACKNOWLEDGEMENTS

It is a well-established fact that the mankind for his own interest, in less than a few decades has destroyed what was made by Mother Nature in some million years. As the knowledge and inventions in science have advanced, numerous unprecedented hazards have developed for flora, fauna and humans also. Researches indicate that the electric, magnetic and electromagnetic fields used in various technologies have a role in interfering and subsequently destroying not only flora and fauna but humans also. Birds have been significant to humans in innumerable ways besides their description in nature. They are ecological service providers that are giving their efforts in welfare of nature without any wages.

Udaipur Bird Festival is being celebrated in the city for the past four years and it gives me a great pleasure as it enters into its fifth year now. The festival involves inviting people from all walks of life such as school and college students, teachers, researchers, nature lovers and responsible citizens. The festival has been attracting not only the local public but people from far and wide have also been a witness in recent years. Various activities like bird race, competitions for school students, and field trips to local water bodies to observe various resident and migratory birds, wildlife photography workshop, photographic exhibition, postal stamp display and group discussions help in creating awareness towards bird conservation.

A new dimension is being introduced during this bird festival by organizing Nature Literature Festival wherein eminent writers who have contributed in the field of nature conservation, wildlife, birding etc. will have an interaction with the nature lovers and students. This is first of its kind in the country and it was Mr. Ravi Singh, CEO and Secretary General, WWF, India who came up with this novel concept.

Hoisting bird festival requires support from everyone as no mammoth task can be accomplished by a single person. I take this opportunity to thank Dr. G V Reddy, PCCF and CWLW and Shri Bhawani Singh Detha, Commissioner (TAD) for his guidance and support .Also I would like to mention the name of Mr. Vikram Singh, IAS (Retd.); Dr. Satish K. Sharma; Mr. IPS Matharu, CCF; Ms Harini.V, DCF; Mr Suhail Majboor, DCF; Mr. VS Rana, DCF (Retd.); Mr. Pratap Singh DCF (Retd.); Mr. Shaitan Singh Deora, ACF; Mr. Ganesh Gothwal, RFO; Dr. Chhaya Bhatnagar, Dr. Vijay K. Koli, Mr. Sharad Agarwal, Mr. Pradeep Sukhwal, Mr. Vinay Dave, Mr. Khuswant Sardalia, Mrs. Pushpa Khemesara, Sh. Gauri Kant Dy. Director, Mr. Arun Soni, Officer In-charge, WWF-India and Mr. Ankit Sissodia for their active support. I also acknowledge the efforts of all who are actively involved directly or indirectly in making the event successful.

(Rahul Bhatnagar)

अशोक गहलोत
मुख्यमंत्री
राजस्थान

संदेश

मुझे यह जानकर प्रसन्नता है कि हर वर्ष की भांति इस वर्ष भी 18 से 20 जनवरी, 2019 तक उदयपुर में पांचवें बर्ड फेस्टिवल 2018–19 का आयोजन किया जा रहा है। साथ ही स्मारिका का प्रकाशन किया जायेगा।

मेरा मानना है कि इस प्रकार के आयोजन से पक्षी प्रेमियों को विविध प्रजातियों के पक्षियों के बारें में जानने और उनके प्रति प्रेम भाव बनाए रखने का अवसर मिलता है।

आशा है स्मारिका में वन्यजीवों से संबंधित विभिन्न पहलुओं, पर्यावरण की दृष्टि से उनके महत्व, खासकर पक्षी एवं उनके आवासों से संबंधित तकनीकी जानकारीयुक्त आलेख एवं अन्य उपयोगी सामग्री का समावेश हो सकेगा।

मैं आयोजन एवं स्मारिका प्रकाशन की सफलता के लिए अपनी हार्दिक शुभकामनाएं प्रेषित करता हूँ।

(अशोक गहलोत)

सुखराम विश्नोई
राज्यमंत्री
वन एवं पर्यावरण विभाग, राजस्थान

संदेश

मुझे यह जानकर खुशी हुई कि गत वर्षों की भांति निरन्तर पाँचवे वर्ष भी वन विभाग, उदयपुर झीलों की नगरी, उदयपुर में वृहत् स्तर पर तीन दिवसीय ''उदयपुर पक्षी पर्व 2018–19'' का आयोजन कर रहा है। यह आयोजन उदयपुर शहर एवं आस–पास के जल स्त्रोतों पर किये जाने से बडी संख्या में स्थानीय लोगों को भाग लेने का मौका मिलेगा। बडी संख्या में राज्य एवं देश के दूर–दराज के लोग भी इसमें भाग लेंगे जिससे पक्षियों, उनके आवास एवं सम्पूर्ण प्रकृति के संरक्षण – संवर्धन की मुहिम को गति मिलेगी।

पक्षी अवलोकन न केवल हमें मनोरंजन प्रदान करता है बल्कि हमें उस जिम्मेदारी का अहसास भी करवाता है कि पक्षियों के संरक्षण में आ रही बाधाओं को दूर करने में हम भागीदारी निभायें। परागण, प्रकीर्णन, नाशक जीव नियन्त्रण, प्रकृति स्वच्छता आदि पक्षियों की ऐसी जैविक कियायें हैं जो हमें प्रत्यक्ष लाभ पहुंचाती हैं तथा मानव जाति के अस्तित्व को बनाये रखने में मदद करती हैं। पक्षी मेलों एवं पक्षी पर्वों के आयोजन से हमें पक्षियों के बारे में और भी अधिक जानने का अवसर मिलता है।

पक्षी अवलोकन भले ही एक हॉबी का रूप है, लेकिन इस क्षैत्र में रोजगार के अवसर भी काफी हैं। पारिस्थितिकी पर्यटन को बढावा देकर एवं उनसे पक्षी अवलोकन कार्यक्रम को जोड कर, रोजगार के अवसर बढाये जा सकते हैं तथा अनेक युवाओं को रोजगार दिया जा सकता है।

पक्षियों के बारे में आमजन में जागृति लाकर उदयपुर शहर एवं संभाग के जलाशयों में पक्षियों के संरक्षण की मुहिम को प्रभावी बनाया जा सकता है। इससे शहर की झीलें जीवन्त हो सकेंगी एवं अधिक संख्या में पक्षी प्रेमियों एवं पर्यटकों का आगमन भी संभव हो सकेगा, ऐसी आशा है।

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

(सुखराम विश्नोई)

D.B. Gupta
IAS
Chief Secretary
Govt. of Rajasthan
Government Secretariat, Jaipur-302 005

MESSAGE

It is heartening to note that the Udaipur Bird Festival, a praiseworthy initiative of the wildlife wing of Forest Department, Udaipur, has been groomed into a formidable Ornithology event and is getting stronger with its fifth consecutive edition being organized from January 18 to 20, 2019, at Udaipur.

The Festival promises to offer an opportunity to amateur bird watchers and ornithology enthusiasts to appreciate avian fauna around Udaipur's fabulous lakes and to interact with the eminent ornithologists of the country.

An event like, at this time of the year when a good number of popular and endangered avian species visit our lakes, not only helps stimulating young minds for environment and wildlife awareness but augments meaningful engagement of tourists too.

I hope the Souvenir that the Department proposes to release on this occasion, will further the cause by showcasing biodiversity of the southern Rajasthan.

With Best Wishes

(D.B. Gupta)

Sudarsan Sethi
IAS
Additional Chief Secretary
Department of Forest & Environment
Mines & Petroleum
Government of Rajasthan

MESSAGE

I feel immense pleasure to know that the Forest Department, Rajasthan is organizing this year the fifth edition of "Udaipur Bird Festival" in the city of lakes from 18th to 20th January 2019. The "Bird Race" is an extended activity to popularize the event which will be organized on vary first day of the festival. Udaipur zone has a long history of wildlife conservation. This zone with all its lakes, ponds, dams, forests and rolling grasslands is an ideal location for organizing the birding events such as Bird Festival. Such festival not only helps to protect birds but it also helps to conserve their natural habitat. A network of sanctuaries, conservation reserves and Important Bird Areas is confined to this zone which makes this area a haven for birding.

It is really a matter of great satisfaction and pleasure that with the objective of creating awareness among the local public this birding festival is being organized since 2014. This year the Department is going to organize its fifth edition.

Like last years, the Department is bringing out a souvenir on the occasion of this mega event to provide an insight of rich fauna and flora in general and avian life in particular of the area. Definitely such birding festivals would also help to promote ecotourism in the area. I hope, it will also help create opportunities of employment among the youth.

My compliments are to the organizers and participants for their dedicated efforts and wish the event a grand success.

(Sudarsan Sethi)

C.S. Ratnasamy
IFS
Principal Chief Conservator of Forests
Head of Forest Force, Rajasthan

MESSAGE

It gives me immense pleasure to know that the Forest Department, Rajasthan is organizing the fifth edition of "Udaipur Bird Festival" in the city of lakes, Udaipur.

Southern Rajasthan especially Udaipur, with all its green hills and water bodies is ideal place for organizing a festival dedicated to birds and their conservation. Many Protected Areas and Important Bird Areas are confined to southern Rajasthan. The bird life in hills, waters and in woods is remarkable in Udaipur area. Without help and co-operation of local public we cannot conserve avian life and their habitat. Awareness about the birds and their habitat is the most important step for better conservation. Such birding events would definitely help to protect and conserve the avian-fauna and their habitat . So such events would be very fruitful to enhance ecotourism in the area.

I am happy to know that the Department is bringing out a souvenir on the occasion of this mega event to provide an insight of rich avian life of the area. The efforts being taken by the Udaipur circle to protect and conserve the birds are commendable.

I send my best wishes and greetings to the organizers and participants for their dedicated efforts. I wish the event a grand success

(C.S. Ratnasamy)

Dr. G.V. Reddy
IFS
Principal Chief Conservator of
Forests and Chief Wildlife Warden
Rajasthan, Jaipur

MESSAGE

Birds are inalienable part of evolutionary process and intimate part of our ecosystems, providing aesthetic, cultural and ecosystem services. Being the tertiary consumers they are at the apex of food pyramid, thus the best indicators of health of the ecosystem. The spread of DDT in to the ecosystem was recognised through decline in American Bald Eagle. Similarly, spread of Diclofenac in Indian sub-continent was recognised through abrupt decline in Vulture population. Birds are the most friendly wildlife in neighbourhood available almost in all habitats. They are the first wild friends of children. Birds inspired man to fly.

Awareness about the birds is the most important step in better conservation. Bird Fairs bring in experts to help the novice to pickup the skills to identify the migratory and rare birds. Udaipur Wildlife Circle has been pioneer in organising and popularising bird fairs in the state and developed a lot of enthusiasm amongst the school children, youth and adults. These bird fairs are quite popular in the Mewar region and other districts have also started organising their own bird fairs. The bird fair in Udaipur has helped us in mobilising the resources for creating exclusive bird park in Udaipur, which will be first of its kind in the state and will be of international standards.

The Udaipur circle efforts are commendable and I appreciate the whole hearted support of the local administration, senior citizens and bird enthusiasts of Udaipur region. My best wishes for the event and wish that such bird fairs will continue to flourish.

(G.Viswanatha Reddy)

Ravi Singh
Secretary General & C.E.O.
WWF-India, New Delhi

MESSAGE

There are few other recreational pleasures that match a morning of bird watching or "birding' as it is also commonly known. A great way to enjoy birding is with small groups of like-minded enthusiasts and bird festivals that are usually organized trips at good birding sites at a suitable time of year. Such festivals are known to have a positive economic impact on an area, and likely to have a positive conservation impact as well.

In recent years, worldwide trends show that the number of Nature-based festivals, especially bird festivals have grown dramatically. The 'tribe' of birders and birdwatchers has seen a steady growth, and is directly linked to modern mobility, with serious birders and "twitchers" traveling large distances for a "lifer" that is, adding a new species sighting to their list of birds seen in their lifetime.

Today, such festivals have huge conservation potential. They serve as a forum to forge invaluable long-term partnerships between amateurs and professionals. Learning, awareness and a knowledge of our country that ensues from such outings contribute to the individual and the community. With the increased use of technology citizen engagement has become an irreplaceable conservation tool. Habitat, species and migration monitoring can be a cost-effective year-round collective effort between scientists and "citizen-scientists". Each one of us can realize our potential to play out our role as protector and conservator of our rare and beautiful wild birds and other animals, large or small that bring us such immeasurable joy and understanding of our world. Local participants also benefit from such events.

I commend the Udaipur Forest Division for organizing the Udaipur Birding Festival year after year, and this year introducing the first edition of the Nature Literature Festival. I hope that both festivals go from strength to strength and achieve their goals of benefitting local communities and involving citizen-scientists in conservation initiatives of important bird habitats be it for bustards or bushchats.

(Ravi Singh)

CONTENTS

Beyond Bird Festivals.....

Vikram Singh, IAS (Retd.)

Bird Festivals have well established themselves as popular annual events in most of the southern districts of Rajasthan. The initiative that we took in 2013 at Dungarpur has grown from strength to strength and already encompasses Dungarpur, Udaipur, Bhilwara, Banswara, Rajsamand, Pratapgarh and Mount Abu. These annual events are being held in other districts of the State too, namely, Jaipur, Ajmer, Bharatpur, Alwar, Kota, Karauli, Jhalawar, Jodhpur and Bikaner etc. Through Bird Festivals we not only celebrate the wonders of the avian world but also promote their conservation. I am delighted to report that Dungarpur is celebrating its 6th edition this year while Udaipur is organizing its 5th edition from 17th to 20th January,2019. I had spoken on "Beyond Bird Festivals……" during the valedictory function last year i.e. instead of organizing a standalone annual event, to expand the scope of these Festivals by including other related activities such as regular bird watching tours to neighboring areas, developing local resources (guides) to facilitate bird watching and developing literature and educational materials for dissemination of knowledge on birds and also on their habitat and their conservation aspects. It is heartening to note that definite steps have been taken in these directions under the able leadership of Sh. Rahul Bhatnagar (IFS), CCF (Wildlife), Udaipur. He has been able to create a motivated and dedicated team of persons who are working relentlessly to further these causes.

Sh. Suhel Majboor, DCF has been instrumental in organizing regular birding tours on Sundays to the neighboring areas of Udaipur with the active support of WWF. Nowhere in the State or elsewhere, such an activity is being undertaken with such a fervor and with the active support of the Forest Department and WWF.

Two wonderful annual expeditions: "Pedal to Jungle" have been organized in the last two years. I was fortunate to accompany the participant cyclists in both of them and their enthusiasm and commitment was to the seen to be believed!The meticulous and efficient manner in which these events were conducted, amply demonstrated the professionalism of the Forest Department and their remarkable team work.I have seen from close quarters the committed approach of Smt. Harini, Sh. Suhel Majboor and Smt. Savita Dahiya (All DCFs, Wildlife) and their dedicated teams in action. These events have been immensely successful.

Another pioneer initiative has been taken on the capacity building front. A Certificate Course has been introduced on Bird Watching. The first course has been successfully completed in December, 2018. This will be a regular activity of the Department and is likely to ensure rich dividends in the long run.

Another major activity was organized by the Forest Department in which local varieties of orchids were showcased along with some exotic species. This was an eye opener for most of us who have never associated these delicate flowers with the arid state of Rajasthan. One more notable activity which deserves mention here is the workshop: "Garbage to Gold" on Resource Management conducted by Mr. Srinivasan from Vellore.

Udaipur Nature Literature Festival is the newest activity that is being initiated this year. This small beginning is surely going to take roots and grow further. The idea was suggested by Sh. Ravi Singh, CEO and General Secretary, WWF and has been enthusiastically taken forward by Sh. Rahul Bhatnagar and his team. It seems, this is the first event of its kind in India and has a tremendous scope for development in future. Udaipur possesses all the right elements to make it big in the coming years. Indeed, a very promising beginning is being made.

We can look back with satisfaction in what all has been achieved during the last one year. I think, the biggest accomplishment has been to bring together like minded people and to create a team of committed and dedicated persons who are ever ready to propagate the cause of nature conservation.

Note: The author is a nature and wildlife lover. He has been instrumental in organizing Bird Festivals at Dungarpur, Udaipur, Bharatpur and Karauli.

चिड़िया की व्यथा

मैं हूँ छोटी सी गोरैया
नाचूँ आंगन में ता थैया,
कभी फुदक कर पास मैं आती
कभी दूर गगन में उड़ जाती।

एक नीड़ में मेरा जन्म हुआ
सबने कहा मैं प्यारी सी दुआ,
पंख मेरे जब निकले सुन्दर
चीं चीं कर गुंजा दिया घर।

बड़ी हुई तब उड़ना सीखा
लगने लगा अब नीड़ भी फीका,
मन करता था दुनिया देखूँ
जी भर घूमूँ और मैं चहकूँ।

माँ ने चेताया नीड़ से दूर ना जाना
जग बड़ा है और सब कुछ अन्जाना,
अपनी धुन में मैंने ना माना
अब पड़ रहा है पछताना।

एक बाग़ में कर रही अठखेलियाँ
छिपा हुआ था जहाँ बहेलिया,
बात सुनी ना माँ की मैंने
फंसी जाल में और टूटे डैने।

तब जा कर मैंने ये जाना
मनुष्य भी दुश्मन अन्जाना,
हे मानव कुछ तरस तो खाओ
थोड़ी सी मानवता दिखलाओ।

मै भी हूँ किसी की लाडो
सोच कभी तुम भी ये जानो,
मुझे ना पा कर आज नीड़ में
जल कितना होगा माँ के नयन में।

तुम भी आज समझ ये जाना
कभी किसी की आँख ना छलकाना,
हम हैं नन्हे पक्षी बेजुबान
हमे बचाने में है तुम्हारी शान।

रचियता
डॉ. छाया भटनागर

Perspectives of Citizen Science: Importance of the urban avifaunal diversity

Satya Prakash Mehra[1], Sarita Mehra[2], Pushpa Khamesra[3], Pradeep Joshi[4]
Kushali Oza[5] and Somprabha Kashyap[6]
Rajputana Society of Natural History (RSNH)

Urban ecosystems are complex social-ecological systems with important functions. The role of urban areas in functions such as provision of ecosystem services is largely determined by patterns of biodiversity within that area. Therefore, urban planning and management decisions have to be effective and compatible for the long-term conservation of urban biodiversity.

We carried out the studies in selected urban areas and human settlements of Rajasthan during a period of three years from June 2015 to June 2018 with an objective to assess the avifaunal diversity in the surrounding environs of human residences. The past records and observations were also reviewed from the work of the authors. The selected site locations were the residential areas of Udaipur, Sirohi, Jaipur, Beawar and Bharatpur. In the present article, we have presented partial observations from the study of our long-term projects. We had presented the observations from the habitats covered within the radius of two and half kilometers of the aerial distance (as per the Google Maps) with the residential space as the center of the circle.

We classified the habitats as the IUCN Classification as per the adapted methodology of Mehra (2012). As per the human habitation, the major distinctions of the sites were the Urban, the Peri-Urban and the Rural (Mehra et al.2013). The urban spaces have mostly artificially developed habitats whereas the peri-urban and rural spaces had mix of the artificial as well as the natural habitats which provided shelter and protection to the diverse avifaunal species. The observations from the Forest areas and/or the Protected areas such as Wadakheda (Sirohi) and Keoladeo National Park (Bharatpur) were not covered in these observations. The observations from Udaipur represented the avifaunal diversity of the urban and peri-urban; from Sirohi and Bharatpur represented the avifaunal diversity of the rural and peri-urban; and from Jaipur and Beawar represented the avifaunal diversity of the highest proportion of the urban spaces.

Observations

The habitat wise diversity was observed in Sirohi and Bharatpur. Jaipur was amidst of the urban areas with less proportion of green spaces. Though site of Beawar was more-or-less amidst urban spaces but less urbanized as compared to Jaipur. The site of Udaipur was urbanized with the gradient towards rural. The aquatic habitats in Sirohi and Bharatpur were well represented by the large water reservoirs in the form of Dams (Ora Dam, Sirohi and Ajan Dam, Bharatpur). Similarly, urban lake (Bicharli) was the aquatic habitat in Beawar. The aquatic habitats in Udaipur and Jaipur were represented by the nallas or artificial garden ponds.

Total number of avifaunal species recorded from the invested sites during the period of observations were 185. Out of these, 113 were terrestrial bird species and 72 were aquatic bird species. As many as 47 species were of migratory nature. Highest number of bird species were recorded from the rural and peri urban sites which included Sirohi (184) followed by Bharatpur (151). The sites of Beawar, Jaipur and Udaipur accounted 127, 98 and 122 bird species respectively.

The pattern of terrestrial bird records followed with the highest records from Sirohi (112), Bharatpur (101), Udaipur (95), Jaipur (84) and Beawar (72). Similarly, the aquatic avifauna followed with the highest records from Sirohi (72), Beawar (55), Bharatpur (50), Udaipur (27) and Jaipur (14).

Importance of Avifaunal Diversity of the rurban Udaipur: Since 2004 onwards, one could find the works of earlier workers in the masterpiece scientific compilation of the avifauna from the suburban areas of Udaipur (Islam & Rahmani, 2004). Then after, Mehra et al. (2007, 2010, 2011a,b, 2012) attempted to work on the importance of aquatic avifauna. The avifaunal diversity of the urban, peri-urban and rural areas was observed in depth during the period of 2004 to 2010 (Mehra, 2012). Importance of the urban avifauna to the local community through linking

conservation practices with livelihood was well represented through the Socio-Ecological Models from Abu Hills (Mehra et al. 2014). Further, the relevance of every site to the avifauna within urban areas were studied by Mehra et al. (2017). From the above works we could conclude that the habitats of the URBAN UDAIPUR excluding the legally protected areas, harbor over 125 species. Thus, the study aims to make a call for developing the linkages of the conservation steps from every sector with an integrative approach between the anthropogenic activities and the rurban biodiversity to cope up the modern challenges targeted in the SDGs.

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Moving from bird watching to watching birds

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With over 1,300 species of birds being found in the country, India is a grand destination for people interested in the world of birds. The enormous diversity of habitats, climatic conditions, and biogeographic realms make the relatively small country an ideal place for multitude of birds to exist. These birds exist alongside 1.3 billion people, which makes for very unusual patterns of coexistence.

Southern Rajasthan is similarly remarkable in having the Aravalli hills, being close to the west coast and neighbouring with the central Indian highlands. The region has a large number of streams, rivers and wetlands alongside a range of habitat types including evergreen forests, scrublands, grasslands and agricultural fields. All of these characteristics make southern Rajasthan home to over 300 species of birds throughout the year. South Rajasthan also has the distinction of having among the least scientific attention accorded to birds in the country. This distinction is more an opportunity than a challenge.

Where there are birds, there usually are two groups of people along with them. The first are people who enjoy weekend jaunts to list birds, and also to photograph them. These "bird watchers" are increasing in number with each passing year. With growing numbers of bird watchers, basic information on the number of species of birds found in different areas is increasing rapidly. Locations that were not visited before are being "discovered" to have interesting birds, or good bird populations, and are being highlighted in popular media. This has the benefit of such locations potentially gaining in conservation support.

The second group is much rarer, and I call then people who "watch birds". These people are interested to understand the birds via studying ecological aspects such as their distribution, seasonal variations in their numbers, breeding ecology, and other related things. Their studies are detailed, sometimes taking decades to complete, and are usually first brought out as scientific literature. From there, this information can be distilled into basic elements that is then used to create material useful for bird watchers, such as field guides. Southern Rajasthan is fortunate to have both groups of people.

Bird watching is a really great way to enter the fascinating world of birds. Udaipur has a very active group of bird watchers who, in association with the local forest department officials, try and make visits to areas with birds every weekend. These groups are invaluable resources for the novice, and can mentor people new to the field rapidly to identify birds and to discuss their ecology. Bird watching groups are frequently numerous, and are a great way to socialize as well as to enjoy the outdoors with birds as the common reason to get together.

In the past, when I began as a bird watcher, it was common for all of us to carry notebooks and pens, and make a lot of notes in the field. These included sketches to help identify the birds, descriptions of calls and behaviour, and frequently philosophy about how people are destroying the natural world. Many of these note books now provide invaluable information about where birds used to be located several decades ago, and can help us understand how some species are faring.

Today, it is much more common to carry a digital camera, and the habit of taking field notes is rapidly fading. It is also getting more common to post images on social media with the short message "id please". This is a sign that people prefer short cuts to identifying birds, and are likely not paying attention to the birds themselves. Bird watching groups can be powerful teaching experiences, and there are a growing number of groups who are recognizing the ill-effects of the modern world of digital limitations. These groups are attempting to refocus such bird outings back on the birds themselves, rather than encourage the perfect "full frame" photograph of a bird. Photography as a tool can be rewarding and useful, but can frequently become a means to its own end, with little knowledge accrual for the photographer. There is a need in Udaipur for people to start getting away from mere bird lists and the perfect photograph, and instead enjoy learning about the birds through watching, sketching, and waxing eloquent.

Watching birds to understand them takes a little more effort than bird watching, but is enormously fulfilling. Some bird watchers are also well known to be excellent watchers of birds. Ecological information on the vast majority of birds in India is missing, and there are fantastic opportunities for the more seriously inclined birder to make real contributions to the field of natural history and ornithology. Some ways to help with this field is to move away from "rules" and suppositions. For

example, the most famous adage for birds is that "the early bird gets the worm". It is surprising how many people assume that early morning is the only time to get to know birds. Afternoon outings can be very rewarding too! The largest flocks of the Indian Thick-knees are usually encountered in the afternoon, when it is midnight to them. Late evenings during the monsoon are the best time in Udaipur to hear and watch the nightjar species flying about catching insects and interacting with each other.

Most of the information of birds in India comes from winter outings. This is closely tied with the interest to record as many species as possible – what better time to do this than in winter when we get deluged by a large number of migratory species! Summers and monsoon in the Udaipur are actually equally rewarding if you can move beyond rarities and numbers of species. A number of species migrate to the area during the summer, especially the fascinating cuckoos and some of the insectivorous birds such as the Paradise Flycatcher. The monsoon is my favourite time to wander about since all of the resident birds are breeding then, and it is a great time to witness spectacular behaviours such as the dancing of the Sarus Cranes, the territorial fights of the Painted-snipes, and the maintenance of the male harem by the female Jacanas in the lakes. The adorably-cute chicks of the waterbirds and the fascinating behaviour of the tree-nesting birds bringing back food for their young more than makes up for the discomfort of the summer sun and the monsoon rains.

Watching birds also forces some discipline that also rewards the person with a much greater understanding. For example, if you are interested to know the kinds of birds around your house change over the year, you will need to keep lists of birds throughout the year prior to analysing the information. Similarly, if one is interested to know the kind of habitat a particular species prefers, they will need to visit a range of habitats to draw conclusions about a bird's preferred habitat. It is all too common for people to visit only one habitat, like a wetland, and make assumptions about birds' needs. Many people in Udaipur's bird watching group will know that though a kingfisher, the White-throated Kingfisher is certainly not a bird only of the wetland. It can be seen foraging also in woodlands such as Kumbalgarh forest, even in the empty plots in Sector 14, as also among the trees of GulabBagh.

There is a lot to discover about the birds of southern Rajasthan, and people in Udaipur can provide the much needed vision and leadership. There is also a lot of natural destruction going on in this region, which needs leaders in conservation to stand up to strong and brutal forces in the region. Continuing with this combination of bird watching and watching birds is a wonderful way to create a community that understands our feathered friends, and one that can stand up for their conservation.

It has been just about a year since I moved to Udaipur. My personal checklist of birds in the district is now up to 289, and I have three scientific papers with information on birds of this region. There is a long way to go before the papers will catch up with the bird list, but the journey is bound to be full of discoveries, enjoyment, and the company of like-minded folks who are, like me, very pleased to be total bird-brains.


Purple-rumped Sunbird


Red-wattled Lapwing


White-browed Fantail


Comb Duck Eating Fruit


Blue Rock Thrush


Ashycrowned Finch Lark

Birding in Trenching Ground Baleecha, Udaipur, Rajasthan

Satish Kumar Sharma, Sharad Agrawal, Pradeep Sukhwal &Vinay Dave

A big-sized trenching ground is situated near Baleecha village, south of Udaipur city on Udaipur-Ahmedabad National High Way. It is nearly 15 km away from Udaipur city and situated in peri-urban area of the lake city Udaipur. For the to and fro movement, a pucca road is available upto the trenching ground. The overflow of the Govardhan sagar flows in a stream nearly bisecting the trenching ground. There are two small water bodies present in the trenching ground area which serve as water holes for the terrestrial fauna and also provide good habitat to various species of waterfowls. Area is undulated and many hillocks and piedmonts are present there. The garbage of the city is being dumped at inter hillock area as well on tops and slope of the hillocks. Garbage dumped comprises of dead cattle, dead dogs, poultry and meat shops waste. Garbage generated by hotels and kitchens of urban area are also an important component of the garbage. Actually garbage contains a variety of bird food hence a variety of bird congregate at Baleecha trenching ground.

From 2015 to 2018 regular visits were made to record the avian fauna of the Baleecha trenching ground. Since area is not safe for health, hence utmost precautions were taken not to be caught by any infection. A mask was weared on the face to cover the nose, cap was used to keep away dust from the head, eye glasses for safeguard of eyes, gloves to protect hands and gum boots were used for safeguard of feet and lower limbs.

The bird species seen in the trenching ground during last four years are as following:

S.No.	Group	Bird species observed
1.	Partridge and francolins	Grey Francolin (Francolinus pondicerianus)
2.	Quails	Jungle Bush Quail (Perdicula asiatica)
3.	Pheasants	Indian Peafowl (Pavo cristatus)
4.	Geese and Ducks	Comb Duck (Sarkidiornis melanotos),Ruddy Shelduck (Tadorna ferruginea), Garganey (Anas querquedula), Cotton Pygmy-Goose (Nettapus coromandelianus), Common Teal (Anas crecca)=5 Spp.
5.	Woodpeckers	Yellow-crowned Woodpecker (Dendrocopos mahrattensis), Eurasian Wryneck (Jynx torquillam,) Black-rumped Flameback (Dinopium benghalense) = 3 Spp.
6.	Barbets	Coppersmith Barbet (Megalaima haemacephala)
7.	Hornbills	Indian Grey Hornbill (Ocyceros birostris)
8.	Hoopoe and Rollers	Common Hoopoe (Upupa epops), European Roller (Coracias garrulus), Indian Roller(C.benghalensis)= 3 Spp.
9.	Kingfishers	Common Kingfisher (Alcedo atthis), White-throated Kingfisher (Halcyon smyrnensis), Pied Kingfisher (Ceryle rudis) = 3 Spp.
10.	Bee-eaters	Green Bee-eater (Merops orientalis)
11.	Cuckoos	Pied Cuckoo (Clamator jacobinus), Common Hawk Cuckoo (Hierococcyx sparverioides), Eurasian Cuckoo (Cuculus canorus), Asian Koel (Eudynamys scolopacea), Sirkeer Malkoha (Phaenicophaeus leschenaultii), Southern Grey Coucal (Centropus bengalensis) =6 Spp.
12.	Parakeets	Rose-ringed Parakeet (Psittacula krameri), Plum-headed Parakeet (P.cyanocephala)= 2 Spp.
13.	Owls	Eurasian Eagle Owl (Bubo bubo), Dusky Eagle Owl (B. coromandus), Brown Fish Owl (Ketupa zeylonensis), Spotted Owlet (Athene brama)= 4 Spp.
14.	Nightjars	Indian Nightjar (Caprimulgus asiaticus), Savanna Nightjar (C. affinis)=2 Spp.
15.	Pigeons and Doves	Rock Pigeon (Columba livia), Spotted Dove (Streptopelia chinensis), Red Collared Dove (S. tranquebarica) Eurasian Collared Dove (S. decaocto)=4spp.
16.	Rails and Crakes	White-breasted Waterhen (Amaurornis phoenicurus), Baillon's Crake (Porzana pusilla), Purple Swamphen (Porphyrio porphyrio), Common Moorhen (Gallinula chloropus), Common Coot (Fulica atra)= 5 Spp.
17.	Waders, Jacanas & Plovers	Common Snipe (Gallinago gallinago), Painted Snipe (G. stenura), Bronze – winged Jacana (Metopidius indicus), Pheasant-tailed Jacana (Hydrophasianus chirurgus), Black-tailed Godwit (Limosa limosa), Spotted Redshank (Tringa erythropus), Marsh Sandpiper (T. stagnatilis), Green Sandpiper (T. ochropus), Wood Sandpiper (T. glareola), Common Sandpiper (T. nebularia), Little Ringed Plover (Charadrius dubius)=11 Spp.

18.	Thick- knees	Eurasian Thick-knees (Burhinus oedicnemus)
19.	Lapwings	Red- wattled Lapwing (Vanellus indicus)
20.	Raptors (Diurnal)	Black-shouldered Kite (Elanus caeruleus), Black Kite (Milvus migrans), Egyptian Vulture (Neiphron percnopterus), Long-billed Vulture (Gyps indicus), Eurasian Griffon (G. fulvus), Sinereous Vulture (Aegypius monachus), Eurasian Marsh Harrier (Circus aeruginosus), Pallid Harrier (C. macrourus), Montagu's Harrier (C. pygargus), Shikra (Accipiter badius) White-eyed Buzzard (Butastur teesa), Common Buzzard (Buteo buteo), Long-legged Buzzard (B.rufinus), Greater Spotted Eagle (Aquila clanga), Tawny Eagle (A. rapax), Steppe Eagle (A. nipalensis), Imperial Eagle (A. heliaca), Common Kestrel (Falco.tinnunculus), Eurasian Hobby (F. subbuteo)=19 Spp.
21.	Darters and Cormorants	Darter (Anhinga melangaster,) Little Cormorant (Phalacrocorax niger), Indian Cormorant (P. fuscicollis)=3 Spp.
22.	Egrets and Herons	Great Egret (Casmerodius albus), Cattle Egret (Bubulcus ibis), Indian Pond Heron (Ardeola grayii), Grey Heron (Ardea cinerea)=4 Spp.
23.	Ibises	Glossy Ibis (Plegadis falcinellus), Black-headed Ibis (Threskiornis melanocephalus), Black Ibis (Pseudibis papillosa)= 3 Spp.
24.	Storks	Wooly-necked Stork (Ciconia episcopus), Asian Openbill (Anastomus oscitans)= 2 Spp.
25.	Shrikes	Rufous- tailed Shrike (Lanius isabellinus), Brown Shrike (L. cristatus), Bay-backed Shrike (L. vittatus), Long-tailed Shrike (L. schach), Grey-backed Shrike (L.tephronotus)=5 Spp.
26.	Treepies and Crows	Rufous Treepie (Dendrocitta vagabunda), House Crow (Corvus splendens), Large-billed Crow (C. macrorhynchoh)= 3 Spp.
27.	Minivets and Flycatchers	Small Minivet (Pericrocotus cinnamomeus), White-throated Fantail (Rhipidura albicollis), White -browed Fantail (R.aureola), Asian Pasadise -flycatcher (Terpsiphone paradisi)=4 Spp.
28.	Drongos	Black Drongo (Dicrurus macrocercus), White -bellied Drongo (D. caerulescens)= 2 Spp.
29.	Ioras	Common Iora (Aegithina tiphia)
30.	Woodshrikes	Common Woodshrike (Tephrodornis pondicerianus)
31.	Thrushes, Chat, Redstarts, Robins and Wheatear	Blue Rock Thrush (Monticola solitarius), Red- throated Flycatcher (Ficedula parva), Grey-headed Canary Flycatcher (Culicicapa ceylonensis), Bluethroat (Luscinia svecica), Oriental Magpie Robin (Copsychus saularis), Indian Robin (Saxicoloides fulicata), Black Redstart (Phoenicurus ochruros), Common Stonechat (Saxicola torquata), Pied Bushchat (S. caprata), Brown Rock-Chat (Cercomela fusca), Variable Wheatear (Oenanthe picata), Desert Wheatear (O. deserti)=12 Spp.
32.	Starlings and Mynas	Common Myna (Acridotheres tristis), Bank Myna (A. ginginianus), Brahminy Starling (Sturnus pagodarum), Rosy Starling (S. roseus), Common Starling (S. vulgaris), Asian Pied Starling (S.contra)= 6 Spp.
33.	Tits	Cenereous Tit (Parus major), White-naped Tit (P. nuchalis)= 2 Spp.
34.	Martins and Swallows	Dusky Crag Martin (Hirundo concolor), Wire - tailed Swallow (H.smithii), Red-rumped Swallow (H. daurica), Streak-throated Swallow (H. fluvicola)= 4 Spp.
35.	Bulbules	Red-vented Bulbul (Pycnonotus cafer)
36.	Prinias, Warblers and Tailor birds	Grey-breasted Prinia (Prinia hodgsonii), Plain Prinia (P. inornata), Ashy Prinia (P. socialis) Zitting Cisticola (Cisticola juncidis), Oriental White-eye (Zosterops palpebrosus), Lesser Whitethroat (Sylvia crruca), Common Tailorbird (Orthotomus sutorius), Common Chiffchaff (Phylloscopus collybita) = 8 Spp.
37.	Babblers	Tawny-bellied Babbler (Dumetia hyperythra), Yellow-eyed Babbler (Chrysomma sinense), Large Grey Babbler (Turdoides malcolmi), Jungle Babbler (T. striatus)= 4 Spp.
38.	Larks	Singing Bushlark (Mirafra cantillans), Indian Bushlark (M. erythroptera), Ashy-crowned Sparrow Lark (Eremoterix grisea), Rufous-tailed Lark (Ammomanes phoenicurus)= 4 Spp.
39.	Sunbirds	Purple-rumped Sunbird (Nectarinia zeylonica), Purple Sunbird (N.asiatica)= 2 Spp.

40.	Sparrows, Weavers and Avadavats	House Sparrow (Passer domesticus), Chestnut-shouldered Petronia (Petronia xanthocollis), Baya Weaver (Ploceus philippinus), Red Avadavat (Amandava amandava), Indian Silverbill (Lonchura malabarica), Scaly-breasted Munia (L. punctulata)= 6 Spp.
41.	Wagtails and Pipits	White Wagtail (Motocilla alba), White-browed Wagtail (M. maderaspatensis), Citrine Wagtail (M. citreola), Yellow Wagtail (M. flava), Grey Wagtail (M. cinerea), Paddyfield Pipit (Anthus rufulus), Tawny Pipit (A. campestris)= 7 Spp.
42.	Buntings	Crested Busting (Melophus lathami), Grey -necked Bunting (Emberiza buchanani), White- capped Bunting (E. stewarty), Black-headed Bunting (E. melanocephala), House Bunting (E. striolata)=5 Spp.

Above table reveals that 164 bird species are present in the trenching ground area. Waterfowls are mainly seen in two small waterbodies. Congregations of Ibises and Egrets can be seen near carcasses. As many as 19 species of diurnal raptors can be observed in this area. During winter season, area becomes heaven for migratory raptors. No snags are present in the trenching ground but green trees of Butea monosperma and Lannea coromandelica are used as perch station by the raptors. Heights and numbers of available green trees are less hence raptors use top and upper slopes of hillocks as perch and basking sites. Congregations of raptors can be seen on all peripheral hillocks. During morning hours raptors bask on the top of hillocks and after 9-10 am, when thermal currents are available, many of them starts soaring. Top of hillocks are very useful key stone resource for them. From the top of hillocks, after taking few steps, they can directly jump in the air to become air borne, Thus top of a hillock provides all those facilities which are provided by a stump or a branch of a snag. This facility is not available on plain ground hence they prefer top of hillocks.

A trenching ground is also present in Savina area of the city. It is present on the plain ground and except Egyptian Vulture, no other raptor is seen there. Neither hillocks nor snags and other green trees are available in Savina area, hence raptors avoid this ground and they move towards Baleecha area.

Udaipur city is situated in frost free zone of India hence winters are not so severe. Since winters are not much severe a good population of insects remains active during winter season also. The compact dump of garbage is burnt and it keeps on burning slowly day and night in the low oxygen condition. Due to incomplete combustion of the garbage, enormous smoke is also generated in this area. This situation makes winter less severe and insects remain active during winters. Flies breed over here round the year on carcasses and besides adult flies, their larvae maggots and pupae and other insect species remain available round the year in plenty. This source of food is much utilized by egrets, shrikes, minivets, starlings, martins, swallows, warblers, wagtails, pipits, tits etc. Flesh of carcasses is devoured by the diurnal raptors. Many species of rodents like Tatera indica, Mus musculus, Bandicota bengalensis, Rattus rattus and Cremnomys cutchicus are present in the area which attracts owls and owlets during night.

Though native birds can be seen round the year in Baleecha trenching ground but this area becomes worth seeing during winter season when winter migrants also appear in this locality. Various aspects of birding of Udaipur city can be had from the work of Sharma (1998,2002), Tehsin and Lokhandwala (1982), Tehsin (1987) and Tiwari (2007). The birding joys of trenching ground of Udaipur city are missing in the above scientific literature. Trenching ground of Baleecha near Udaipur city is a new addition to the birding destinations in and around Udaipur city.

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Birding joy in urban areas of Udaipur city

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Urbanization is one of the most dramatic and irreversible process influenced by human transformations of natural ecosystem. This process involves disturbances in natural environment such as clearing of natural forest, vegetated landscapes in order to make way for buildings, roads, and other infrastructures. The population of city is increasing at an alarming rate and essential survival requirements of food, shelter, and other physical facilities which drive a basic human life are increasing pressure on natural resources. The response of birds towards urbanization indicates how they are affected by this dramatic change in this era. Unfortunately, birds dwelling in urban environment experience certain challenges like habitat loss, habitat fragmentation, pollution and limited resources of food. These four factors can negatively impact bird diversity by limiting their movement between remnant vegetation patches of urban area. Pollution is also another element of urbanization which affects the bird diversity and health of environment. Light, noise and chemical pollution are ingredients of urban sprawl which is plummeting down the environment health and putting together a big impact on all of us.

Birds are the most beautiful, unique and easily recognizable vertebrates in the animal kingdom with past record of 160 million years during the Jurassic period. No matter on whichever point of planet we are, birds are easily found almost in all parts of the world. Birds have colorful wings and feathers which enable them to fly in the sky. In fact, airplane wings are modeled after bird's wing. They are as small as 5 cm. as in bee hummingbird and as large as an albatross measuring 2.1-2.8 m. There are around 9,000- 10,000 species of birds found in the world, out of which 1,200 are present in India. The overall anatomy of bird is in such a way that it can easily fly in sky for longer durations. The basic requirement of bird entails food, protection from predation and amiable environment for reproduction. Here, trees act as a key source in meeting these survival requirements and also in maintaining environmental health. Trees play an important role in survival of birds and their numbers need to be in check.

About the city

Udaipur is known for its lakes, palaces, forests and natural beauty. This part of the state is rich in floral and faunal wealth. Udaipur city falls under the greener belt of southern Rajasthan, founded by Maharana Udai Singh II in 1559. It is located at 24.53°N and 73.68°E at an altitude of 598.00m above sea level with a city area of 64sq.km. Ahar River flows diagonally from north-west to south-east of the city. It is surrounded by the oldest mountain ranges of Aravalli which start from North Indian state Delhi, passing through southern Haryana, through western Indian states of Rajasthan and ending in Gujarat. This makes a hot semi-arid and dry climate of the city with undulating and rocky terrain and numerous artificial lakes. The city experiences a daytime temperature variation from a maximum 49°C in summers to a minimum of 11.6°C in winters. The three main seasons: summer, monsoon and winter with annual rainfall of 637mm harbors scenic and magnificent biodiversity with special reference to avifaunal community. There are nearly 368 species of birds found and recorded, out of these 24 are globally threatened and 1 endemic to the country. On an average, 25- 30 terrestrial migratory birds annually visit the city.

Elements of Udaipur

The major elements of city are wetlands, parks, historical monuments and temples, government bodies and residential colonies which makes the city a mesmerizing birding paradise. These elements of city can be divided into two major categories: Urban Terrestrial Birding Habitats and Urban Aquatic Habitats.

Urban terrestrial birding habitats includes following:

- Protected area- Sajjangarh Wildlife Sanctuary
- Public Park- GulabBagh and Jungle Safari Park
- Forest Fragments- Baghdara and MotiMagri
- Constructed Areas- includes roads and buildings within the city.

Urban aquatic habitat entails following:

- Urban lakes- Pichola Lake, Fateh Sagar Lake, Nela Pond, Roopsagar Lake.
- Peri-urban lakes- Udaisagar Lake, Badi Lake, Jaisamand Lake, Menar Pond.

Sites of birding in urban area

There are ample of wetlands which are good birding sites inside the city itself, which also make the city most beautiful and livable. Wetlands play vital role in survival and existence of human life and avifauna as well. The oldest and largest, Lake Pichola situated in the heart of the city, is the most beautiful lake not only of the city but also of the state. In 1362, the beautiful lake was built by Pichhu Banjara during the ruling period of Maharana Lakha. Jag Mandir and hotel Lake Palace are situated in the center of the lake which attracts tourists from all parts of the world. Great White Pelican, Ferruginous Duck, Cotton-pygmy Goose, Gadwall, Eurasian Wigeon, Northern Shoveler, Northern Pintail, Tufted and Common Pochard, Black- headed Ibis, Bronze-winged Jacana, Great Thick-knee, Eurasian Moorhen etc. are easily sighted aquatic birds here. Jungle Safari Park situated at the bank of lake is also a good spot for terrestrial birds watching including two tits i.e. White-naped tit and Cinereous Tit, flycatchers such as Red- breasted and Grey headed Canary Flycatcher, warblers like Greenish, Common Chiffchaff and Lesser Whitethroat and White- bellied drongo.

Lake Fateh Sagar is the second largest artificial lake with picturesque and scenic beauty of Udaipur, present just besides the Moti Magri Hills. It was built in 1678 by Maharana Jai Singh and later additions were made by Maharana Fateh Singh, from which the lake got its popular name. Nehru Garden at the center of lake is a good roosting and nesting site of Black-headed Ibis. Asian Openbill, Glossy Ibis, Indian pond heron, Grey-headed Swamphen, both sandpipers Wood and Green, Common Snipe, Pheasant-tailed Jacana, Indian Spot-billed Duck, Eurasian Coot, Little Grebe, Lesser Whistling Duck, Eurasian Wigeon and Indian Cormorant with Blue-cheeked Bee-eater are common sightings at this lake.

Govardhan Sagar Lake, situated at the outskirts of the city has been recently renovated and came in light, is presently less disturbed wetland among all other and considered under rural area of the city. Pannadhay Ship Museum and artificial gardens at the bank of the lake is an upcoming tourist hotspot. This lake is not as large as other lakes of Udaipur, but due to fewer disturbances one can find about 50 species in one visit due to presence of reed beds there. Common sightings of Eurasian Moorhen, Black-crowned Night Heron, Grey-headed Swamphen, Green sandpiper, Indian Pond Heron with three Egret species, Little, Intermediate and Great, Little Cormorant, Red-naped Ibis, Glossy Ibis and Pheasant-tailed Jacana are easily found foraging in the lake. Other species like Clamorous Reed Warbler, Bluethroat, Red Avadavat, Green Bee-eater, Pied and Rosy Starlings, Brahminy Myna with other raptors like Black Kite, Black-winged Kite and Marsh Harrier are commonly seen here.

Nela Pond, is another wetland situated in the city at a distance of 1 km from Govardhan Sagar Lake. It is not much large in size but supporting a good number of avifauna. Knob-billed duck, Ruff, White-tailed Lapwing, Ferruginous Duck, Tufted Duck, Indian Spot-billed Duck, Eurasian Coot, Northern Pintail, Eurasian Moorhen, Lesser Whistling Duck, Black-winged Stilt, Black-tailed Godwit, Northern Shoveler, Eurasian Spoonbill, Little Grebe, Little-ringed Plover, White wagtail, Western Yellow Wagtail, Paddyfield Pipit are among the good sightings at the pond.

Lake Badi, also known as Jiyan Sagar, built in 16th century by Maharana Raj Singh I to overcome the harsh and devastating effect of a drought. The lake is situated in Badi village, 13 km away from main city and providing good opportunity for terrestrial species. Striolated, Grey- necked, Chestnut-bellied and Crested Bunting are fascinating Bunting species found here. Other species like Eurasian Hoopoe, Indian Silverbill, Blue Rock Thrush, Common Kingfisher, Tree Pipit, Fantails with few aquatic species including Little Cormorant, Grey Heron, Little Grebe are common to observe.

Sajjangarh Biological Park, is the first Biological Park of Rajasthan, inaugurated on April 12, 2015 and situated close to wildlife sanctuary, Sajjangarh towards western outskirts of the city. The animals from old zoo at GulabBagh zoo campus were shifted in this newly established biological park, Sajjangarh to fulfill the norms of Central Zoo Authrity of India. It is also a good birding site for Indian Silverbill, Ashy and Plain Prinia, Chestnut- shouldered Petronia, Large grey Babbler, White-browed Fantail, Barn Owl, White-browed Wagtail and Red- vented Bulbul.

Roop Sagar Lake located in the Pahada area of the city is completely surrounded by the human house holdings. It is a seasonal wetland but during the winter season Spot-billed pelican, Common snipe, Yellow wagtail, Green Sandpiper, Wood sandpiper, Common Coot, Northern Pintail, Northern Shoveler, and Grey-headed Swamphen can be easily seen here.

Suggestions for improvements as a birding hub/hotspot

Emphasizing on the need of biodiversity enhancement in urban ecosystems may have a positive impact on the quality of life and education of urban dwellers. This can also help in preservation of biodiversity in natural ecosystem. For this, implementation of few suggestions are recommended.

- Providing general awareness and information to make common public aware about this diversity and to outreach the conservation message through workshops, campaigns or sessions in school and colleges regarding why birds are important, what they can do for the environment and how their number affect the entire ecosystem should be our primary concern.
- Deploying well-designed, safe artificial nest boxes and their maintenance can raise the breeding density of birds. This can be done by easy selling/providing artificial nest boxes to public in low cost.
- Promoting use of solar panels in order to minimize the electrocution menace which result in death of birds and other flying mammal such as bats.
- Strict rules to chop out with intense monitoring and penalty to be made against dumping of garbage and religious waste in and around Udaipur lake system.
- Boating and fishing activities must be restricted in and close proximity to bird active areas.
- Lighting in the vicinity of wetland should be minimized as it affects nocturnal activity of birds causing disorientation from additional illumination and disturbed circadian rhythms.
- Lastly, limited land use conversion permit to be given in order to keep a check on extra land use by people, and this way we can save the natural vegetated land from converting into plots.

House Sparrow

VARSHA JOSHI
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A bird traning programe was organised by the Forest Department during December 2018. During this bird training program, I saw house sparrow in so many regions. This common sparrow found near humans, gets food from fields, croplands and house stored grains. House sparrow lives on bushes & short trees. In local or regional language we call it "Chirkli". To arise awareness of threats to the house sparrow, THE WORLD SPARROW DAY has been celebrated on 20 March across the world since 2010. The house sparrow was declared as the state bird of Delhi.

Passer domesticus is a bird of the family 'Passeridae'. It is a small bird, has a typical length of 16 cm and a mass of 24–39.5 g. Females and young birds are colored pale brown and grey, and males have brighter black, white, and brown markings. This bird is found in most part of the world. The house sparrow is native to most of Europe, the Mediterranean Basin, and much of Asia.

The house sparrow is strongly associated with human habitation, and can live in urban and rural settings. Though found widely in varied habitats and climates, it typically avoids extensive grassland, woodland and deserts away from human development. It feeds mostly on the seeds of grains and weeds, but it is an opportunistic eater and commonly eats insects and many other foods. Its predators include Howks, Owls, Domestic cats and many other predatory birds and mammals. This bird is listed in least concern in the IUCN Red List.

Because of its numbers, ubiquity, and association with human settlements, the house sparrow is culturally prominent. It is extensively, and usually unsuccessfully, persecuted as an agricultural pest. It has also often been kept as a pet, as well as being a food item and a symbol of lust, sexual potency, commonness, and vulgarity. Though it is widespread and abundant, its numbers have declined in some areas.



Non-Migratory behavior of Great Crested Grebe (Podiceps cristatus) in Menar pond, Udaipur district, Southern Rajasthan

Deependra Singh Shekhawat, Chhaya Bhatnagar, Satish Kumar Sharma
Vinay Dave and Pradeep Sukhawal

The Great Crested Grebe (Podiceps cristatus) is the largest member of the grebe family Podicipedidae. It is an excellent swimmer and diver which pursues its prey underwater. It is a tailless water bird, dark grayish brown above, silky white below, with slender, longish neck and pointed bill. It is a winter visitor to northern India from Sind to Assam, Manipur, south through Rajasthan (Bharatpur), Gujarat on the west and Odisha on the east. It is known to breed in Khushdil Khan Lake in Baluchistan, Tso Kar Lake in Rupshu, Ladakh (Ali and Ripley,2007, Grimmett at el. 1999).

Menar pond (24°35'16N, 74°06'43E; 1563 feet above MSL) is a small wetland of southern Rajasthan where a sizeable population of winter migrants congregates including Great Crested Grebe (P. cristatus). It is a reed-bordered, clean water body, having about 3.5m deep water at its deepest point. Green patches of various sizes comprising Typha angustata, Cyperus alopecuroides and C. littoralis are available at shoreline which provides a congenial habitat to the grebes.

On November 29, 2010, while we were watching the birds at about 0715 hrs. at Menar pond (Dhand Talab), at southern end of the village, we saw a nest amidst a patch of aquatic reeds. The nest was placed on bent green leaves of the reeds which was made by leaves itself. Nest was nearly 50m away from the waterline and no bird was present in the nest. After having a round of the waterline of the pond, while we were returning, it was very surprising that a Great Crested Grebe was sitting in the nest which was in the breeding plumage. To have a better look, we confined ourselves behind a giant mango tree which was present at the bank of the pond. Bird was visible by necked eyes. While engaging to watch the activities of the bird, we saw one more bird in breeding plumage to approach the nest. Obviously they were indulging in breeding activities. We stayed there nearly for one hour to see whether eggs or chicks are present in the nest or not. Unfortunately nest floor was not visible and hence we couldn't confirm the presence of eggs or chicks.

The Great Crested Grebe is a rare bird in the state of Rajasthan. So far its occurrence has been confirmed from Keoladeo Ghana National Park, Bharatpur and Agucha mine area of Bhilwara district (Tehsin 1990). It is a winter visitor to the area. There is no record of nesting of this bird available in the scientific literature as far as Rajasthan is concerned (Ali & Replay 2007, Grimmett at el. 1999, Sharma at el. 2016, Sultana 2013, Tehsin 1990 and Vyas 1990).

Menar is a village of Brahamin community who traditionally protect the all life forms of the village. They do not allow fishing in their water body. Since plenty of food is available in the water body of the village, hence a big number of waterfowls reach in the village pond round the year.

Since occurrence of nest of grebe was an interesting information, hence to verify it, a study was conducted to know the fact. The study was started from August, 2012. The counting of the birds was done once during first week of every month. Data procured during the study are as following:

Month wise census of Great Crested Grebe in Menar pond (Dhand Talab) situated at southern end of the village.

S.No.	Month	No. of birds seen during 2012	No. of birds seen during 2013
1.	January	-	17
2.	February	-	13
3.	March	-	9
4.	April	-	5
5.	May	-	0
6.	June	-	0
7.	July	-	4
8.	August	6	8
9.	September	6	7
10.	October	8	10
11.	November	12	13
12.	December	14	15

Above findings reveal that the Great Crested Grebe is becoming a resident bird in Menar pond and indulging in breeding also. Though, till 2013 nests were seen many times but no chick was seen. Our visits were regularly going on and on December 25, 2014 a chick was first time seen in the Dhand talab of the village. While observing the birds, the adults were seen feeding the chick (Sharma at el. 2016). In one more nest, two chicks were also seen during 2014. These interesting observations related to Great Crested Grebe are worth placing on record.

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Glimpses of Great Crested Grebe in Menar Pond

Hares: How to Rectify the Severed Food Chains

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Hares were found in plenty in the Indian jungles, but their numbers have reduced drastically, which is indicative of the ailing state of our forests. In the open forests and fields around Udaipur alone, other than the wildlife sanctuaries, the hare population is estimated to have dropped by a staggering 80%.

Hares are a staple diet to anyone with canines in the animal kingdom – from jackals to hyenas, from leopards to humans. And not to forget the gliding raptors in the sky who descend at times to swoop away a hare. Hares breed profusely, competing with rats in reproduction, and provide an almost fat-free meat supplement to all those who fail to get their teeth or claws on a bigger, juicier meal. They are an easy prey and a good population of hares in a forest shows its well being. Though they are not a wise choice as survival food because they have very low fat content, their protein laden hopping muscles are a sure way to keep one from starving.

The reasons for the decline of hares are many. The food on which it survives is mainly rajka (green fodder) and doob (soft grass, not the coarse one). The farmers don't grow much rajka anymore due to shortage of water. The excessive use of underground water by bore-wells has led to reduction in water levels causing less capillary rise of water. Since sufficient water doesn't reach the surface, green fodder and doob don't grow as their roots don't reach deep down.

Apart from trapping, there have been many innovative ways adapted by humans to hunt hares, including nets. One of the easiest methods is to put a snare and wait for a hare to get entangled in it. Another method adapted by villagers and tribals in Rajasthan is to sit well-camouflaged under a deep shade in a green pasture on a full moon night. Hares come out to eat the green grass and one or two invariably go grazing towards the shade. When a hare approaches, the villager throws a stone near it. Alarmed, the hare hops towards the shade away from the moonlight to avoid detection by a possible predator. As soon as it is in striking distance, the villager hits it with a lathi (baton) killing it on spot. Once a popular method to hunt hares, it might still be prevalent in the interiors.

There was yet another intriguing method invented to kill hares. Two men would go out in the wilderness on a dark night with an erect bamboo mat. A lantern hung at the front of the mat and the men walked behind the mat in the shadow, to avoid being seen. One of them would hold the mat while the other a lathi (baton) in one hand and ghunghroo (tiny bells) in another. This created a strange aura of light and sound. Curiosity would invariably get the better of a hare or two and they would approach it to check it out. A swing and whack of the lathi… and they were transported to the happy hunting grounds. Or may be just to the cooking pot of the villager duo.

With the hares more dropping than hopping now, the man animal conflict is on the rise. The food chains are breaking, resulting in food shortage and subsequent dwindling of small carnivores.

One needs a bit of will and not a lot of money to solve this problem. In plains throughout India, after every 10km, areas of three to four hectares can be enclosed with a three feet high wall. The local vegetation in this enclosure can be left as it is with sufficient supply of water and manure to grow rajka and doob. Two to three pairs of hares can be released inside. With shelter, food and no predation, these prolific breeders will rapidly grow in numbers. They can be periodically released in fields and open forests. Other than breeding them, the authorities should implement strict restrictions on their poaching.

A healthy population of hares would not only decrease man-animal conflict but also increase the population of carnivores like small cats, which are dependent on hares, and provide a fall-back to larger ones like leopards.

कॉमन शॅलडक एवं रेड–क्रस्टेड पोचार्ड को भाते बांसवाडा के जलाशय

कमलेश शर्मा
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वागड़ गंगा माही नदी के वरदान के कारण ''सिटी ऑफ हण्ड्रेड आईलेण्ड'' के नाम से प्रसिद्ध बांसवाड़ा जिला अपनी प्रदूषणमुक्त नैसर्गिक संपदा के कारण स्थानीय और प्रवासी पक्षियों के लिए पसंदीदा सैरगाह है। जिले को प्रकृति का अनमोल खजाना मिला हुआ है और वागड़ गंगा माही के कारण यहां के जलाशयों में बारहोंमास पानी भरा रहता है। जिले के लगभग हर गांव में एक से दो तालाब हैं और इनमें से अधिकांश तालाब वर्षभर पानी से भरे रहते हैं। अधिकांश तालाब अभी भी प्रदूषणमुक्त हैं और इसमें मछलियों समेत वह सभी प्रकार की जलीय वनस्पतियां भी पाई जाती हैं जो पक्षियों के भोजन के लिए अनुकूल होती हैं। दूसरी ओर करीब 40 वर्ग किलोमीटर में पसरे माही के बैकवाटर क्षेत्र में भी सैकड़ों की संख्या में आईलेण्ड हैं जो पक्षियों के लिए तमाम प्रकार की अनुकूलताएं उपलब्ध कराते हैं।

पक्षी विशेषज्ञों की सर्वे के अनुसार बांसवाड़ा जिले में लगभग 265 प्रजातियों के पक्षी पाए जाते हैं। इनमें करीब सौ प्रजातियां जलीय एवं 150 प्रजातियां स्थलीय पक्षियों की हैं। इसमें से करीब 150 प्रजातियां शीतकालिन प्रवासी पक्षियों की हैं जो प्रतिवर्ष शीतकाल में प्रवास पर आती हैं। परन्तु पिछले दो–तीन वर्षों में देखा गया है कि जिले में कई ऐसे पक्षी भी देखे गए हैं जो भरतपुर या अन्य जिलों में भी नहीं देखे गए हैं या बहुत कम संख्या में देखे गए हैं।

पहली बार दिखा प्रवासी पक्षी 'कॉमन शॅलडक'

दूर देशों के प्रवासी पक्षियों को वागड़ की प्रदूषणमुक्त आबोहवा रास आ रही है और वे पक्षी भी यहां प्रवास करने पहुंच रहे हैं जो पहले कभी यहां नहीं आए, इसी का ताज़ा उदाहरण है यहां पर देखा गया प्रवासी पक्षी 'कॉमन शलडक', जो यहां पर जिला पर्यटन उन्नयन समिति व वागड़ नेचर क्लब के 'एक्सप्लोरिंग बर्ड्स इन बांसवाड़ा' कार्यक्रम के तहत 15 दिसंबर, 2018 को ईसरवाला तालाब पर बर्डवॉचिंग के दौरान देखा गया।

बर्डवॉचिंग के दौरान क्लब के वरिष्ठ सदस्य व वाईल्डलाईफ फोटोग्राफर दिनेश जैन, जनसंपर्क उपनिदेशक कमलेश शर्मा, पक्षीप्रेमी भंवरलाल गर्ग व हरेन्द्रसिंह सिसोदिया ने इस दुर्लभ पक्षी को देखा तथा इसकी फोटोग्राफी कर इसके बारे में विशेषज्ञों व स्थानीय निवासियों से संपर्क कर जानकारियां संकलित की। विशेषज्ञों के अनुसार चमकीली लाल चोंच तथा हरे–काले सर व गले वाले इस पक्षी का पूरा शरीर सफेद, धड़ पर कत्थई घेरा व पंखों पर काली लकीर होती है वहीं इसके पैर गहरे गुलाबी होते हैं।

राजस्थान के प्रसिद्ध पक्षी विज्ञानी तथा राजपूताना सोसायटी ऑफ नेचुरल हिस्ट्री के संस्थापक भरतपुर के डॉ. एसपी मेहरा के अनुसार भरतपुर में भी विगत 15–20 साल से नहीं दिखाई देने वाली कॉमन शलडक का दक्षिण राजस्थान में देखा जाना वाकई यहां की आबोहवा की प्रवासी पक्षियों के प्रति अनुकूलता को दर्शाता है। डॉ. मेहरा के अनुसार दक्षिण राजस्थान के बर्ड साईटिंग के उपलब्ध रिकार्ड को देखें तो पाएंगे कि पिछले तीस–चालीस साल से इसे देखा नहीं गया है, संभवतः स्टेट टाईम में हो सकता हो किसी ने देखा हो परंतु इसका भी रिकार्ड उपलब्ध नहीं है। इस पक्षी के यहां प्रवास पर पहुंचने के कारणों के बारे में पूछे जाने पर उन्होंने बताया कि इस मौसम में जबकि सर्दी का प्रभाव बढ़ रहा है ऐसे में जलवायु परिवर्तन के कारण भी संभव है इसका मूवमेंट यहां पर हो रहा हो। उन्होंने कहा कि इस प्रकार के पक्षियों का यहां पर पहुंचना शोध का भी विषय हो सकता है, ऐसे में वागड़ नेचर क्लब के सदस्यों द्वारा पक्षियों के बारे में जानकारियां संकलित कर जनसामान्य व शोधार्थियों तक उपलब्ध कराने के लिए चलाया गया 'एक्सप्लोरिंग बर्ड्स इन बांसवाड़ा' कार्यक्रम सराहनीय कदम है।

पातेला तालाब में दिखे प्रवासी पक्षी रैड क्रस्टेड पोचार्ड

जिला पर्यटन उन्नयन समिति एवं वागड़ नेचर क्लब के सदस्यों ने बांसवाड़ा जिले के तलवाड़ा कस्बे के पातेला तालाब में 10 दिसंबर, 2018 को एक दो नहीं अपितु एक साथ दो दर्जन से अधिक प्रवासी पक्षी रेड क्रस्टेड पोचार्ड देखे। यह प्रवासी पक्षी क्लब के वरिष्ठ सदस्य व प्राचार्य सुशील जैन, जनसंपर्क उपनिदेशक कमलेश शर्मा, पक्षीप्रेमी भंवरलाल गर्ग, वैभव शर्मा व जय शर्मा के दल ने बर्डवॉचिंग के दौरान देखे। इन पक्षियों की एक साथ इतनी बड़ी संख्या में दिखाई देने पर पक्षीप्रेमियों ने खुशी जताई।

गहरे पानी का सुंदर प्रवासी पक्षी :

राजपूताना नेचुरल हिस्ट्री सोसायटी भरतपुर के संस्थापक एवं प्रदेश के प्रसिद्ध पक्षी विज्ञानी डॉ. एस.पी.मेहरा के अनुसार रेड क्रस्टेड पोचार्ड प्रवासी पक्षी है और यह रशिया व तुर्कमेनिस्तान से यहां सर्दियां बिताने आता है। गहरे पानी को पसंद करने वाला सुंदर दिखाई देने वाला यह पक्षी डुबकी लगाने वाला पक्षी है। उन्होंने बताया कि पूर्व में वर्ष 2011 में यह दक्षिणी राजस्थान में दिखाई दिया था और सामान्य तौर पर यह प्रतिवर्ष नहीं दिखाई देता है। उन्होंने बताया कि इसका इतनी बड़ी संख्या में दिखाई देना वागड़ अंचल की प्रदूषणमुक्त आबोहवा का ही प्रभाव माना जा सकता है। उल्लेखनीय है कि इससे पूर्व इसी साल जनवरी माह में वन विभाग, बांसवाड़ा के तत्वावधान में आयोजित राजस्थान जलीय पक्षी गणना दौरान जंतोड़ा तालाब में मात्र एक ही रेड क्रस्टेड पोचार्ड दिखाई दिया था।

The Common Shelduck

Devendra Singh Rathore

The Common Shelduck Tadorna tadorna is one of the 42 species of ducks, geese and swans found in India belonging to the family Anatidae. It breeds in parts of Europe, Mediterranean, central Asia through eastern Siberia, Mongolia and Tibet. During winter, it is widespread, including northern Africa, Iran, Indian subcontinent, coastal China, southwestern Korea, Japan and Taiwan. In India, it is an uncommon visitor to northern parts of peninsular India, however, it is rarely recorded from southern peninsula. This note reports the first sighting of the Common Shelduck from Udaipur (Rajasthan) INDIA.

On 28 December, 2018 morning at 9:00 AM, It was big day for me. I Devendra Singh Rathore (Wild Life Photographer) from Udaipur went to Vallabhanagar alone for birding in search of winter migratory birds and noticed a white and a black duck in a flock of Common Coot, Cormorant, Black-tailed Godwit at banks of the Vallabhnagar Dam in Udaipur District, Rajasthan. While observing through binoculars, it was found that the duck had a greenish-black head and neck, white body with a chestnut band on the breast, and a black scapular stripe. The above said morphological characteristics of the duck corresponded with the Common Shelduck. A few photographs (as attached last) were also taken to endorse the identification of the species because of potential misidentification of the Shelduck with domesticated ducks.

Vallabhnagar is located at 24.67°N 74.00°E. It has an average elevation of 481 meters (1,578 feet). It is 35 km away from Udaipur. Nearby Vallabhnagar dam we also found large congregation of winter visitors including hundreds of Flamingoes, Pelicans, Bar-headed Geese, Red Avadavat etc. Considering its significance in the conservation of migratory wetland birds, the Vallabhnagar Dam was recognised as an Important Bird Areas (Birdlife International 2018).

Description

The Common shelduck resembles a small short-necked goose in size and shape. It is a striking bird, with a reddish-pink bill, pink feet, a white body with chestnut patches and a black belly, and a dark green head and neck. The wing coverts are white, the primary remiges black, and the secondaries green (only showing in flight) and chestnut. The underwings are almost entirely white. Sexes are similar, but the female is smaller, with some white facial markings, while the male is particularly crisply coloured in the breeding season, his bill bright red and bearing a prominent knob at the forehead.

Ducklings are white, with black cap, hindneck and wing and back patches. Juveniles are similarly coloured, greyish above and mostly white below, but already have the adult's wing pattern. The call is a loud honk.

Distribution and habitat

This is a bird which breeds in temperate Eurasia. Most populations migrate to subtropical areas in winter, but this species is largely resident in western most Europe, apart from movements to favoured moulting grounds, such as the Wadden Sea on the north German coast.

The Common shelduck is common around the coastline of Great Britain and Ireland (where it is simply known as shelduck), where it frequents salt marshes and estuaries. It frequently nests in rabbit burrows. Sightings of this bird are rare in North America and are reported as infrequent visitors to the U.S. and Canada.

Behaviour

Moulting flocks can be very large (100,000 on the Wadden Sea), since most pairs leave their partially grown young in a crèche with just one or two adults.

This species is mainly associated with lakes and rivers in open country, breeding in rabbit burrows, tree holes, haystacks or similar locations. In winter, it is common on suitable estuaries and tidal mud flats as well.

This bird is one of the species to which the Agreement on the Conservation of African-Eurasian Migratory Water birds (AEWA) applies.

The young will dive under water to avoid predators and the adults will fly away from them to act as a decoy.

Have we learnt from the tragedy of Khijidiya Bird Sanctuary?

Asad R. Rahmani
Ex. Director, BNHS

It is now a cliché that wetlands are the kidneys of the earth and without freshwater, the human being and all terrestrial and aquatic life cannot survive. I will not go in to the details that during the last 50-60 years, almost all the freshwater wetlands have been destroyed by human being in the name of agriculture, industrial development and housing colonies. In this brief article, I will discuss how the wetlands are used to make money by unscrupulous officials and decision makers, all in the name of 'wetland development'. The "kidneys of the earth" are now commercially sold like the clandestine kidney markets of Mumbai and Kolkata!

The developers and politicians see a wetland as 'wet' and 'land'. The 'wet' part can be easily taken care of by filling the depression or stopping the inflow of water, and the 'land' to be taken over for vikas. It is another thing that this vikas brings a lot of money to some people, particularly from an urban wetland. Another insidious threat is the so-called "development of a wetland", either in the name of 'beautification' (I still cannot understand how human being can beautify Nature!), or in the name of management. A natural wetland needs protection from us, not our so-called management. When this management is combined with easy money, it becomes a deadly combination, to the deterrence of the wetland. Unfortunately, I am seeing this combustible activity in many wetlands that have come recently to the attention of authorities – ironically through the noble activities like bird fairs.

Khijidiya Bird Sanctuary, 13 km from Jamnagar, Gujarat is a classical example. I first visited Khijidiya in 1983 during my survey of the Great Indian Bustard and Lesser Florican in Gujarat. It was a wonderful wetland, having both fresh and brackish waters, divided by 6 km bund, covered by vegetation on both the sides. Driving on the bund was risky due to numerous thorns of Prosopis juliflora lying on the katcha narrow path. However, it was fun as we could see thousands of waterfowl on both sides of the bund – mainly ducks, storks, cranes, egrets on the fresh-water side, and innumerable waders, flamingos, and egrets on the sea-side. At that time, Khijidiya could be attracting a few hundred thousand birds of all varieties. Hundreds of Painted Storks, ibises, egrets, cormorants and darters used to breed on the few tall trees that the erstwhile Maharajah had planted.

The first tragedy (I will call it a tragedy) started when Khijidiya became a bird sanctuary. It was now open for 'development' and 'management'. A large number of mounds were created and trees planted so the birds will have more space for nesting (as if someone found out that nesting site was the limiting factor for their numbers). Livestock grazing that used to remove aquatic biomass was slowly banned, resulting in a huge biomass built-up. Decomposing biomass settled down and in the nest two-three decades, it made the wetland shallower and shallower. Combined with low rainfall for many years, the wetland got converted into land. Planting of trees and growth of tall grass made the freshwater part of Khijidiya an ideal habitat for Nilgai. I counted nearly 250 Nilgais in my visit in 2003. Go away ducks, welcome Nilgai in the wetland sanctuary! What a scene.

However, a bigger tragedy had yet to come. Elated by the Gujarat Bird Festival in 2012, it was decided to make the bird sanctuaries more attractive for tourists. They need development and infrastructure. Thanks to the Reliance Refinery, the Jamnagar coast is a fast development hub of Gujarat. Another milking cow is the CAMPA fund. So, money was not a problem anymore in many sanctuaries. The problem was how to spend it. Cement provides an easy route for channelling funds. This is what happened in Khijidiya Bird Sanctuary.

Alarmed by the conservationists of Jamnagar, I visited Khijidiya in February 2017. What I saw was a plain horror. In the name of development, we had Burmese bridges, benches all over the Sanctuary, toilets with no running water, walkways, a pool for boating, jhulas, large watch towers, ugly hides ostensibly to watch birds, paved roads – all created to develop an atmosphere of a picnic spot. No wonder, the hoi polloi soon learnt to make pre-marriage videos in the bird sanctuary. Instead of bird watchers, we now have young couples enjoying each other's company, some openly, some discreetly. Children running around, shouting or playing loud music – after all the Sanctuary now looks like a city park. Who cares if the birds have abandoned the place? Instead of flocks of thousands of ducks and waders, we now have a few desultory Spot-billed ducks

and Common Sandpipers, pretending not to notice the hedonist gaudy picnickers.

GIZ, a German funding agency, gave funds for development of an interpretation centre, so an existing and nicely developed interpretation centre was removed and a high-technology interpretation centre was developed. Every new development brings money in the pockets.

When I submitted my report to the Government of Gujarat, some actions were taken but no action took place against the officers who had destroyed the sanctity of the Sanctuary. A few benches were removed, toilets fell down due to lack of upkeep, few bunds were breached to allow free-flow of water, but nothing more. A wonderful bird sanctuary, an Important Bird and Biodiversity Area (IBA), a potential Ramsar Site, is now an ugly picnic spot.

The question is: can we learn from the tragedy of Khijidiya? During the last 5-6 years, Dungarpur and Udaipur Bird Festivals have brought public attention to the large numbers of wetlands, stimulating district authorities to 'develop' them for tourists. We all know what happened to Dungarpur wetland in the name of vikas. Most of it is now covered by cement. Menar, Krishn-Kareri and other wetlands of Udaipur are very old waterbodies and have survived the vagaries of time. They are also protected either for religious reasons or for their utility (as a source of water). These wetlands do not need 'development' – they only need better protection from the land use changes. The only development we can do is to build accessible roads, put few benches on the land side, provide discreet functional toilet facilities, and offer training, guidance and hand-holding to local people so they can earn some money from the bird watchers. These wetlands should be plastic-free at all time to come. No fishing or boating should be allowed under any pretext. These wetlands should not become picnic spots.

The only other thing that the district authorities should do is to ensure that the catchment areas of these wetlands are not disturbed and free-flow of rainwater is maintained. The authorities should know that in a good functioning ecosystem, not doing is also 'development'. Nature has tremendous dynamism and healing powers. Let us keep our arrogance of vikas to our so-called smart cities, and let the birds enjoy the serenity of these wonderful wetlands of Udaipur.

Enroute Birding between Jodhpur and Udaipur

Raj Laxmi Joshi
Tour Organizer, A P Birding Udaipur, Krishnangan Apartment, Hiran Magri, Udaipur.

Introduction

The waterfowl initiated their activity in the early morning before sunrise. Most of the activities (foraging, preening, swimming, and feeding) remain continue for next few hours. The movements of the birds are a function of their feeding preference. I am submitting my experience which is one of my best memorable road trip from Jodhpur to Udaipur. There were five wetlands which I had observed at roadside trip of 260 km and I noted the birds, time and distance from Jodhpur. I started my journey from Jodhpur around 7:30 am and after 32 km, I came across a place named Nimbla on Pali road. At Nimbla there is a beautiful water body.

I noted there Cattle Egrets, Pond Herons, Painted Storks, Wooly-necked Storks, Spoonbills, Black-headed Ibises, White-throated Kingfishers, Black-winged Stilts, Little Cormorants, Common Coots, Red Shanks, Indian Peafowls, Red-wattled Lapwings, Eurasian Collared Doves and Green Shanks.


I stayed there for fifteen minutes, took photographs of birds and their habitat and continued our journey. Occurrence of wetland birds depends on the availability, depth, and quality of water; the availability of food and shelter; and the presence or absence of predators. After journey of 38 km from Jodhpur, I came across another place suitable for bird watching, that is Nimbli, on Pali road around 9:00 am. There I observed Little Grebes, Northern Pintails, Spotted-billed Ducks and Northern Shovellers. Each wetland has its own ecology and micro-habitats. Occurrence of various micro-habitats decides the composition of birds seen at a time in a wetland.


Nearly 68 km away from Jodhpur, I saw another water body in geographical limits of Pali district which was filled by the waste water coming from a factory. There, I saw Whistling Ducks at about 9:45 am. Then, after 100 km from Jodhpur I reached Sonai Manjhi. There is a lake known as Supadi Nadi. Common Coots, Cormorants and Black-winged Stilts were noted there. After Sonai Manjhi, I reached Busi village at about 10:30 am (138 km away from Jodhpur) where I saw Shrikes, Pied Kingfishers and River Terns. In similar sized wetlands, bird abundance will be higher in those which have more irregular shoreline.

Nearly 142 km away from Jodhpur, I crossed Desuri and saw so many Treepies and Monkeys there. After completing 158 km journey, I saw a beautiful water body between Nadol and Busi but could not find any bird there because it was too late. Similarly I saw 2-3 more water bodies between Nadol and Udaipur but didn't encountered any water bird. Probably it was too late and birds might have gone after feeding in morning session.

Conclusion

At the end of this road trip my experience was that morning hour birding of wetland birds is best because birds remain more active and there is little human disturbance at that time. Those wetlands which have bigger water spread with high percentage of vegetation cover and heterogeneity, have more species richness. Wading species and dabbling ducks are seen more on wetlands having a mixture of vegetated and clear surface. On the other side, smaller wetlands with most clear surface support lesser number of bird species. The wetlands are good habitat for migratory birds. To keep their migration perpetual, we need to protect their habitats effectively. There should be less human disturbances and less pollution in our water bodies. Without protecting original ecology of wetlands we can't protect quality of habitats. This is duty of all of us to protects wetlands of our landscape.

Territorial fight between two Common Red Shanks

Anil Rodgers
Naturalist and Wildlife Photographer

To every new bird watcher, at first glance, birds seem to be very beautiful, quite and calm creatures, sitting peacefully and enjoying in whatever environment and habitat they are in, that is the best impression that one takes while they start bird watching. On the contrary some birds are highly territorial and they would never like others to take their place specially during breeding season. At this time they become very sensitive towards their territory and would chase away any intruder. These birds suddenly engage in aggressive fights to protect their territory. These fights sometimes last for just a few seconds and sometimes for relatively longer period. Especially Waders, Galliformes and Small passerine birds are the birds that mostly engage in territorial disputes. These fights are not just for food but also for the mating rights amongst their territory. To start with the waders, we can see Lapwings which are highly territorial and even deter human beings while they enter their territory. Red-wattled lapwing, some stints and plovers and even herons also can be seen fighting. Storks will chase away almost any bird. Common and Spotted Red Shanks fights last for longer period which is worth watching. I came across with such fights during summer season when the water is short and food is scarce. I saw two Common Red Shanks (Tringa totanus) engaged in territorial fight. I thought it could be just for few seconds but no, this continued for more than 15-20 minutes which is a very long time for birds. Both the birds fight, then stops and then again starts fighting. So, I pulled out the camera and started taking some pictures. One picture of fight which I took, seems very scary as one of the red shank was standing over other and its face was in the water for more than 2 minutes. I thought the bird having head in water might have died but suddenly the game changed and the "looser" came up and started chasing the competitors. This behaviour of the Common Red Shank was a life time experience for me. Interestingly no bird was injured in the tussle and both of them started feeding at the shoreline.

Enviromental Education

Arun Soni
Officer-In-Charge, WWF-India, Udaipur Division

What is Environmental Education

Environmental education is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions.

Environmental education does not advocate a particular viewpoint or course of action. Rather, environmental education teaches individuals how to weigh various sides of an issue through critical thinking and it enhances their own problem-solving and decision-making skills.

About Environment Education Programme

Education has been an integral part of World Wide Fund for Nature (WWF) global activities since the very beginning. Over time, WWF's own goals have evolved, so have the activities within the gambit of education. When WWF-India's Environment Education (EE) program was started in 1969, its aim was to strengthen on a long-term basis, both human and institutional capacity in nature conservation and environmental protection. It wanted to do so through the promotion of environment education and awareness activities within a variety of social structures.

Importance and Role of Bird Festival in Environmental Education

Bird festival, a three day program organized with an aim to aid scaling up the bird awareness amongst the mass. Such festivals provide forum to the young and old alike where they can come close to nature and learn to live in harmony with it. These programs form an integral part of informal environmental education that can imbibe the minds towards feeling of kinship with animals in nature and maintaining the hygiene in surroundings. Bird watching activity and various competitions for students on one single platform provide opportunity to learn about colorful world of birds and the role of wetlands. Here they get an opening to show their skills and ability and benefit through the guidance of various experts from different fields.

An Initiative of Udaipur Wildlife Division to Impart Knowledge of Birds to Youth

V.S. RANA (Rtd. DCF)
P.S. CHUNDAWAT (Rtd. DCF)

The celebration of Udaipur Bird Festival (UBF) is gaining a vast popularity in every coming year. As per the feedback of the UBF participants and also directions received from the Chief Wildlife Warden Rajasthan, Jaipur, a short term course on " Preliminary Bird knowledge training programme" was decided to be imparted to the youth and the enthusiasts. The objective of the course is to make awareness regarding birds and their habitat conservation and also to make livelihood of local people by becoming bird/eco guides near important bird areas.

In the UBF preparatory meetings, a decision was taken regarding the course and a core committee was constituted to prepare the training module. The committee submitted the module and its recommendations which were approved.

The description of the course is as follows:

1. Name of the course	Preliminary Bird Knowledge Training
2. Educational qualification of the participants	Matriculation (Min.)
3. No. of seats in a batch	20 (Max.)
4. Selection criterion	The candidates having under gone the training as Pakshi Mitra and involved in such activities of the department will be given the preference. Selection to be done on the basis of interview.
5. Course Fee	Free for the first year.
6. Training Schedule	Three days for the class room study and two days for the field. All these five days will be Sunday. For the first batch the dates of 11, 18 & 25 Nov. and 2, 9 December 2018 were proposed.
7. Course syllabus	The following topics have been included in this training programme – 1- Evolution of Birds (in brief) 2- Bird classification : Type of birds, classification upto orders, different types of bird habitats, nomenclature. 3- Morphology of birds : Nomenclature of body parts related to wings, tail, back, feet, head, belley, eyes, colouration and feathers etc. 4- Migration of birds 5- Reproduction: Season, breeding, plumage, brood parasitism, nest - parasitism, types of nests. 6- Food and feeding, guilds, types of foods. 7- Adaptation: Feeding adaptations and camouflage 8- Role of birds in human welfare (Important ecological services of the birds) 9- Bird behavio ur (Ethology) – Roosting, flocking, display, preening, bathing etc., Birds acoustics 10- Status of Birds : IUCN, threatened, endangered, endemic birds, Bird census. 11- Threat to bird habitats, conservation, Ramsar site, IBAs etc.. 12- Tools and techniques of bird watching 13- Bird guiding and ecotourism. 14- Field training : Ethics of bird watching and use of the gadgets

The classroom lectures and field training was imparted by the following subject specialists on mentioned dates :

1.	Dr.Chhaya Bhatnagar	-	Retd. Professor
2.	Dr. V.K. Koli	-	Assist. Professor
3.	Dr. Satish Kumar Sharma	-	Retd. ACF
4.	Sh. V.S. Rana	-	Retd. DCF

5.	Sh. P.S. Chundawat	-	Retd. DCF
6.	Sh. Pradeep Sukhwal	-	Bird Specialist
7.	Sh. Vinay Dave	-	Bird Specialist
8.	Sh. Devendra Mistri	-	Bird Enthusiast

The course was conducted by Udaipur Wildlife Division.A total of 22 participants took part in the first batch. A majority of them are the students of P.G. in Environment Science/Zoology/Wildlife with a good number of Pakshi Mitra.

After completion of the 5 days course, each of the participants have been assigned to present a report on ethology, habitat behaviour or any special feature on the bird of their choice. They have submitted the reports on different birds such as- Sarus Crane, Indian Roller, Baya Weaver, Great Crested Grebe, Painted Stork, Long-tailed Shrike. Asian Paradise Flycatcher, Shikra, Pheasant-tailed Jacana, House Sparrow, Indian Grey Hornbill, Asian Koel, Flamingo, White-throated Kingfisher, Rose-ringed Parakeet, Indian Vulture, Purple Sunbird, Bar-headed Goose, Ruddy Shelduck, Himalayan Monal and Great White Pelican.

A test comprising of objective type questions is proposed before awarding the certificate of successful completion of the training.

The initiative of Udaipur Wildlife division to successfully conduct the course is welcoming and hope it will continue year by year to make Udaipur zone a popular birding destination and contribute towards bird conservation.

Urgency to Focus towards the Protection of our Whole Ecosystem

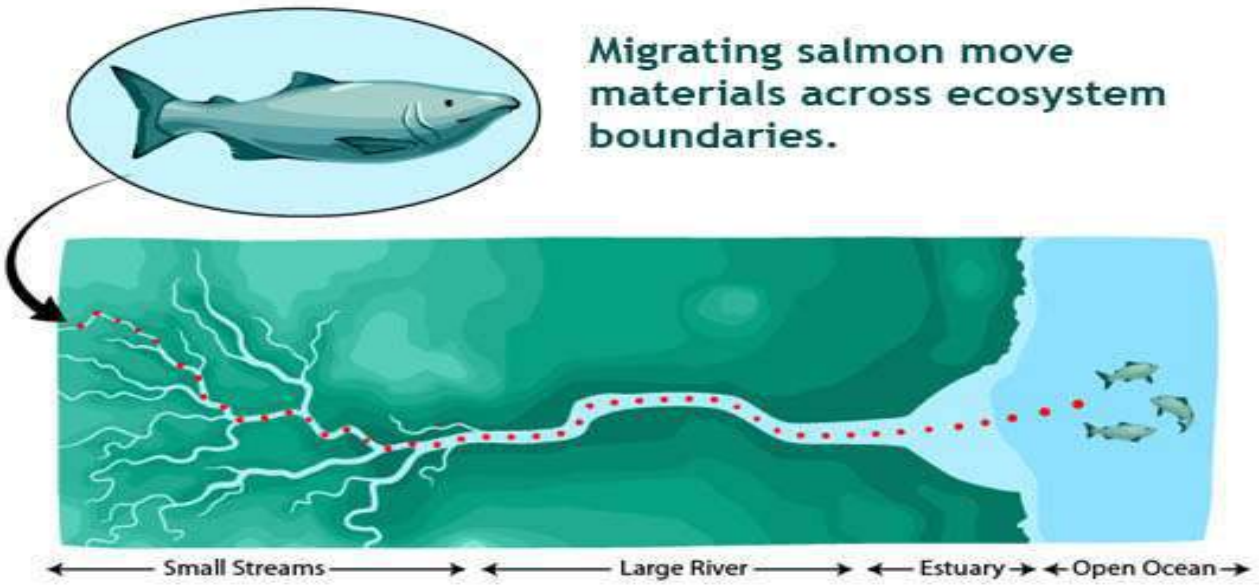
Kanishk Kothari

In the era of protection of tigers, somewhere to the protection of nature, we all humans somehow or the other play a key role in our vast ecosystem. Thus, ecosystem can be defined as the complex of living organisms, their physical environment, and all their interrelationships in a particular unit of space.

In the recent era, our respected organs of government are working through several plans to protect our wildlife and nature considering it to be a fundamental duty as provided under our Constitution of India and we, as a responsible citizen, should always contribute in the works of government. There are many reforms such as project tiger, project elephant, UNDP sea turtle project and several acts such as Fisheries Act 1897, Indian Forests Act 1927, Mining And Mineral Development Regulation Act 1957, Prevention of Cruelty To Animals 1960, Wildlife (Protection) Act 1972, Water (Prevention and Control of Pollution) Act 1974, Forest Conservation Act 1980, Air (Prevention and Control of Pollution) Act 1981, Environment Protection Act 1986, Biological Diversity Act 2002, Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Rights) Act 2006. But we should also know that in this era there is high need of protection of our whole ecosystem and concerns of protection of ecology is imperative.

Nutrients, organisms, water, air, and any of the other parts of ecosystems can move in and out of ecosystems. The boundaries that we can draw around an ecosystem aren't solid walls, but instead allow materials to pass across them. For example, in the ecosystem of our mouth, food, oxygen, and water come in from outside the ecosystem, and these materials also leave the mouth ecosystem when we swallow or exhale. Flow of materials into and out of ecosystems cross boundaries between ecosystems and connect them together.

Let's see an example of how many ecosystems can be connected. Salmon, a type of fish, are amazing animals that live in many different ecosystems over the course of their lives. We'll follow salmon on their journey through a diversity of ecosystems. Salmons are born in small stream ecosystems. When they are strong enough, they swim downstream, moving out of small streams and into larger streams and eventually into large rivers. They then move out of freshwater ecosystems, and enter into estuaries, which have a mix of fresh and saltwater. They may spend a year or two in estuarine ecosystem before swimming out to the open ocean, yet another ecosystem. After a couple of years of feeding and growing much larger in the ocean, they retrace their journey back into the same small stream where they were born and then breed and die. In this way, salmon connect streams with the ocean. Young salmons are an export of small stream ecosystems to large rivers, estuaries, and the ocean where they may provide energy and nutrients to predators. On their return trip, adult salmon transfer nutrients and energy gained from ocean ecosystems back into small streams.



In the example of salmon moving energy and nutrients among ecosystems, other organisms may benefit from the activities of salmon. But sometimes connections among ecosystems have negative consequences. For example, humans export a lot of materials from our ecosystems. The cars and planes we use for transportation have far reaching consequences for other ecosystems because they export pollutants to the atmosphere that may later enter other ecosystems. For example, each year burning of fossil fuels adds about 10 billion tons of carbon dioxide to the atmosphere. We also make lots of trash that sometimes is stored far beyond the town or city ecosystems it came from. In the USA, each person produces on average 4.6 pounds of trash per day.

One way that scientists try to keep tabs on ecosystems and the effects humans have on them is to make a budget for things like energy or for nutrients like nitrogen. Just like a budget using money, scientists try to add up all the inputs and outputs of energy or nitrogen from an ecosystem to determine whether the ecosystem is storing materials, importing them, or exporting them. The smaller your budget, also called carbon footprint, the better it is for the ecosystem. In addition to allowing materials to pass through them, the boundaries of ecosystems can actually move, allowing one ecosystem to merge with another. For example, it is easy to draw a boundary around a stream ecosystem. It's the part that is wet, right? But throughout the year, there may be more or less water in the stream, causing the size of the stream ecosystem to expand and contract. When there are floods, the stream suddenly becomes very large, and the stream expands into the surrounding grassland, desert, or forest ecosystem. You may have observed another example of shifting boundaries in your city or town. The boundary of a growing town or city edges further and further outward. Next time we observe the boundary of an ecosystem, try to figure out whether the boundary can move, and if so, does it move at a creeping pace, or in giant leaps?

Similarly, considering an another example of the ants. We need ants to survive, but they don't need us at all (Prof. E. O Wilson, in How Our Health Depends on Biodiversity, Chivian, E., Bernstein A., Center for Health and the Global Environment, Harvard Medical School, 2010).

Biological diversity, or biodiversity, is the scientific term for the variety of life on Earth. It refers not just to species but also to ecosystems and differences in genes within a single species. Everywhere on the planet, species live together and depend on one another. Every living thing, including man, is involved in these complex networks of interdependent relationships, which are called ecosystems.

Healthy ecosystems clean our water, purify our air, maintain our soil, regulate the climate, recycle nutrients and provide us with food. They provide raw materials and resources for medicines and other purposes. They are at the foundation of all civilisation and sustain our economies. It's that simple: we could not live without these “ecosystem services”. They are what we call our natural capital.

Biodiversity is the key indicator of the health of an ecosystem. A wide variety of species will cope better with threats than a limited number of them in large populations. Even if certain species are affected by pollution, climate change or human activities, the ecosystem as a whole may adapt and survive. But the extinction of a species may have unforeseen impacts, sometimes snowballing into the destruction of entire ecosystems.

The diversity in our ecosystem is unique, but the loss of biodiversity has accelerated to an unprecedented level in India and worldwide. It has been estimated that the current global extinction rate is 100 to 1000 times higher than the natural rate. In India there is a long list of endangered species to which we need to pay a high attention as each and every individual and specie play a key role in our ecosystem thus providing a complete protection to our whole ecosystem.

Think Learn And Do.... For Birds

Suhel Majboor
Deputy Conservator of Forests, Administration

In order to promote and conserve the avian diversity, bird habitats and wetlands particularly around Udaipur, a program was initiated to spread awareness among the local people about the natural bird heritage of Udaipur. A different aspect of dispensing knowledge related to birds and their life cycle such as nesting, roosting and feeding activities was thought of. Necessity was felt of public involvement and dedication for conservation of the most beautiful creature in nature by the people from different strata of the society. The program was formulated on birding, conservation and awareness towards birds and their habitat by Forest Department with local birders as experts and guides who lead the amateur group on the awareness towards birding phenomena, ethical photography, Habitat relation, Ecology between birds and plants.

A group of 50 plus number of people with keen eye for birding was formed with help of experts and technicals. The birding activity was done on Sundays between 7 a.m. to 11 a.m. in the city outskirts, protected areas, natural parks, sanctuaries, water bodies, undulating woodlands or perennial hilly jungles under the technical guidance of Mr. Sharad Agarwal, Mr Devendra Mistry, Mr. Khushwant Sardaliya and others. The enthusiasts and wildlife photographers use to assemble at a common place, share the vehicles to save and protect the environment and then move to the chosen habitat where the trail -walking, trekking, birding and respective knowledge of habits and habitat was shared and described. The enthusiasm of different age groups with homogeneity of male, female and youngsters who were very eager to know about the holistic approach was remarkable.

Initially it was hard to put the members in a disciplined frame of the Jungles and its ethics but very soon with their zeal to learn the maximum in short period of time, made the excursions smooth for learning the birds identification, types of habitats, herbs, trees, even the tips of walking in the hills were described and how to do birding and photography were discussed with direct interaction in the field. Birders were taken to different habitats of birds, their denizens, water bodies, thorny jungles, dry deciduous hilly jungles, evergreen jungle patches, lake shores, fossil hills and sacred groves for educating in birding. Visits to water bodies like Fatehsagar, Pichola, , Ecotone park, Badi lake, Menar, Bhatewar, hilly deciduous-thorny jungles of Biodiversity Park Chirwa, Purohitonkatalab, Neemach Mata, Thur Magra, Shilpgram Nursery, Machla Magra, Sajjangarh, Baghdarrah, Jhamarkotra (a mine dump), Kewra Ki naal ,Jungle safari, Banki medicinal park,etc. were made thus enriching birders with a varied diversity of flora, terrestrial and aquatic avifauna to study. During excursions, trekking, the troupe explored the existing habitats which were compared and related with the previous (old) observations of the experts accompanying them. The methods of reinstating and rebuilding the destroyed habitats with conversational aspects were discussed and described for the improvement of declining numbers and species of different birds, for example:-

In badi lake shore forest existence of white-naped tit, white-bellied minivet, raptors etc. with presence of otters was in plenty before 1980s, which have now vanished in present times all due to human interference.

Menar area, a good water body for native and migratory birds like Cranes, Geese and Ducks, Storks, Flamingos, Pelicans ,Grebes etc. provide a suitable habitat for invertebrates and fishes, with high water clarity supporting diving birds with better visibility under water is now suffering from less inflow of fresh water in the lake due to large number of water harvesting structure constructed in catchment areas. Baghdarrah nature Park gave a thrilling experience of crocodiles skills in chasing ducks and coots. Trekking with learning the nesting habits of weaver birds and parakeets was remarkable.

Jhameshwarji was chosen for study of Yellow footed pigeon, Mottled owl, Plum headed parakeet with presence of Grey hornbill, Scaly breasted Munia, Tickels Blue Flycatcher, Painted stork. This is a good breeding place of Raptors, Crested Serpent Eagle, Short-toed Snake Eagle, Crested Hawk Eagle, Indian rock eagle, Black-necked Stork, Crested tree swift in summers. Even Asian Brown Flycatcher breeding was seen by our expert Mr. Devendra Mistry. Birders were acquainted with geographical presence of STROMATOLITE FOSSIL on hilltops. So in all, variety of habitats were chosen for holistic understanding of birds nature by the group.


Pied Kingfisher


Small Pratincole


Jacobin Cuckoo


Spotted owlet

Some of aquactic and terrestrial avifaunal species of Udaipur region seen and identified by the birders:-

Wetland Species	Terristrial Birds
1. Little & Crested Grebes	Rufous-tailed Shrike
2. Great White Pelicans	Rosy starling, Ashy Drongo, Black Drongo, Green bee eater, Indian Roller
3. Little Cormorants, Herons, Egrets	Red-rumped Swallow, Wire-tailed Swallow
4. Darter	Shrike, Indian Coucal,
5. Asian openbill Stork, Woolly-necked stork	Asian Paradise Flycatcher, Indian Sliverbill
6. White and black Ibis, Red-naped ibis	Grey Hornbill
7. Graylag Goose, Barheaded Goose , Ruddy shelduck, Teal, Gadwal, Wigeon, Pintail, Comb duck, Mallard, Pochard	Black-shouldered Kite, Brahminy Kite, Egyptian Vulture, Shikra, Steppe eagle
8. White breasted waterhen, Purple Moorhen and Coot	Scaly-breasted Munia, Oriental white-eye
9. Pheasant-tailed Jacana	Rose-ringed Parakeet, Plum-headed Parakeet
10. Plovers, Redwattled Lapwing, Thick knee	Laughing Dove, Spotted Dove, Yellow footed green pigeon
11. Sand Piper, Godwit	Pied Kingfisher, Commen Kingfisher, Stork-billed Kingfisher, White-throated Kingfisher
12. Black-winged Stilt	Common Stonechat, Pied bushchat, Bluethroat, Magpie Robin, Indian Robin
13. River Tern	Ashy Prinia, Fantail, White-throat Warbler

Awareness plays a key role to save birds. So it was the dire need of time to take steps to widely popularize such events to sensitize people towards the conservation of birds and their habitats. Udaipur being the most sought after place by the tourists, this activity will be one of the new exciting tourism activity around the lakes and water bodies of Udaipur. It will be an added attraction in providing opportunity for setting of exciting sightings of local and migratory birds for nature enthusiast and birders.

Search for interested Bird watchers and nature lovers were done to provide an extra platform for documenting the existing diversity of Flora and Fauna of the area. Experts help was taken to build up the skills of participants in identifying the birds on technical and scientific grounds. It has created and developed lot of enthusiasm among the youth and adults leading this activity into a level experimental, experiential learning tool that will go along to get public support in protecting birds and their habitat.


Engrossed in capturing rare moments of birds


Blooming Birders of Udaipur

Preliminary Report on the Forests of Mewar - A Status Report of Forest of Mewar prepared during 1941 by thence Special Forest Officer

Rao Sahib E.V. Padmanabha Pillai
Special Forest Officer

INTRODUCTION

1. I reported for duty as Special Forest Officer on the forenoon of 20th September 1941 and I have been studying the conditions of forest administration and the forests of the State for the last one month. I am submitting this Preliminary report to bring to the notice of his highness the Maharana's Government certain very important problems which require urgent solution. My future line of work will depend upon the orders of the Government on the points raised by me.

2. There is at present no definite data to show the extent of the "Forest" of the State. The Forest Department is said to be in charge of about of 800 square miles of forests, but this is only an estimate, as these areas have not been surveyed or demarcated. Extensive areas of the Forests are in charge of the Revenue Department, and even for this no data is available. The main ranges of hills of Rajputana, known as the Aravalli hills, are under the Revenue Department. My estimate is that there are at least four or five thousand square miles of forest in the State, but there is every likelihood that it will be more, when actually surveyed.

POSSIBILITY OF IMPROVEMENT

3. The first thing that attracted my attention, on entering this State was the extensive, & in fact, universal growth of that small yellow flowered shrub, Cassia auriculata (Anwal) the bark of which is the finest tanning material in India. I was astonished to know that the State derives practically no revenue for this, whereas in the adjacent State of Jodhpur, the revenue from this is considerable, I shall submit a separate report about this to the Revenue Minister, as soon as possible.

4. I saw in the State gardens some very fine sandal trees. I was under the impression that Sandal will not thrive so far North. I was agreeably surprised to find myself in the wrong. Several Sandal plants were planted in the forests, near Jaisamudra by Mr. Bhai Charan Das, the then Conservation of Forests, a few year ago and they are now growing very well, in fact much better than corresponding growth in its native soil, in South India. It is worthwhile remembering that sandal, in South India is ravaged by a disease known as "Spike," and in spite of research by special experts by the Governments of Mysore and Madras, It has not been possible to check this disease. It is, I am sure, an excellent idea to introduce Sandal in various parts of our forests. I shall take action about this later on. It is not generally known that sandal wood is imported into India from Australia.

5. Teak is found naturally in the southern part of the State. I found almost pure patches of it near Parshad. Of course teak will not grow to such large dimensions as in South India, but with about 30 to 40 inches of rainfall, it will be easy to grow teak, upto 4 feet in girth and 30 to 40 feet in height. This will yield decent small timber. It is easy to form regular teak plants in these parts and this will be a paying proposition in the long run.

6. I have never seen a country, containing so many Butea- frondosa (flame of the forest khakar) trees, and this is the ideal tree for rearing lac. I was told some years ago, an attempt was made to introduce lac in this State, but it failed. I do not know why, when in the adjacent States and British territory, lac cultivation is a very paying business. Anyhow, this deserves further trial; which will be done.

7. From Striculia gum (Gund) we are receiving some revenue. It is removed under the permit system. It is worthwhile to see if we cannot work under better system, under proper super vision.

8. We have no working plan for felling and removal of firewood and other forest produce form the State Forests. When proper working plan is prepared, there is no doubt it will be possible to realize much more revenue, and we shall, then, plant up the areas felled, with more valuable species Defects noticed.

9. I have so far given the bright side of the picture, rather purposely, to serve as a sugar coating for the bitter pill, that is to follow.

10. The most important fact noticed is that there is no Forest law in the State, and hence there are no reserved forests. In British India, the Indian Forest Act was passed in to law in 1882. The important Indian States followed suit almost immediately with the result that as far as I know the Forest Department everywhere is a very important branch of Government contributing decent revenue to the State treasury. If this State also organized a Forest Department of a similar lines, towards the close of last century and managed the forest on scientific line that would have been a great asset to the Government. The most important work of Forest Department is the conservation of forest, and the head of the department is called the "Conservator of Forests" yet one finds in this State anything but the conservation of the forests, everywhere wanton destruction of forest is to be seen. Had it not been for the personal interest taken by the Rulers of the State, in taking under their protection some blocks of forest or game preservation, there would have been no real forest worth mentioning in this State.

11. The forests, left by the Ruler to be managed by the Government have been mismanaged & ruined This is inspite of the facts that the State spent money and trained in Forest Colleges two men and the department has been in charge of trained forest officers for the past eight or ten years at least. I am not blaming any one in particular, but only mentioning bare facts.

12. A complete absence of a definite State policy in the management of State lands is seen. What I mean is that there is no definite idea as to how various kinds of State lands are to be managed and also as to which is the authority for managing. At present part of the culturable land is under cultivation (or occupation to be more correct as there is plenty of occupied land not under cultivation) and the Revenue Department collects land revenue. The remaining portion of the culturable and the most of unculturable land is supposed to be under the Revenue Department, but practically under no authority. A portion of the unculturable land is under the Forest Department which collects some grass and sells firewood or timber by permits. The Forest Department has no policy of its own, nor has the Revenue Department. Sometime a land under the Forest Department is transferred to the Revenue Department and vice versa, without any reason.

13. The town of Udaipur was founded in the middle of thick jungle. That was a few hundred years ago. It was when these beautiful lakes, which we are all proud of were formed. Now what do we see? Except for His Highness's shikar forest, Udaipur is surrounded by bare hills. It must be remembered that on these hills the soil is only a thin layer not more than a foot or two in depth. Rain beats hard on these bare hill sides and washes down the surface soil little by little every year exposing the bare rock below and silting up the lake and tanks. Thousands of tons of silt are being deposited in these lakes every year. In course of time these lakes will be silted up completely. This statement can be verified easily by taking the depth of silt in the lakes when water goes down. Tree growth on the hill sides was protecting the surface soil but now it is gone. This kind of denudation of the forest growth from hills sides and consequent soil erosion is going everywhere in the State. The worst example as far as I have seen (which is very little) is to be found in the valley between Goverdhanvillas and Parashad the famous lake Jaisamand is being silted up. A natural phenomenon like this takes place imperceptibly and gradually and the inhabitants will not notice it just as parents do not observe the growth of their children. The effect of this on the climate of the country is serious. Rainfall become unreliable and decreases year by year. Our State expects a famine, I am told, every third year. Was this the case in the good old days?

14. The whole of the Aravalli hills lie in Mewar and is being denuded like this. This year the flood in the Sabarmati river was unusual. I read in the papers that within the memory of the oldest living man, water in that river never rose to such a height. This flood caused heavy loss in life and property in the plains below. What is this due to? To the destruction of tree growth in the catchment areas of this river, which lie in the Aravali hills or want of forest growth rain water does not percolate into the soil, to come out as springs. it was down days and even months after the fall of the rain but comes down in torrents immediately carrying with it millions of tons of loose earth in the shape of silt. The destruction of the forest in the State is as a danger to other parts of India also. The Aravali hills form the water parting between the Arabian Sea and the Bay of Bengal, and for climatic reasons it is important to protect the tree growth, on these hills.

15. An argument sometimes advanced is that the forest are being destroyed for the sake of the agriculturists who benefit by the extension of cultivation. On the other hand denudation of the forest on the hill sides is gradually destroying agriculture. Soil washed down from the hill side is spread on the agricultural land below. Formerly there were hundreds and thousands of small tanks, all along the foot of the hill in all villages, constructed for irrigation purposes. Now they are all silted up. And the villagers raise crops in the bed of the tanks and not under the tank bund. As far as I have seen of the

culturable land, I think not much more than if it is actually under cultivation. The other portion is left fallow. At this rate if the denudation of forests goes on unchecked, more and more land will be left uncultivated.

16. Forests are a national trust to be improved and handed on to future generations. Even if we cannot improve them, we of the present generation have no right to destroy them. Our fore fathers started the mischief, and we are following in their footsteps. They were not to blame. They knew not what they were doing. But we ought to know better.

17. The permit system is the method, adopted by the Forest Department to aid in the destruction of the forests. People cut down forests and transport the firewood, timber, charcoal, etc. for sale. The department sets up a chowki on the way and collects a fixed fee for each head load, camel load, cart load etc. There is not much difference between this and collecting a tax on stolen property. We have been really sharing the profit with the criminal. I consider the theft of the property of the future generation as more heinous, than the theft of the property of the present generation.

18. It is with a view of setting right matters, as soon as possible, I submitted the following report to the Revenue Minister on 26th September 1941. In that report, I did not dwell on the past in detail; I have therefore expanded it by adding paragraph 1 to 17.

(Body of my report submitted to the Revenue Minister)

(a) From the time, I reported for duty on the forenoon of 20th September 1941, I have been studying the Forest administration of the State, and I have seen some of the forests around Udaipur. The most important point I observe is that there is no Forest policy of any kind to guide the administration. Some areas were selected, without any apparent reason and managed by the Forest Department. I saw even a plot of agricultural land in a village under its control.

(b) I submit this note so very early in my service in the State, request the Government to lay down the broad principles of forest policy without which it is impossible to proceed further for this purpose I submit below my view on the subject.

(c) Government land may be divided into two broad class i.e.(1) Agricultural land at present under cultivation & land fit for cultivation but not yet brought under the plough and (2) Non-agricultural land under this class, rivers, lakes, roads and villages and town sites may be included but these may be left out for the present. What I am most concerned at present is the hills, whether they are actually now covered with forest or not.

(d) Most of the hills, except the few isolated & scattered areas under the Forest Department are under the control of nobody. People graze their cattle without any check and cut and remove firewood and timber or burn charcoal or set fire to, in the summer.

All these areas were once covered with forest. Most of the tree growth has disappeared, some area covered with grass and in some even grass has disappeared exposing the rock below. What little soil there are on these hill sides is being washed down. By imperceptible degrees, soil erosion is going on and is silting up the tanks and lakes, and covering up cultivated lands and water level in the soil is going down. If it is allowed to continue, this will end in disaster, to the entire country. Our State is near the fringe of the Rajputana desert, which will slowly extend its tentacles mile by mile and we shall have to take every precaution to prevent that.

(e) In dealing with the question of protecting these hills, we have to bear in mind that cultivated lands in valleys lie intermingled with them, and we have to safeguard the interests of the agriculturists as far as possible, though these are the very people who destroy them. Taking account all these facts, I may be permitted to express my views.

(f) In British India, they set apart forest areas to help the villagers in agriculture and they called them "Unreserves", from which the villagers were allowed to cut and remove practically everything they wanted. They were nominally under the Revenue Department, but in fact under no control. The "Unreserve" became no man's land and the forest on them disappeared. The villagers wanted to get more areas from the adjacent Reserved forest to be thrown open as " Unreserved " In Mewar all areas are " Unreserves" and the villager is unmolested in his activities destruction of forest. We cannot blame him he is uneducated and is unable to see beyond the tip of his nose.

(g) We should not set apart any "Unreserve" for the collective use of the villages. Instead, I beg to suggest that each agriculturist may be permitted to take an area from adjacent nonagricultural land, to reasonable extent, as near as

possible to his cultivated land, and must develop it, partly as his pasture land, and partly as his private forest, to meet his ordinary agricultural and domestic requirements. Whether this is to be tax free or not, must be decided by the Government. It must be clearly laid down that he must protect and improve the land and if he neglects it, he must be punished suitably. It must also be understood that his cattle will not be entitled to graze free or otherwise in any other Government land.

(h) All the agricultural area, not under occupation now may be used as a common grazing ground as long as it is available.

(i) It was my cherished hope to evolve a scheme like this, and I made a mention of it in my report on Bharatpur forest. I am very pleased to see that some of the intelligent villagers of this State have themselves made a beginning in this direction. Im sure a local inspection of some of these areas will dispel the doubt about the practicability of this scheme.

(j) After all the agriculturists in a village have selected their lands, the remaining area will be converted into reserved forest. The area, given over to the villager in lieu of his having a free enjoyment of the whole area in the past; in future over the rest of the area he will not claim other than the right of way and water course if any.

(k) All these bare hills, which we see everywhere, if protected from beasts and men, will undoubtedly get covered by tree growth, within a few years time, and after about twenty or thirty years, there will be forests capable of yielding firewood and small timber. There is no need to spend large sums of money to plant up and grow an artificial forest. Nature, if left alone, will respond quickly enough. This is an essential thing to be remembered.

(l) In short the definite forest policy, which I wish to be laid down by the Government is that all agriculturists living in the vicinity of forests, ("forests" here means all non-agricultural lands, except road etc.) will be allowed to have reasonable area individually from the adjacent forest areas, for their enjoyment as private grazing grounds and forests provided such lands are improved and not neglected. The rest of the areas will form Government Reserve forest under the Forest Department.

(m) In the end, I may request the Prime Minister and the Revenue Minister (if necessary other Ministers and heads of the other department) to spend an hour with me on a trip of inspection to Udaisagar in the near future. Either morning or evening will do. Then I shall be able to explain this scheme in detail, pointing out various kinds of lands and the plots of Forest areas, protected by individual villagers. A date and time may kindly be fixed and may kindly be informed as soon as possible.

JAGIR FOREST

19. A considerable portion of the forests of the State is for the enjoyment of Jagirdars. Whatever might have been the conditions of the grant of Jagir Forests, Jagirdars have absolutely no right to destroy the forests. They can enjoy the interest, but they cannot encroach upon for the enjoyment of the agriculturists in these Jagirs, the Jagir forests must be treated exactly in the same way as the Khalsa forests. The Jagirdars should manage and improve these forests, but if they destroy them, the State must intervene to conserve it.

CONCLUSION

20. Our aim in improving the forests is the improvement of the agriculture and the land. The agriculturist is the backbone of the State and to improve his lot has been the guiding principle in all my service of thirty years in British India, I am an active agriculturist myself, and not a rent collecting land owner, and I know all his troubles.

21. If the scheme, I propose is sanctioned, we shall be ahead of British India and other States in land management, in as much as we shall not then have any "waste " land, which is no man's land. Here every kind of land will be under proper management. Though we start late, if we manage our lands property, we shall be far ahead of them in the long run.

22. In conclusion, I may be permitted to State that if the scheme proposed by me is to be introduced successfully in the State, it is essential that all departments of the State, particularly the Revenue Department, must co-operate with the Forest Department. Undesirable departmental jealousy is a common feature everywhere and I am informed that it is not absent here.

Pedal to Jungle – An Adventure Amidst Forests

Savita Dahiya
Deputy Conservator of Forests, Wildlife, Chittorgarh

One of the mandates of Forest Department is to bring people closer to nature so that an intimate relationship of care and conservation of natural heritage may be developed. With the aim of spreading environmental awareness, Chapter 2 of Pedal to Jungle voyage commenced on 30th Nov. 2018 from Baghdarrah Nature Park of Udaipur with 33 enthusiastic cyclists treading on a journey of 220 km through forests of southern Rajasthan. This event was organized by the Forest Department in association with Le Tour De India.

This arduous yet mesmerizing feat was completed by the participants from 5 states, including 4 lady riders, along with forest officials in 2 days and culminated in Sitamata Wildlife Sanctuary in Chittorgarh District on 2nd Dec 2018.

On day one, the cyclists left Baghdarrah Nature Park at 7.30am and reached the archeological site Jagat. On the way, they interacted with students and villagers spreading the message of using sustainable means of transport and role of citizens in protecting environment. Afterwards, they reached Jaisamand Sanctuary whereas they were briefed about role of wetlands in biodiversity conservation and sustainability of ecological pyramid. In addition, they engaged in eco-tourism activities like boating, cultural program and camping under stars under open skies.

Next morning, traversing through the dense Teak-Bamboo forests, cyclists left for Dhariyawad in Pratapgarh District. On the way, riders adored the rural country side, interacted with Eco Development Committees, and exchanged information about natural wealth of the region, culture, benefits of cycling vis-à-vis health and environment. After reaching Dhariyawad, the riders paid a visit to Jawahar Nagar nursery of Forest Department and learned about the gamut of operations of forestry sector. Thereafter, the riders headed for the Camping site of Anooppura cause-way located amidst centuries old Arjun and Jamun trees. After having dinner, an informal discussion was held with the nearby tribal villagers of Footi talai to elicit their dependency and intricate relationship of with forest and wildlife. Under the shade of mighty trees and chilling evening wind, the serious discussions about their dependency on forest soon shifted to cultural aspects. Out of nowhere, folk songs and devotional music filled up the adventurous evening with enjoyment.

Next morning, the participants embarked on the uneven terrains of Sitamata Wildlife Sanctuary, which is one of the richest biodiversity "hotspots" of Rajasthan and has large perennial rivers like Sitamata and Jakham. Crossing many rivulets and Nallahs, cyclists were astonished to know about the eco-system services provided by these protected areas in terms of food, fodder, oxygen and water providing life to tens of thousands of people. On the way, they came across various faunal species viz., crocodile, tortoise, fishes, cheetal, bluebull, snakes, birds, spiders etc.

Passing through pristine, deep forest and undulating rolling grasslands, the cyclists reached Damdama gate, Badisadri around noon. At Damdama gate, crowd of students, forest staff, villagers and media personnel greeted and cheered the riders and discussed ways and means to promote eco-tourism activities in this region.

This event was an all encompassing and everlasting experience of cyclists and locals who found a common ground in promoting simple way of life which is in consonance with mother nature and reminded us all of our sacrosanct duties of cherishing and conserving our natural wealth for years to come.

Glimpses of Pedal to Jungle

Orchid Festival of Rajasthan

Harini Venugopal
Deputy Conservator of Forests, Wildlife, Udaipur

Introduction:

Not many people know that the Orchid belt of Rajasthan has its occurrence from Todgarh-Raoli (spread over Ajmer, Pali and Rajsamand) to Mount Abu in Sirohi. This belt is extended upto Sitamata Wildlife Sanctuary and beyond upto Kundakhoh area of Baran district. Being a pro-runner of Mt. Abu, the Phulwari-Ki-Nal Wildlife Sanctuary supports many species of epiphytic and terrestrial orchids. The largest orchid belt of Rajasthan state is confined to Phulwari-Ki-Nal Wildlife sanctuary owing to the presence of the largest Mahua (Madhuca indica) groves.

About Orchids:

Orchids with their bewildering range of flowers and beautiful colour combinations provide a source of profound aesthetic pleasure. The striking resemblances of their flowers to various forms of animal life behold the attention of everyone who looks at them. Orchids belong to the family Orchidaceae which are a diverse and widespread family of flowering plants, with blooms that are often colourful and fragrant, commonly known as the orchid family. Orchids are easily distinguished from other plants, as they share some very evident, shared derived characteristics, or "apomorphies". Among these are: bilateral symmetry of the flower, many resupinate (being upside-down) flowers, a nearly always highly modified petal (labellum), fused stamens and carpels, and extremely small seeds. Epiphytic orchids, those that grow upon a support, have modified aerial roots that can sometimes be a few meters long. In the older parts of the roots, a modified spongy epidermis, called Velamen, has the function to absorb humidity from the air. It is made of dead cells and can have a silvery-grey, white or brown appearance.

Orchids and their occurrence in southern Rajasthan:

Epiphytic Orchids of Southern Rajasthan and their occurrence

Name of the Species	Occurrence *				
	Phulwari-Ki-Nal Wildlife Sanctuary	Mt.Abu Wildlife Sanctuary	Sitamata Wildlife Sanctuary	Kumbalgarh Wildlife Sanctuary	Todgad-Raoli Wildlife Sanctuary
Vanda tessellate	✓	✓	✓	×	×
Vanda testesea	×	✓	×	×	×
Acampe praemorsa	✓	×	✓	×	×
Aerides maculosum	✓	✓	✓	×	×
Aerides crispum	✓	✓	✓	×	×
Aerides multiflorum	×	✓	×	×	×

* Present (✓) Absent (×)

Terrestrial Orchids of Southern Rajasthan and their occurrence

Name of the Species	Occurrence *				
	Phulwari-Ki-Nal Wildlife Sanctuary	Mt.Abu Wildlife Sanctuary	Sitamata Wildlife Sanctuary	Kumbalgarh Wildlife Sanctuary	Todgad-Raoli Wildlife Sanctuary
Nervilia aragona	✓	×	✓	×	×
Peristylus constrictus	✓	×	✓	×	×
Peristylus stocksi	×	✓	×	×	×
Habenaria furcifera	✓	×	×	✓	×
Habenaria digitata	×	×	✓	×	×
Habenaria plantaginea	✓ (Ubeshwarji)	×	×	×	×

Habenaria longicorniculata	✓ (Ubeshwarji & Paba,Jhadol)	✓	×	✓	×
Habenaria marginata	×	✓	×	×	×
Eulophia ochreata	✓	✓	✓	✓	✓
Eulophia herbacea	✓	×	×	✓	×
Zeuxine strateumatica	×	×	×	✓	×
Geodorum recurvum	×	×	✓	×	×

* Present (✓) Absent (×)

Uses of Orchids:

Orchids are widely known for their cultivation of the flowers. The dried seed pods, underground tubers, dried leaves of some species are used as a food. Orchids are extremely popular for their mesmerizing marvelous flowers in the whole world, but it is in the lesser known that many species are used in traditional system of medicine and form remedial measures for number of ailments. Orchids have an abundant treasure of alkaloids, flavonoids, glycosides, carbohydrates and other phytochemicals.

Orchid Festival at Udaipur:

With this backdrop, an orchid festival was organized by the Forest Department, Govt. of Rajasthan, being first of its kind in the history of Rajasthan with the objective of creating awareness among the residents as well as tourists to see and enjoy indigenous orchids display and exotic orchids put for sale. The Orchid Festival was organized during July 27-29, 2018 at Sajjangarh Biological Park campus when indigenous orchids (both terrestrial and epiphytic) are in full bloom. The festival showed a footfall of approximately 1000 visitors who were really astonished when they came to know about the occurrence of orchids in the forests of Rajasthan and appreciated the efforts taken by forest department for providing an opportunity to see and enjoy the same. As creating awareness about biodiversity is the need of the hour, taking steps to organize such events helps to provide an insight about the occurrence of orchid diversity in Rajasthan among the public and sensitize people towards conservation of natural wealth of the forests of Rajasthan.

Orchidarium:

Orchidarium may generally refer to a vivarium, meant for the cultivation of orchids. From scientific point of view, it is an area specifically dedicated for collection of various orchids which are displayed owing to conservation, education and awareness. Forest Department has developed a small orchidarium at Panarva to display orchids of Phulwari Wildlife Sanctuary as well as of its surrounding areas, especially of southern Rajasthan. It was established with the objectives of the following:

1. Ex-situ conservation of the indigenous orchids of southern Rajasthan
2. Awareness
3. Education
4. Employment to local EDC members
5. Eco-tourism

Orchids displayed at Orchidarium, Panarwa

Terrestrial	Epiphytic
1. Eulophia ochreata 2. Eulophia herbacea 3. Habenaria furcifera 4. Habenaria longicorniculata 5. Habenaria plantaginea 6. Nervilia aragona 7. Peristylus constrictus	1. Acampe praemorsa 2. Aerides crispum 3. Aerides maculosum 4. Aerides multiflorum 5. Vanda tessellate

Best season to visit:

Terrestrial orchids can be seen during rainy season only when their underground parts start sprouting. Leafing, flowering and seeding occur in these orchids during rainy season. Epiphytic Orchids can be seen at any time but attractive flowering starts just before the onset of monsoon which lasts till July. Hence to see the flowering of both terrestrial and epiphytic orchids, the best time of visit is between June to September.


Orchidarium at Panarwa

Memories


UDAIPUR BIRD FESTIVAL
23-25 December, 2017


UDAIPUR BIRD FESTIVAL
REGISTRATION

Memories


UDAIPUR BIRD FESTIVAL


GITS UDAIPUR BIRD RACE
22nd December 2017