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Avifaunal diversity of Bhaniyana Wetland: An Oasis in the Jaisalmer, Rajasthan, India

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ABSTRACT: Bhaniyana Wetland in Jaisalmer district, situated in the Thar Desert of Rajasthan, supports exceptional avian diversity and plays a crucial role in bird conservation along the Central Asian Flyway. The study documented 125 bird species across multiple surveys, making it one of the richest wetlands in the desert region. Of these, the family Scolopacidae, consisting of waders and shorebirds, was most abundant, followed by Anatidae, Accipitridae, and Muscicapidae. The wetland supports numerous migratory and resident species, including Demoiselle Crane, Imperial Eagle, and several species of ducks, herons, and larks. Notably, species such as Greater Flamingo, Osprey, Red-necked phalarope and White-browed Fantail Flycatcher were recorded for the first time in this region, reflecting the wetland's ecological richness and habitat variety. According to the IUCN Red List (2025-2), most species were of Least Concern, with eight species under threat categories—two Endangered (Steppe Eagle, Egyptian Vulture), two Vulnerable (Common Pochard, Tawny Eagle), and four Near Threatened. Comparatively, Bhaniyana exhibits higher diversity than other wetlands in Rajasthan and Haryana. Despite its importance, the site faces pressures like invasive mesquite growth and minor sand mining. The study recommends designating Bhaniyana as an Important Bird and Biodiversity Area (IBA) to ensure long-term conservation of its avian fauna and habitats.

Keywords: Avian diversity, village water body, wetland, Central Asian Flyway, Thar Desert, Rajasthan.

INTRODUCTION

Birds are among the planet's most striking and diverse organisms, possessing a variety of specialized adaptations that allow them to thrive in habitats ranging from shrub lands and forests to aquatic environments. In addition to their beauty, birds fulfil numerous ecological roles like they act as pollinators, scavengers, predators, bio-indicators of ecosystem health, and function as an early warning system for environmental change. Across India, ornithologists have conducted extensive research on bird populations across different landscapes and protected regions, revealing their broad ecological significance and contributions to biodiversity monitoring (Dhadse *et al.*, 2009; Barua and Sharma 1999; Mahabal, 2000; Aravind *et al.*, 2001; Urfi, 2003; Sivaperuman *et al.*, 2005; Kumar, 2007; Harisha and Hosetti 2009; Barsal and Inskipp 2009; Maity *et al.*, 2010; Saikia and Saikia 2011; Lameed, 2012; Bibi and Ali, 2013; Wijesundara and Wijesundara 2014; Abbas *et al.*, 2014; Indika and Mahaulpatha 2015).

On the other hand, research on birds are limited to few landscape level studies from Western Rajasthan. Insight into the avian life in Thar Desert highlighted by Rahmani (1997), Sivaperuman *et al.* (2005). Importantly Rahmani (1997) pointed out significantly on the changing trends of avian communities and guilds in desert landscape from species of open arid habitat to moist, forest and water loving species. Later Rahmani and Soni (1997) gave emphasis on the impact of irrigation canals and probable future changes in the landscape with reference to avian diversity.

The Desert wetlands are among the most valuable natural resources. The present study was an attempt to document the diverse nature of birds from a single wetland. Bhaniyana wetland is one of the lesser known water body in Jaisalmer district of Thar Desert of Rajasthan. Bhaniyana Wetland near Pokhran plays a critical role in bird conservation in Jaisalmer district due to its function as a key habitat for resident and migratory bird species, including several with threatened or endangered status. The objective was to highlight its importance as important site for migratory birds and position in the middle of Central Asian Flyways. Bhaniyana Wetland and its pond serve as significant resting, feeding, and breeding sites for a variety of birds, particularly during winter migration periods. Migratory species such as the Demoiselle

Crane, Imperial Eagle, and other waterfowl use this wetland as a major stopover or wintering ground along their Central Asian migratory flyway. The wetland supports more than high diversity of bird species, including those listed as Critically Endangered and Endangered, providing safe habitat like food and shelter vital for their survival.

MATERIAL AND METHODS

A. Study area

It is located in the Pokaran Tehsil, on Pokaran-Barmer road, is an inland wetland, having a unique physical position amidst desert (Fig. 1 and 2). It stretches from 26° 38′ 49.80″ N, 71° 50′ 59.18″ E in North; 27° 37′ 02.33″ N, 71° 50′ 56.32″ E in South; 26° 37′ 50.51″ N, 71° 52′ 05.23″ E in East and 26° 38′ 02.68″ N, 71° 50′ 37.84″ E in West, with an estimated area of 3.5 km^2. We are documenting the biodiversity of Western Rajasthan and over the years, during long time monitoring of few significant and strategically important water bodies for avian diversity point of view, it was surveyed regularly in Western Rajasthan.

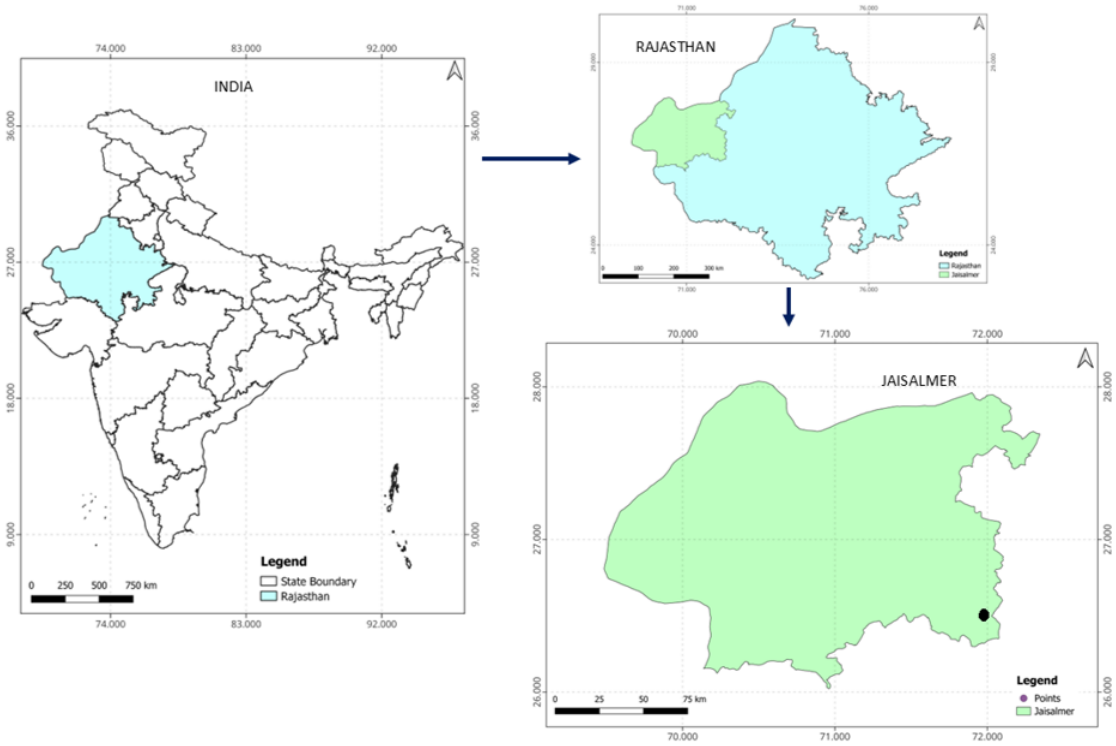

Fig. 1. Location of Bhaniyana Wetland in Jaisalmer district of Rajasthan, India.

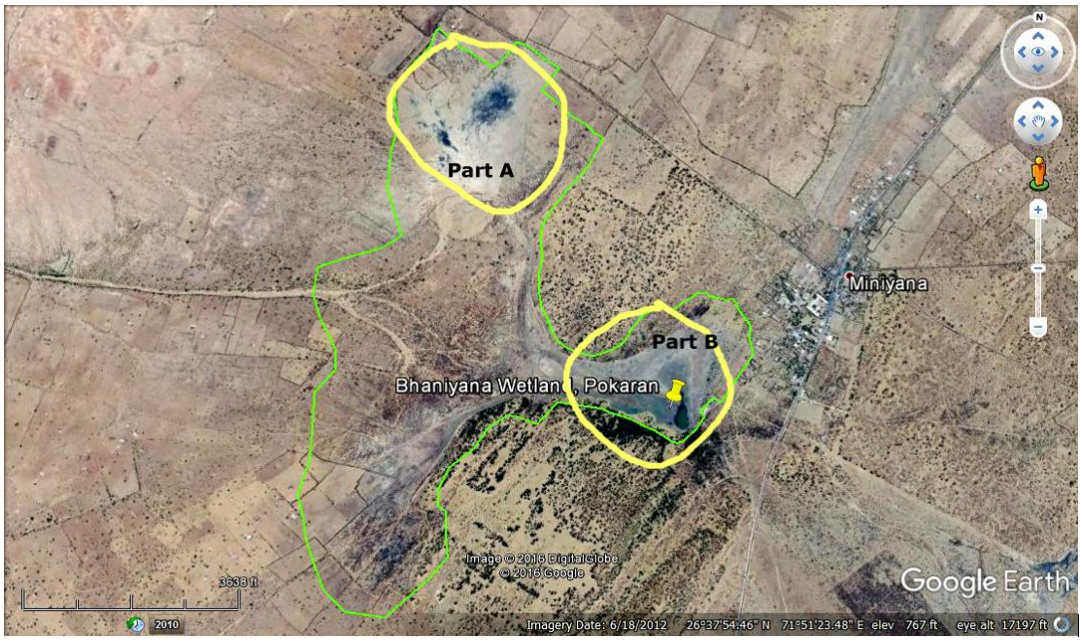

Fig. 2. Bhaniyana Wetland and its surrounding landscape (Source: Google Map).

B. Methodology

The checklist enumeration was done using standard protocol as suggested by Bibby *et al.* (2000), identification based on Grimmett *et al.* (2011) and nomenclature as mentioned by Praveen and Jaypal (2016). The bird survey of Bhaniyana wetland was done three times from Nov. 2016 to Feb. 2017 and intermittently after wards every year upto Dec. 2024, respectively, by a team of experienced birders, to observe various migratory as well as resident birds of this inland wetland ecosystem.

RESULTS AND DISCUSSION

During all the three surveys, a total of 125 bird species were encountered, which in itself is a very good record for any single wetland of the entire Thar Desert of Rajasthan (Sivaperuman *et al.*, 2005). Of these 125 bird species, family Scolopacidae was represented by maximum number of species with 11 species. It is a family of sandpipers, phalaropes, shanks, stilt, ruff and snipes. All these are further regrouped under a very important category of wetland birds "Waders" or "Shore Birds" (Praveen and Jaypal 2016). The majority of these species eat small invertebrates picked out of the mud or soil. Different lengths of bills enable different species to feed in the same habitat, particularly on the coast, without direct competition for food. Their large congregation as per the number of species representing in this wetland, reflect it as an important water body and having very gentle slope and aspect for allowing them to feed on its prey items (Singh, 2014).

This family was followed by three other families with each one was represented by 8 species separately. These are Anatidae, Accipitridae and Muscicapidae. The Anatidae are the biological family of birds that includes ducks, geese, and swans. The family has a cosmopolitan distribution, occurring on all the world's continents. These birds are adapted for swimming, floating on the water surface, and in some cases diving in at least shallow water. They are generally herbivorous and number of species undertakes annual migrations. At Bhaniyana wetland, large number of dabbling ducks like Common Pochard, Northern Shoveller, Common Teal, Gadwall, Mallard, Northern Pintail and Tufted Pochard as winter migratory and Spot-billed Duck as a resident, were reported. Their presence in large number indicates values and importance of this wetland in Thar. Mallard is a very specific and habitat sensitive species, and its sighting in entire Rajasthan is from very few water bodies (Singh, 2014). Therefore, its presence in Bhaniyana wetland is quite noteworthy.

Family Motacillidae and Alaudidae was represented by 7 species. Motacillidae is a family of small passerine birds with medium to long tails which includes wagtails and pipits. This family also refers to the birds of shore loving habitat, which is very important for them to find invertebrates to feed upon. There were total 4 species of wagtails and 3 species of pipits. All of them were migratory and visited during winters at Thar Desert. Family Alaudidae is generally found in wide habitats, but many species live in dry regions too. It was represented by larks, as the wetland was situated in between desert, 4 species of larks were seen in the peripheral area and exposed parts of the back water area of wetland. Family Ardeidae was represented by 6 species of birds. It includes herons and egrets; they are medium to large wading birds found mostly on coastal and inland waterways. Their presence along with all other water loving birds capitalized the importance of a functional wetland ecosystem. Family Sturnidae was represented by 5 different species of myna and starlings, including winter migrant Rosy Starling and Common Starling, whereas resident ones as Brahminy Starling, Common Myna and Bank Myna. This wetland is close to village Bhaniyana, which is a moderate sized village, having livestock too. Thus the good number of Myna/Starling diversity can be correlated to the human presence in the proximity of wetland and cattle grazing in the catchment area (Rahmani and Soni 1997).

Family Threskiornithidae, Columbidae and Hirundinidae were represented by 4 species each. The family Threskiornithidae includes large wading birds namely Ibises and Spoonbills. They mainly feed upon invertebrates and fishes in shallow water as well as muddy banks. The family Clumbidae is represented by pigeon and doves. Family Hirundinidae was represented by swallows and martins**.** It is a group of passerine birds that are characterised by their adaptation to aerial feeding (Singh, 2014). They mainly feed on the aerial insects while taking very fast and swift sorties on water surface.

Family Rallidae, Charadriidae and Laniidae were represented by 3 species each. Family Rallidae is a large cosmopolitan family of small- to medium-sized ground-living birds. The family exhibits considerable diversity and also includes the crakes, coots, and gallinules. Many species are associated with wetlands. The most common habitat for rallies is marshland. They are especially fond of dense vegetation in wetlands. Their present in Bhaniyana is interesting to correlate with the vegetation health of the wetland. Family Charadriidae was represented by plovers and lapwings, mainly feeding on shore of the wetland and contributes largely in wader community of birds. They are very important and represent health of water body. It was interesting to note that 3 pair of White-tailed Lapwing was sighted in this water body and it is a unique record for Thar Desert. Family Laniidae was shrikes, namely Isabelline shrike (also known as Rufous-tailed shrike), Long-tailed Shrike (also known as Rufous-backed shrike) and Southern Grey Shrike were sighted.

Family Phasianidae, Gruidae, Strigidae, Meropidae, Coraciidae, Pycnonotidae, Leiothrichidae, Sylviidae, Cisticolidae, Passeridae and Corvidae were represented by 2 species each. The Phasianidae is a family of heavy, ground living birds which includes pheasants, partridges, junglefowl, chickens, Old World quail, and peafowl. The family includes many of the most popular gamebirds. At Bhaniyana, only Grey Francolin (also known as Grey Partridge) and Indian Peafowl were seen from this family. Family Gruidae Demoiselle Crane and Common Crane, both of them are migratory bird in nature and visits in large number. Family

Strigidae being represnetted by spotted owlet and Indian scops owl. Family Meropidae includes bee-eaters, and at this wetland and its surrounding Small Green Bee-eater and Blue-cheeked bee-eater were reported. Family Coraciidae was represented by Eurasian Roller and Indian Roller. Among them, Eurasian Roller is a migratory for this region. The group gets its name from the aerial acrobatics some of these birds perform during courtship or territorial flights (Vyas, 2019). Rollers resemble crows in size and build, and share the colourful appearance of kingfishers and bee-eaters, blues and pinkish or cinnamon browns predominating. The two inner front toes are connected, but not the outer one. They are mainly insect eaters, with the genus *Coracias* diving from a perch to catch food items from on the ground, like giant shrikes. Family Pycnonotidae was represented by Red-vented Bulbul and White-cheeked Bulbul. Both of these are resident bird of this region. Family Leiothrichidae includes Babblers (Common Babblers and Large Grey Babbler) from this wetland and its surrounding areas. They mainly feed on small insects and live in a small to moderate flock. Family Sylviidae represented by Asian Desert Warbler and Common Lesser Whitethroat. The later one is a winter visitor and both of them feeds on small insects in the tree foliage on the marginal and catchment part of this wetland. Family Cisticolidae represented by Common Tailorbird and Plain Prinia from this part of Thar Desert. Sighting of Tailorbird from this wetland is a unique record, as it is a bird usually found upto Jodhpur and slowly invading in the desert. Family Passeridae was represented by House Sparrow and Chestnut-shouldered Petronia. Both of these species are resident of this area and found in desert country too. Family Corvidae was reported as House Crow and Raven, both of these are resident birds. During winters population of Raven also increases in Western Rajasthan (Singh, 2014).

Total 22 families were represented by single species each, namely Podicipedidae (Little Grebe), Phlarocoracidae (Little Cormorant), Phoenicopteridae (Greater Flamingo), Pandionidae (Osprey) Falconidae (Eurasian Kestrel), Recurvirostridae (Black-winged Stilt), Burhinidae (Stone Curlew), Laridae (River Tern), Pteroclidae (Chesnut-bellied Sandgrouse), Psittaculidae (Rose-ringed Parakeet), Cuculidae (Greater Coucal), Tytonidae (Barn Owl), Alcedinidae (White-breasted Kingfisher) Apodidae (House Swift), Upopidae (Hoopoe), Tephrodornithidae (Common Woodshrike), Dicruridae (Black Drongo), Rhipiduridae (White-browed Fantail flycatcher), Alcedinidae (White-breasted Kingfisher), Phylloscopidae (Common Chiffchaff), Nectariniidae (Purple Sunbird), Estrildidae (Indian Silverbill), Dicruridae (Black Drongo) and Rhipiduridae (White-browed Fantail flycatcher) . Among them, sighting of Greater Flamingo from this wetland is a new record for Jaisalmer district and reflects its gentle slope and slow gradient of water body, as Flamingo is a large sized wader and feeds exclusively on diatoms and microscopic flora and fauna. Sighting of osprey reflects good fish population in the wetland, as it feeds exclusively on medium to large sized fishes only. Whereas presence of river turn in this wetland shows a good number of small sized fish flourish here. White-browed Fantail Flycatcher is another unique bird, usually found in well wooded area and feeds upon flying insects. Over the last 3-4 years it has invaded many areas of Thar Desert, which was due to the intensified *Acacia tortilis* plantation on sand dunes, canal irrigation and changed land use practices in desert created suitable habitat for this bird.

The high number of bird species and their varied feeding guild makes this area as one of the high bird diversity area as fully functional Bhaniyana wetland system and makes it as a good and health inland lake with high diversity of birds during winter months.

Table 1: List of all bird species seen during survey in Bhaniyana wetland and its surrounding.

Sr. No.	Family	Common Name	Scientific Name	Status	IUCN Status
1.	Podicipedidae	Little Grebe	*Tachybaptus ruficollis*	C	LC
2.	Phlacrocoracidae	Little Cormorant	*Phalacrocorax niger*	UC	LC
3.	Ardeidae	Little Egret	*Egretta garzetta*	C	LC
4.		Grey Heron	*Ardea cinerea*	UC	LC
5.		Indian Pond Heron	*Ardeola grayii*	UC	LC
6.		Intermediate Egret	*Mesophoyx intermedia*	UC	LC
7.		Cattle Egret	*Bubulcus ibis*	C	LC
8.		Indian Pond-Heron	*Ardeola grayii*	C	LC
9.	Threskiornithidae	Glossy Ibis	*Plegadis falcinellus*	C	LC
10.		Black-headed Ibis	*Threskiornis melanocephalus*	UC	**NT**
11.		Red-naped Ibis	*Pseudibis papillosa*	C	LC
12.		Eurasian Spoonbill	*Platalea leucorodia*	UC	LC
13.	Phoenicopteridae	Greater Flamingo	*Phoenicopterus rubber*	R	LC
14.	Anatidae	Gadwall	*Anas strepera*	UC	LC
15.		Mallard	*Anas platyrhynchos*	R	LC
16.		Indian Spot-billed Duck	*Anas poecilorhyncha*	C	LC
17.		Northern Shoveller	*Anas clypeata*	UC	LC
18.		Northern Pintail	*Anas acuta*	UC	LC
19.		Common Teal	*Anas crecca*	C	LC
20.		Common Pochard	*Aythya farina*	R	**VU**
21.		Tufted Pochard	*Aythya fuligula*	UC	LC

22.	Accipitridae	Black-Winged Kite	*Elanus caeruleus*	C	LC
23.		Black Kite	*Milvus migrans*	C	LC
24.		Shikra	*Accipiter badius*	C	LC
25.		Egyptian Vulture	*Neophron percnopterus*	C	**EN**
26.		Western Marsh Harrier	*Circus aeruginosus*	UC	LC
27.		Long-legged Buzzard	*Buteo rufinus*	UC	LC
28.		Tawny Eagle	*Aquila rapax*	UC	**VU**
29.		Steppe Eagle	*Aquilla nipalensis*	UC	**EN**
30.	Pandionidae	Osprey	*Pandion haliaetus*	R	LC
31.	Falconidae	Eurasian Kestrel	*Falco tinnunculus*	C	LC
32.	Phasianidae	Grey Francolin	*Ortygornis pondicerianus*	C	LC
33.		Indian Peafowl	*Pavo cristatus*	C	LC
34.	Gruidae	Demoiselle Crane	*Grus virgo*	C	LC
35.		Common Crane	*Grus grus*	UC	LC
36.	Rallidae	White-breasted Waterhen	*Amaurornis phoenicurus*	C	LC
37.		Eurasian Moorhen	*Gallinula chloropus*	C	LC
38.		Eurasian Coot	*Fulica atra*	C	LC
39.	Charadriidae	Little-ringed Plover	*Charadrius dubius*	C	LC
40.		Red-wattled Lapwing	*Vanellus indicus*	C	LC
41.		White-tailed Lapwing	*Vanellus leucurus*	R	LC
42.	Scolopacidae	Common Snipe	*Gallinago gallinago*	UC	LC
43.		Red-necked phalarope	*Phalarope lobatus*	R	LC
44.		Common Redshank	*Tringa tetanus*	C	LC
45.		Marsh Sandpiper	*Tringa stagnatilis*	C	LC
46.		Common Greenshank	*Tringa nebularia*	C	LC
47.		Green Sandpiper	*Tringa ochropus*	C	LC
48.		Wood Sandpiper	*Tringa glareola*	C	LC
49.		Common Sandpiper	*Actitis hypoleucos*	C	LC
50.		Little Stint	*Calidris minuta*	C	LC
51.		Ruff	*Philomachus pugnax*	C	LC
52.		Black-tailed Godwit	*Limosa limosa*	UC	**NT**
53.	Recurvirostridae	Black-winged Stilt	*Himantopus himantopus*	C	LC
54.	Burhinidae	Indian thick-knee	*Burhinus indicus*	UC	LC
55.	Laridae	River Tern	*Sterna aurantia*	UC	VU
56.	Columbidae	Rock Pigeon	*Columba livia*	C	LC
57.		Red Collared-Dove	*Streptopelia tranquebarica*	C	LC
58.		Eurasian Collared-Dove	*Streptopelia decaocto*	C	LC
59.		Laughing Dove	*Streptopelia senegalensis*	C	LC
60.	Pteroclidae	Chestnut-bellied Sandgrouse	*Pterocles exustus*	C	LC
61.	Psittaculidae	Rose-ringed Parakeet	*Psittacula krameri*	C	LC
62.	Cuculidae	Greater Coucal	*Centropus sinensis*	C	LC
63.	Strigidae	Spotted Owlet	*Athene brama*	C	LC
64.		Indian scops owl	*Otus bakkamoena*	UC	LC
65.	Tytonidae	Barn Owl	*Tyto alba*	UC	LC
66.	Apodidae	Little Swift/House Swift	*Apus affinis*	C	LC
67.	Alcedinidae	White-breasted Kingfisher	*Halcyon smyrnensis*	C	LC
68.	Meropidae	Small Bee-eater	*Merops orientalis*	C	LC
69.		Blue-cheeked Bee-eater	*Merops persicus*	UC	LC
70.	Coraciidae	Indian Roller	*Coracias benghalensis*	C	**NT**
71.		European Roller	*Coracias garrulus*	C	LC
72.	Upupidae	Eurasian Hoopoe	*Upupa epops*	C	LC
73.	Alaudidae	Ashy-crowned sparrow-Lark	*Eremopterix griseus*	C	LC
74.		Black-crowned sparrow-lark	*Eremopterix nigriceps*	C	LC
75.		Rufous-tailed Lark	*Ammomanes phoenicura*	C	**NT**
76.		Greater short-toed lark	*Calendrella brachydactyla*	C	LC
77.		Bimaculated Lark	*Melanocorypha bimaculata*	C	LC
78.		Indian Bushlark	*Plocealauda erythroptera*	C	LC
79.		Crested Lark	*Galerida cristata*	C	LC
80.	Hirundinidae	Plain Martin	*Riparia paludicola*	C	LC
81.		Dusky Crag Martin	*Ptyonoprogne concolor*	C	LC
82.		Eastern Red-rumped Swallow	*Cecropis daurica*	C	LC
83.		Streak-throated Swallow	*Petrochelidon fluvicola*	C	LC

84.	Motacillidae	White Wagtail	*Motacilla alba*	C	LC
85.		White-browed Wagtail	*Motacilla maderaspatensis*	C	LC
86.		Citrine Wagtail	*Motacilla citreola*	C	LC
87.		Grey Wagtail	*Motacilla cinerea*	C	LC
88.		Paddyfield Pipit	*Anthus rufulus*	C	LC
89.		Long-billed Pipit	*Anthus similis*	C	LC
90.		Tawny Pipit	*Anthus campestris*	C	LC
91.	Tephrodornithidae	Common Woodshrike	*Tephrodornis pondicerianus*	UC	LC
92.	Pycnonotidae	White-eared Bulbul	*Pycnonotus leucotis*	C	LC
93.		Red-vented Bulbul	*Pycnonotus cafer*	UC	LC
94.	Laniidae	Isabelline Shrike	*Lanius isabellinus*	UC	LC
95.		Long-tailed Shrike	*Lanius schach*	C	LC
96.		Great Gray Shrike	*Lanius excubitor*	C	LC
97.	Muscicapidae	Bluethroat	*Luscinia svecica*	C	LC
98.		Indian Robin	*Copsychus fulicatus*	C	LC
99.		Black Redstart	*Phoenicurus ochruros*	C	LC
100.		Pied Bushchat	*Saxicola caprata*	C	LC
101.		Common Stonechat	*Saxicola torquatus*	C	LC
102.		Brown Rock Chat	*Cercomela fusca*	C	LC
103.		Desert Wheatear	*Oenanthe deserti*	C	LC
104.		Variable Wheatear	*Oenanthe picata*	C	LC
105.	Leiothrichidae	Common Babbler	*Argya caudata*	C	LC
106.		Large Grey Babbler	*Argya malcolmi*	C	LC
107.		Jungle Babbler	*Argya striata*	C	LC
108.	Sylviidae	Lesser Whitethroat	*Sylvia curruca*	C	LC
109.		Asian Desert Warbler	*Sylvia nana*	UC	LC
110.	Cisticolidae	Common Tailorbird	*Orthotomus sutorius*	C	LC
111.		Plain Prinia	*Prinia inornata*	C	LC
112.	Phylloscopidae	Common Chiffchaff	*Phylloscopus collybita*	C	LC
113.	Nectariniidae	Purple Sunbird	*Cinnyris asiaticus*	C	LC
114.	Estrildidae	Indian Silverbill	*Euodice malabarica*	C	LC
115.	Passeridae	House Sparrow	*Passer domesticus*	C	LC
116.		Yellow-throated Sparrow	*Gymnoris xanthocollis*	C	LC
117.	Sturnidae	Brahminy Starling	*Sturnus pagodarum*	C	LC
118.		Rosy Starling	*Pastor roseus*	C	LC
119.		European Starling	*Sturnus vulgaris*	C	LC
120.		Common Myna	*Acridotheres tristis*	C	LC
121.		Bank Myna	*Acridotheres ginginianus*	C	LC
122.	Dicruridae	Black Drongo	*Dicrurus macrocercus*	C	LC
123.	Rhipiduridae	White-browed Fantail Flycatcher	*Rhipidura aureola*	C	LC
124.	Corvidae	House Crow	*Corvus splendens*	C	LC
125.		Common Raven	*Corvus corax*	C	LC

C: Common, UC: Uncommon & R: Rare. Based on frequency of sightings.
LC: Least Concern, VU: Vulnerable, NT: Near Threatened and EN: Endangered, as per IUCN Red List Assessment version 2025-2.

According to IUCN Red List version 2025-2, 117 species were Least Concern (LC), 4 species were Near Threatened (NT), 2 species were Vulnerable (VU) and 2 species were Endangered (EN) (Table 1). The Near Threatened (NT) species include Black-headed Ibis (*Threskiornis melanocephalus*), Black-tailed Godwit (*Limosa limosa*), Indian Roller (*Coracias benghalensis*) and Rufous-tailed Lark (*Ammomanes phoenicura*). Vulnerable (VU) species are Common Pochard (*Aythya farina*) and Tawny Eagle (*Aquila rapax*) and Egyptian Vulture (*Neophron percnopterus*) and Steppe Eagle (*Aquila nipalensis*) represent the Endangered (EN) species.

Wetlands like Bhaniyana are crucial for maintaining avian biodiversity by fulfilling essential ecological functions such as breeding, feeding, and roosting for birds. Over the years, role of such large wetlands in the middle of Central Asian Migratory Flyway become crucial as it helps many long distance migratory birds to re-fuel to continue their journey further in to the sub-continent as well as in their return journey towards nesting and breeding grounds. In the present study total 125 species of birds were documented, which was a very high diversity count for any wetland in the Thar Desert region, as only 77 species were recorded from Ana Sagar lake in Ajmer (Khiyani, *et al*., 2022). Singh (2014) documented avian diversity of Jodhpur city and its surrounding, including varied habitats including water bodies, with 278 and also highlighted that consistent increase in the numbers of species from 177 to 278 within a decadal period. Sisodia and Moundiotiya (2005) documented over 180 species from two very prominent wetlands namely Jal Mahal from Jaipur and Kalakho from Tonk. Whereas Moundiotiya *et al*. (2005) reported 100 species of birds from Jamwa Ramgarh, a prominent wetland near Jaipur city. On the

other hand, Chopra *et al*. (2017) documented 104 species from one of the prominent wetland Bhindawas National Park in Haryana.

Thar Desert is having high diversity including birds, as mentioned by Sivaperuman *et al*. (2005) and many water loving birds started exploring the landscape since way back as clearly speculated in the surge in numbers of water birds by Rahmani and Soni (1997). As expected, wetlands across the Aravalli hills have high diversity but the present study reveals that wetlands in Thar Desert also holds very high diversity and contribute significantly in the conservation of avifauna.

CONCLUSIONS

Currently Bhaniyana wetland is serving a major water source for nearby human settlements, people drink water from this wetland. Its catchment is largely infested with massive growth of invasive mesquite plant and small scale sand mining in the catchment was also observed. Over the years of community level management and maintenance of this water body attracted large number of birds and properly juxtaposed in the arid landscape of Jaisalmer, it serves a very important stoppage zone for many migratory bird species of global conservation concerns. This wetland deserves to be highlighted as Important Bird and Biodiversity Area (IBA) and we propose this site for the same for long term conservation of avifauna in the Central Asian Flyway.

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REFERENCES

Abbas, S., Tabassum, R., Khan, M. Z., Khan, B., Hussain, S., Khan, G. and Awan, S. (2014). Avian diversity in Central Karakoram National Park, Gilgit-Balistan. *International Journal of Agriculture and Biology*, *16*(2), 377-382.

Aravind, N. A., Rao, D. and Madhusudan, P. S. (2001). Additions to the birds of Biligiri Rangaswamy temple wildlife sanctuary, Western Ghats, India. *Zoo's Print Journal*, *16*(7), 541-547.

Barsal, H. S. and Inskipp, C. (2009). The birds of Sukla Phanta wildlife reserve, Nepal. *Our Nature*, *7*, 56-81.

Barua, M. and Sharma, P. (1999). Birds of Kaziranga National Park, India. *Foktail*, *15*, 47-60.

Bibby, C. J., Burgess, N. D., Hill, D. A., and Mustoe, S. H. (2000). *Bird Census Techniques*, 2nd *Ed.* Academic Press, London, 1-324.

Bibi, F. and Ali, Z. (2013). Measurement of diversity indices of avian communities at Taunsa barrage wildlife sanctuary, Pakistan. *The Journal of Animal & Plant Sciences*, *23*(2), 469-474.

Chopra, G., Rai, D. and Jyoti (2017). Avian diversity and their status in and around Bhindawas bird sanctuary, Haryana (India). *Journal of Applied and Natural Science*, *9*(3), 1475-1481.

Dhadse, S., Kotangale, J. P., Chaudhari, P. R. and Wate, S. R. (2009). Diversity of birds at Panipat refinery, Haryana (India). *Environmental Monitoring and Assessment*, *158*, 1-8.

Grimmett, R., Inskipp, C., and Inskipp, T. (2011). *Birds of the Indian Subcontinent. 2nd Ed.* Oxford University Press & Christopher Helm, London, 1-528 p.

Harisha, M. N. and Hosetti, B. B. (2009). Diversity and distribution of avifauna of Lakkavalli range forest, Bhadra wildlife sanctuary, Western Ghat, India. *Ecoprint*, *16*, 21-27.

Indika, J. and Mahaulpatha, D. W. A. (2015). Patterns of seasonal abundance and diversity in the waterbird community of Anavilundawa sanctuary. *Wildlanka*, *3*(1), 31-37.

IUCN 2025. The IUCN Red List of Threatened Species. Version 2025-2. <https://www.iucnredlist.org>

Khiyani, S., Choudhary, R., Sharma, V., Chandra, S. and Mathur, P. (2022). Community structure and habitat utilization with reference to water depth by wetland birds at Anasagar Lake, Ajmer, Rajasthan. *International Journal of Zoology Studies*, *7*(1), 22-28.

Kumar, J. I. N. (2007). Pattern of seasonal abundance and diversity in the waterbird community of Nal lake bird sanctuary, Gujarat, India. *Bird Populations*, *8*, 1-20.

Lameed, G. A. (2012). Species diversity and richness of wildbirds in Dagona waterfowl sanctuary, Nigeria. *African Journal of Food, Agriculture, Nutrition and Development*, *12*(5), 6461-6478.

Mahabal, A. (2000). Birds of Talra wildlife sanctuary in lower Western Himalaya, H. P., with notes on their status and attitudinal movements. *Zoo's Print Journal*, *15* (10), 334-338.

Maity, S., Balachandran, S. and Chaudhury, S. (2010). Inter dependency of macrophytes and avian diversity in the wetlands of Ballavpur wildlife sanctuary, Santiniketan. *Science and Culture*, *76*(5-6), 180-184.

Moundiotiya, C., Kulshreshtha, M., Bhatia, A.L. and Sisodia, R. (2005). Diversity of avifauna of Jamwa Ramgarh wetland of Rajasthan in India. *Journal of Environmental Biology*, *26*(3), 579-83.

Praveen, J. Jayapal, R. and Pittie, A., (2016). A checklist of the birds of India. *Indian BIRDS*, *11*(5&6), 113-170.

Rahmani, A. R. (1997). *Wildlife in the Thar*. World Wide Fund for Nature, New Delhi. 1-100 p.

Rahmani, A. R. and Soni, R. G. (1997). Avifaunal changes in the Indian Thar Desert. *Journal of Arid Environments*, *36*, 687–703.

Saikia, P. K. and Saikia, M. K. (2011). Present distribution, status and ecology of White-winged Duck and Hornbills in Nameri National Park, considering the tropical forest distribution of Assam. *Zoo's Print Journal*, *24*, 1-11.

Singh, H. (2014). Avian Diversity of Wetlands in and Around Jodhpur, Western Rajasthan. In In book: *Aquatic Ecosystem: Biodiversity, Ecology and Conservation* (Eds. M. Rawat, S. Dookia and C. Sivaperuman) Springer India.

Sisodia, R. and Moundiotiya, C. (2005). Biodiversity of Jal Mahal Lake and Kalakho Lake, Rajasthan, India with special reference to avifauna. *International Journal of Environmental Studies*, *62*(6), 621-641.

Sivaperuman, C., Dookia S., Kankane P. L., Baqri, Q. H. (2005). Diversity, abundance and dominance of avian species in the Thar Desert of Rajasthan. In: *Changing Faunal Ecology in Thar Desert* (Eds. B.K. Tyagi and Q.H. Baqri). Scientific Publishers, 187-229 pp.

Urfi, A. J. (2003). The birds of Okhla barrage bird sanctuary Delhi, India. *Forktail*, *19*, 39-50.

Vyas, S. (2019). The birds of the Delhi area: An annotated checklist. *Indian BIRDS Monograph, 1*, 1–128.

Wijesundara, C. and Wijesundara, M. (2014). Bird diversity of Dekinda forest reserve, Balana, Sri Lanka: Implications for conservation. *Ceylon Journal of Science*, *43*(1), 137-146.

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