



Determination of spectrum of winter migratory birds in Yamuna Nagar district in Haryana (India)

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Abstract

During the three years of study (2005-08), some 58 species of wetland birds were observed in approximately 120 village ponds; out of these, atleast 28 species of wetland birds are winter migratory, coming from far off places located across the Himalayas. During the winter sojourns, these winter migratory birds face multiple threats in rural ponds of Haryana due to cipher attention of conservation authorities and persistent and accelerated utilization of rural ponds by the resident villagers. If the present admixture of interference and disturbance continues, then winter migratory birds like Bar-headed Goose (*Anser indicus*), Greylag Goose (*Anser anser*), Common Coot (*Fulica atra*), Northern Shoveller (*Anas clypeata*), Northern Pintail (*Anas acuta*), Common Teal (*Anas crecca*), Gadwall (*Anas strepera*), Mallard (*Anas platyrhynchos*), Common Pochard (*Aythya ferina*), Tufted Pochard (*Aythya fuligula*), Brahminy Shelduck (*Tadorna ferruginea*) and Red-crested Pochard (*Rhodonessa rufina*) will be wiped out just like Siberian Cranes arrived in Keoladeo National park in Rajasthan in India. The Ministry of Environment and Forests, Government of India should pay timely attention to save migratory birds that visit India every winter in Lakhs and Crores.

Keywords: *Migratory Birds, Rural Ponds, Threats, Yamuna nagar, Haryana.*

Introduction

The present study focusing attention on finding out the diversity of winter migratory birds that come to rural ponds in Yamunanagar district (30.1° N 77.28° E) having an area of 1569 sq. kms and located on the banks of Yamuna river at a distance of 190 kms from Delhi and juxtaposed with Saharanpur District of Uttar Pradesh (35 KMs east of Saharanpur). The avifaunal studies in the Indian subcontinent have been conducted by several scientists like Ali (1962, 1969); Ali and Ripley (1983); Grimmet *et al* (1998); Bhatnagar *et al.* (2008); Higuchi *et al.* (2008); Kasambe (2008); Saikia *et al.* (2008); Sibley and Monroe (1990); Baker and Inglis (1930); Manakadan and Pittie (2001); Kazmierczak (2000); Pandey *et al.* (2008); Kumar *et al.* (2005).

In Haryana, ornithological studies have been carried out by Yadav and Maleywar (1978)

Kalsi (1998), Gupta and Bajaj (1989, 1991a, 1991b, 1996 Gupta and Midha, 1992, 1993, 1994a-d, 1995a-c) Gupta and Goel (1994), Gupta and Kumar (2009) and on wetland birds by Gupta and Bajaj (1997, 1998, 1999, 2000; Gupta *et al.*, 2009, 2010a-c).

It is pertinent to mention that village ponds in Yamunanagar district in Haryana were staffed with winter migratory birds. However, no studies have been carried on the avian biodiversity of village ponds in Yamunanagar District (30.1° N 77.28° E) and hence the present study has been carried out.

Materials and Method

The present studies were conducted for a period of three years (2005-08) during winter seasons (September to April) and approximately 120 rural ponds were visited in 90 villages. Observations were made by covering the shores of each pond foot by foot, and extensive photography was exercised. The camera used was Zenith (Model 1986) with 200 M telelens. The wetland bird's species which were observed were further segregated according to their residential status categories like "Resident"

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“Winter Migratory” “Local Migratory” and “Summer Migratory” by following the technique developed by Kumar *et al.* (2005). Identification of birds was done by following Ali (1996); Ali and Ripley (1983); Grimmet *et al.* (1998); Alfred *et al.* (2001); Besten (2004) and Kumar *et al.* (2005). The nomenclature adopted was Manakadan and Pittie (2001).

Results and Discussion

The present studies reveal that 58 species of wetlands can be generally witnessed in rural ponds in Haryana state (Table.1) and these birds belong to ten orders (Fig.1) and 17 families (Fig.3). The most dominate Order is Charadriiformes (17 species) followed by Anseriformes (13 species) and Ciconiiformes (08 species). The least diversity has been observed in Order like Falconiformes (One Species) and Apodiformes (One Species) closely followed by Podicipediformes (2 species) and Coraciiformes (3 species). Out of 58 species of wetland birds observed in village ponds of Yamunanagar district, 28.49% were winter migratory, 18.21 % were Resident Birds, 10.17% local migratory and 2.3 % were summer migratory. Kumar *et al* (2005) reported 109 residents, while the status is not known for eight species. Kalsi (1998) recorded 161 species of birds at Kalesar National Park in Yamunanagar district in Haryana. Gupta *et al.* (2009) reported 72 species of Wetland Birds belonging to 10 Orders and 19 Families from rural village ponds of Karnal District in Haryana. Out of these, 37 species of birds are winter migratory, 13 are local migratory, 20 are resident. Gupta and Kaushik (2010) reported 66 species of wetland birds from Kurukshetra, out of which 33 species of birds were winter migratory, 21 species resident, 11 species local migratory and 3 species were summer migratory. At the same time, Gupta *et al.*, 2010 recorded a total of 63 species of Wetland birds from village ponds in Kaithal District. Out of 63 species of wetland birds, 31 are winter migratory, 9 local migratory, 3 summers migratory and 20 species are resident birds. It is pertinent to mention large numbers of wetland birds migrate into India annually from far off places located across the Himalayas (Ali and Ripley, 1983, Bird life International 2001)

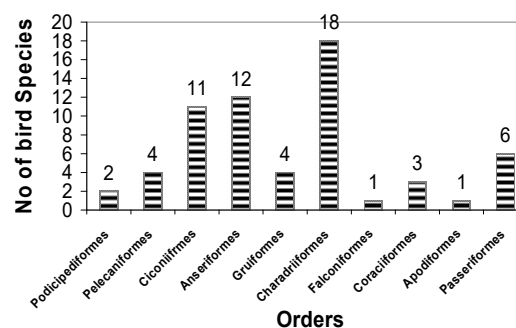


Fig.1 Depiction of incidence of wetland birds in village ponds of Yamuna nagar district in Order-wise manner during the study period (2005-08).

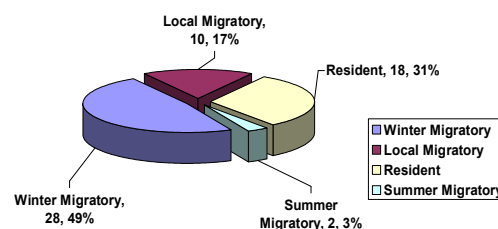


Fig.2 Showing the Residential Status of Wetland birds observed in Yamunanagar district during the study period (2005-08).

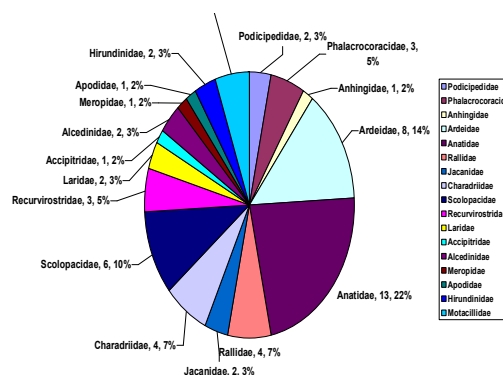


Fig.3: Depiction of incidence of wetland birds in village ponds of Yamunanagar district in family-wise manner during the study period (2005-08).

Table 1: Checklist of wetland birds observed in village ponds of Yamuna nagar district in Haryana, India

S. No	Common Name	Scientific Name	RES. STATUS	CHH	JAG	MUS	RAD	SAD	BIL
(I) ORDER-PODICIPEDIFORMES			(i) FAMILY- PODICIPEDIDAE						
1	Little Grebe	<i>Tachybaptus rufficollis</i> (Pallas, 1764)	R	√	√	√	√	√	√
2	Great Crested Grebe	<i>Podiceps cristatus</i> (Linnaeus, 1758)	WM	√	√	x	x	x	x
(II) ORDER-PELECANIFORMES			(i) FAMILY-PHALACROCORACIDAE						
3	Little Cormorant	<i>Phalacrocorax niger</i> (Vieillot, 1817)	R	√	√	√	√	√	√
4	Indian Shag	<i>Phalacrocorax fuscicollis</i> (Stephens, 1826)	LM	√	√	√	√	√	√
5	Great Cormorant	<i>Phalacrocorax carbo</i> (Linnaeus, 1758)	LM	√	√	√	√	√	√
			(ii) ANHINGIDAE						
6	Darter	<i>Anhinga melanogaster</i> (Pennant, 1769)	R	√	√	x	x	√	√
(III) ORDER-CICONIIFORMES			(i) FAMILY- ARDEIDAE						
7	Little Egret	<i>Egretta garzetta</i> (Linnaeus, 1766)	LM	√	√	√	√	√	√
8	Grey Heron	<i>Ardea cinerea</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
9	Purple Heron	<i>Ardea purpurea</i> (Linnaeus, 1766)	LM	√	√	√	√	√	√
10	Large Egret	<i>Casmerodius albus</i> (Linnaeus 1758)	LM	√	√	√	√	√	√
11	Median Egret	<i>Mesophoyx intermedia</i> (Wagler 1829)	LM	√	√	√	√	√	√
12	Cattle Egret	<i>Bubulcus ibis</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
13	Indian Pond-Heron	<i>Ardeola grayii</i> (Sykes, 1832)	R	√	√	√	√	√	√
14	Black-crowned Night Heron	<i>Nycticorax nycticorax</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
(IV) ORDER-ANSERIFORMES			(i) FAMILY- ANATIDAE						
15	Greylag Goose	<i>Anser anser</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
16	Lesser Whistling duck	<i>Dendrocygna javanica</i> (Horsfield, 1821)	SM	√	√	√	√	√	√
17	Brahminy Shelduck	<i>Tadorna ferruginea</i> (Pallas 1764)	WM	√	√	√	X	√	√
18	Bar-headed Goose	<i>Anser indicus</i> (Latham, 1790)	WM	√	√	√	√	√	√
19	Gadwall	<i>Anas strepera</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√



20	Mallard	<i>Anas platyrhynchos</i> (Linnaeus, 1758)	WM	√	√	x	x	x	x
21	Spot-billed Duck	<i>Anas poecilorhyncha</i> (J.R.Forester,(1781)	WM	√	√	√	√	√	√
22	Northern Shoveller	<i>Anas clypeata</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
23	Northern Pintail	<i>Anas acuta</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
24	Common Teal	<i>Anas crecca</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
25	Red-crested Pochard	<i>Rhodonessa rufina</i> (Pallas, 1773)	WM	√	√	x	x	x	x
26	Common Pochard	<i>Aythya ferina</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
27	Tufted Pochard	<i>Aythya fuligula</i> (Linnaeus, 1758)	WM	√	√	x	x	x	x
(V) ORDER-GRUIFORMES (i) FAMILY- RALLIDAE									
28	White-breasted Waterhen	<i>Amaurornis phoenicurus</i> (Pennant, 1769)	R	√	√	√	√	√	√
29	Purple Moorhen	<i>Porphyrio porphyrio</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
30	Common Moorhen	<i>Gallinula chloropus</i> (Linnaeus, 1758)	LM	√	√	√	√	√	√
31	Common Coot	<i>Fulica atra</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
(VI) ORDER-CHARADRIIFORMES (i) FAMILY- JACANIDAE									
32	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i> (Scopoli, 1786)	SM	√	√	√	√	√	√
33	Bronze-winged Jacana	<i>Metopidius indica</i> (Latham, 1790)	R	√	√	x	√	x	x
(ii) FAMILY- CHARADRIIDAE									
34	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i> (Boddaert, 1783)	R	√	√	x	x	x	x
35	River Lapwing	<i>Vanellus duvaucelii</i> (Lesson-1826)	R	√	√	x	√	√	√
36	Red-wattled Lapwing	<i>Vanellus indicus</i> (Boddaert, 1783)	R	√	√	√	√	√	√
37	White-tailed Lapwing	<i>Vanellus leucurus</i> (Lichtenstein, 1823)	WM	√	√	X	x	√	√
(iii) FAMILY- SCOLOPACIDAE									
38	Black-tailed Godwit	<i>Limosa limosa</i> (Linnaeus, 1758)	WM	√	√	x	x	x	x
39	Common Redshank	<i>Tringa totanus</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
40	Common Sandpiper	<i>Actitis hypoleucos</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
41	Ruff	<i>Philomachus pugnax</i> (Linnaeus, 1758)	WM	√	√	√	x	√	√
42	Marsh Sandpiper	<i>Tringa stagnatilis</i> (Bechstein, 1803)	WM	√	X	x	x	x	x



43	Wood Sandpiper	<i>Tringa glareola</i> (Linnaeus, 1758)	WM	√	√	x	√	x	x
(iv) FAMILY- RECURVIROSTRIDAE									
44	Black-winged Stilt	<i>Himantopus himantopus</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
45	Pied Avocet	<i>Recurvirostra avosetta</i> (Linnaeus, 1758)	WM	√	x	√	x	√	√
46	River Tern	<i>Sterna aurantia</i> (J.E.Gray, 1831)	LM	√	√	√	√	√	√
(v) FAMILY- LARIDAE									
47	Black-headed Gull	<i>Larus ridibundus</i> (Linnaeus, 1766)		√	√	x	√	x	x
48	Pallas's Gull	<i>Larus ichthyaetus</i> (Pallas, 1773)	WM	x	√	x	X	x	x
VII) ORDER- FALCONIFORMES (i) FAMILY- ACCIPITRIDAE									
49	Brahminy Kite	<i>Haliastur indus</i> (Boddaert)	R	√	√	√	√	√	√
(VIII) ORDER- CORACIIFORMES (i) FAMILY-ALCEDINIDAE									
50	Lesser Pied Kingfisher	<i>Ceryle rudis</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
51	White-breasted Kingfisher	<i>Halcyon smyenensis</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
(ii) FAMILY- MEROPIDAE									
52	Blue-cheeked Bee-eater	<i>Merops persicus</i> (Pallas, 1773)	R	√	√	√	√	√	√
(IX) ORDER- APODIFORMES (i) FAMILY- APODIDAE									
53	House Swift	<i>Apus affinis</i> (J.E.Gray)	R	√	√	√	√	√	√
(X) ORDER- PASSERIFORMES (i) FAMILY-HIRUNDINIDAE									
54	Wire-tailed Swallow	<i>Hirundo smithii</i> (Leach, 1818)	R	√	√	√	√	√	√
55	Common Swallow	<i>Hirundo rustica</i> (Linnaeus, 1758)	R	√	√	√	√	√	√
(ii) FAMILY- MOTACILLIDAE									
56	White Wagtail	<i>Motacilla alba</i> (Linnaeus, 1758)	WM	√	√	√	√	√	√
57	Large Pied Wagtail	<i>Motacilla maderaspatensis</i> (Gmelin, 1789)	LM	√	√	√	√	√	√
58	Citrine Wagtail	<i>Motacilla citreola</i> (Pallas, 1776)	WM	√	√	√	√	√	√

During the winter sojourns, these winter migratory birds face multiple threats in rural ponds of Haryana. While assorting specially the winter migratory birds, it is borne out from the present studies that Haryana rural ponds attract winter migratory birds like Northern Shoveller *Anas clypeata*, Northern Pintail (*Anas acuta*), Common Teal (*Anas crecca*), Gadwall (*Anas strepera*) Bar-headed Goose *Anser indicus*, Common Coot (*Fulica atra*), Common Pochard

(*Aythya ferina*), Tufted Pochard, Red crested Pochard *etc.* during winter season every year. Further, it is startling to reveal that no attention is given to protect them from varied threats including conversion of traditional rural ponds into fish farming ponds alongwith accentuated interference by villagers linked with cattle bathing, cow dung cakes, pollution of water *etc.* The present studies also unfold the continued receding of depth of water in centre and across

the shores in practically all the rural ponds. Even if the disappearance of rural ponds persist for next 10 years in a row, then 80% of the rural ponds will die down unnatural death, this directly threatened the very survival of internationally acclaimed winter migratory birds like Bar-headed Goose, Common Coot, Northern Shoveller, Northern Pintail, Common Teal, Gadwall, Lesser Whistling duck, Common Pochard, Mallard, Tufted Pochard and Red crested Pochard. Also, the disappearance of rural ponds will completely wipe out White-tailed Lapwing, Cormorants, Large Egret, Median Egret, Pond Heron *etc.* It is pertinent to mention that the crucial birds like Bar-headed Goose, Mallard, Northern Pintail, Northern Shoveller, Garganey, Common Pochard, Tufted Pochard, Red-crested Pochard, come from across the Himalayas from far off places like Russia (Ali and Ripley, 1983) and stay in winter in Haryana rural ponds which are in extremely dilapidated conditions, pose a threat of an alarming level to the very survival of above mentioned birds of global significance. The present paper wish to draw the requisite attention of Species Survival Commission, United Nations Environmental Programme, World Wide Fund For Nature, Wetland International, Birdlife International, Ministry of Environment and Forest (Government of Haryana and India) to rise up to the situation to save rural ponds and winter migratory birds from a dismal end sooner than later in Northern India (Haryana, Punjab, Uttar Pradesh, Rajasthan and Madhya Pradesh) so as avoid the recurrence of events like Doomed Siberian Crane *vis-à-vis* Keoladeo wetlands in Rajasthan(India).

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