

**UPDATED STATUS OF WATERBIRDS FROM BODALKASA, CHORKHAMARA AND KHAIRBANDHA LAKES OF GONDIA DISTRICT, MAHARASHTRA STATE (INDIA)****S.D. Puri**Department of Zoology, Shankarlal Agrawal Science College, Salekasa Dist. Gondia (MS), India  
Corresponding author: drsdpuri2020@gmail.com**ABSTRACT**

*By this study the updated status of waterbirds from three lakes of Gondia district, Maharashtra State, India was noted. The observation of the birds have been done for two years from February 2018 to January 2020. During this study period Bodalkasa, Chorkhamara and Khairbandha lakes were monitored by fortnightly visits. 43 waterbird species were observed belonging to 11 families through the present study time. Out of 43 waterbird species; 19 species were residents (44%), 17 species were winter migrants (40%) and 07 species were resident migrants (16%). The anatidae family was found dominant with 15 waterbird species. As per feeding habits of the birds 03 species were herbivorous (07%), 20 species were carnivorous (47%) and 20 species were omnivorous (47%). Even today, the monitored lakes support to the waterbirds but some anthropogenic and other activities were noticed which affected the waterbird species as compared to the previous recorded data. The factors directly affecting the waterbird diversity includes excessive fishing activity, agricultural activity, idol immersion activity, cattle grazing activity, clothes and directly cattle washing activities. Due to the trouble of these activities the number of species, population and diversity of the waterbirds were affected. So, there is strictly need of regular monitoring of the lakes and implementation of the conservation strategies for the waterbird diversity in the selected study area.*

**Keywords:** Updated status, Bodalkasa, Chorkhamara, Khairbandha, Waterbirds, Gondia.

**Introduction**

We know that birds play an important role in attracting the tourists to the wetlands. The species of the birds which depend on the wetlands are the waterbirds. The waterbirds are migratory, undertaking annual movements between their breeding and non-breeding places. In that process, the birds regularly cross national and international boundaries. So, it is the responsibility of all nations to make efforts for their conservation. Wetlands and waterbirds are not separable and thus form a rich array of waterbird communities (Grimmett and Inskipp, 2007). Waterbirds are important indicators for the ecology and productivity of the wetlands (Li *et al.*, 2009).

The waterbirds are useful components of the wetland ecosystem as they play role in the food webs and food chains of the wetlands. The wetlands are the most productive ecosystems in the World and their functions include food control, nutrient absorption and erosion control. But now a days, due to the uncontrolled encroachment, many wetlands are degrading and destroying the bird habitats. Activities of the waterbirds are considered as indicator of quality of the wetland ecosystem and form the terminal links in many aquatic food chains as a result they reflect changes

originating in several different ecosystem components (Rajashekara and Venkatesha, 2010).

Many anthropogenic and other activities are affecting the bird diversity from different lakes due to their direct and indirect disturbances. As the different anthropogenic activities and environmental changes are the biggest threats to the waterbirds and our current knowledge about the present status of waterbird species is far from complete. Although the avifaunal diversity were studied already by some authors from these lakes previously (Puri and Virani, 2017); there is need of continuous search to know the updated status of the birds. From now, this study was set after two years to understand the actual status and the effects of the anthropogenic activities on the waterbirds. So one of the main objectives of this study was to build an authentic updated list of the birds which help in the awareness of the people and provide the information for the protection of the waterbird diversity in the study area.

The updated checklist provide the information of the sightings of the waterbirds with their feeding habits and the current status from Bodalkasa, Chorkhamara and Khairbandha lakes from Gondia district, Maharashtra State, India.

## Materials and Methods

### Study Area

Gondia is called as the 'district of the lakes' as there are thousands of lakes present in the district. The study area includes the Bodalkasa lake, Chorkhamaralake and Khairbandha lake. These lakes lies at the geographic coordinates of Bodalkasa (21.355401 and 80.026405), Chorkhamara (21.286515 and 79.956113),

Khairbandha (21.483605 and 80.072916) in Gondia district.

Many birds can be seen near the different lakes in Gondia district as it has great vegetation surrounding the lakes with the forest area which support the bird diversity. Especially during winter season, many migratory birds visit to these lakes.

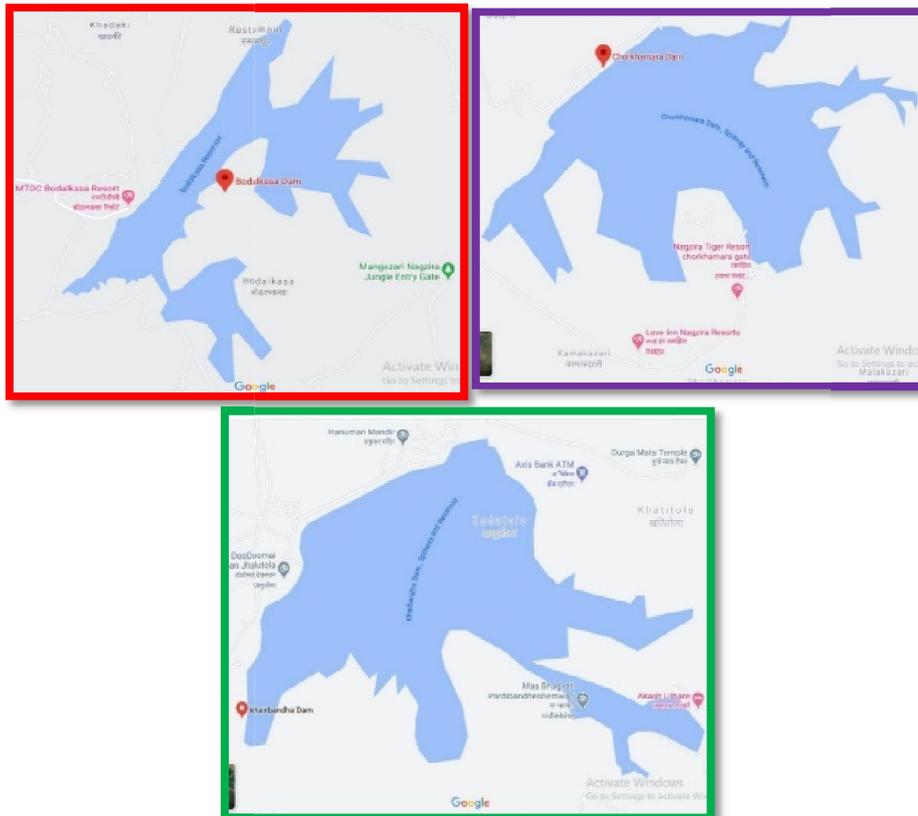


Figure No. 1: Google maps of Bodalkasa, Chorkhamara and Khairbandha lakes

### Bird Surveys

The birds were observed in and near the surrounding area of the lakes by 'direct count method'. The survey was done by walking along the bank of the lakes visiting fortnightly. For the observation of the birds, Olympus (10x50) binocular was used and the photographs were captured by using Nikon camera with different zoom lenses. The double counting and stationary counting methods were also used where the birds seen in flocks. The observations of the birds was made at different timings of the day when they are most active especially at morning and evening times (Rajashekara and Venkatesha, 2010) and

depending on the light conditions (Namgaiet *al.*, 2009). The bird observation was avoided at the time of heavy rains and the recordings was not done during that time.

The different books & field guides were used for the identification and comparative studies of the observed bird species, like a book by Ali (2002), Helm field guides by Grimmett *al.* (2011), a field guide by Manakadanet *al.* (2011) and Collins field guide by Arlott (2014). The residential status of the birds were placed under the category as residents (R), winter migrants (WM) and resident migrants (RM) (Wadatkar *al.*, 2016). Available old data was compared with the present data to know the updated

status of the bird species (Puri and Virani, 2017).

### Observations and Results

The results of the observed species of the waterbirds from Bodalkasa, Chorkhamara and

Khairbandha lakes in Gondia district, Maharashtra State, India is presented in table No. 1 with their feeding habits. A total of 43 waterbird species belonging to 11 families were observed during two years study period from February 2018 to January 2020.

**Table 1: Updated list of Waterbird Species from the lakes in Gondia district, Maharashtra State, India (Feb. 2018 to Jan. 2020)**

Family	Sr. No	Scientific Name	Common Name	Local Name	Feeding Habit	Status	Area
				(In Marathi)			
1) Anatidae	1	<i>Dendrocygnajavanica</i>	Lesser Whistling-duck	<i>Adai</i>	Omni	R	BL, CL, KL
	2	<i>Anseranser</i>	Greylag Goose	<i>Kalhans</i>	Herbi	WM	KL
	3	<i>Anserindicus</i>	Bar-headed Goose	<i>Rajhans</i>	Herbi	WM	CL, KL
	4	<i>Sarkidiornismelanotos</i>	Comb Duck	<i>NaktaBadak</i>	Omni	RM	KL
	5	<i>Tadornaferruginea</i>	Ruddy Shelduck	<i>Chakrwak</i>	Omni	WM	BL, CL, KL
	6	<i>Nettapuscoromandelianus</i>	Cotton Pygmy-goose	<i>KanukBadak</i>	Omni	R	BL, CL, KL
	7	<i>Anasstrepera</i>	Gadwall	<i>MalinBadak</i>	Omni	WM	CL, KL
	8	<i>Anasquerquedula</i>	Garganey	<i>BhuwaiBadak</i>	Omni	WM	CL
	9	<i>Anasplatyrhynchos</i>	Mallard	<i>ChaturangBadak</i>	Omni	WM	KL
	10	<i>Anaspoecilorhyncha</i>	Indian Spot-billed Duck	<i>HaldikunkuBadak</i>	Herbi	R	BL, CL, KL
	11	<i>Anasacuta</i>	Northern Pintail	<i>TalwarBadak</i>	Omni	WM	BL, CL, KL
	12	<i>Anascrecca</i>	Common Teal	<i>ChakrangBadak</i>	Omni	WM	KL
	13	<i>Nettarufina</i>	Red-crested Pochard	<i>MothiLalsari</i>	Omni	WM	CL, KL
	14	<i>Aythyaferina</i>	Common Pochard	<i>ChhotiLalsari</i>	Omni	WM	BL, CL, KL
	15	<i>Aythyafuligula</i>	Tufted Duck	<i>ShendiBadak</i>	Omni	WM	KL
2) Podicipedidae	16	<i>Tachybaptusruficollis</i>	Little Grebe	<i>Pandubi</i>	Carni	R	CL, KL
3) Ciconiidae	17	<i>Mycterialeucocephala</i>	Painted Stork	<i>RangitKarkocha</i>	Carni	WM	BL, CL, KL
	18	<i>Anastomusoscitans</i>	Asian Openbill	<i>UghadchochKarkocha</i>	Carni	R	BL, CL, KL
	19	<i>Ciconianigra</i>	Black Stork	<i>Krishna / Kala Karkocha</i>	Carni	WM	BL, CL, KL
	20	<i>Ciconiaepiscopus</i>	Woolly-necked Stork	<i>PandhryaManechaKarkocha</i>	Carni	WM	CL, KL
4) Threskiornithidae	21	<i>Threskiornismelanocephalus</i>	Black-headed Ibis	<i>Kudalya / KalyaDokyachaSharati</i>	Carni	RM	BL, CL, KL
	22	<i>Pseudibispapillosa</i>	Red-naped Ibis	<i>Kala Sharati</i>	Omni	RM	BL, CL, KL

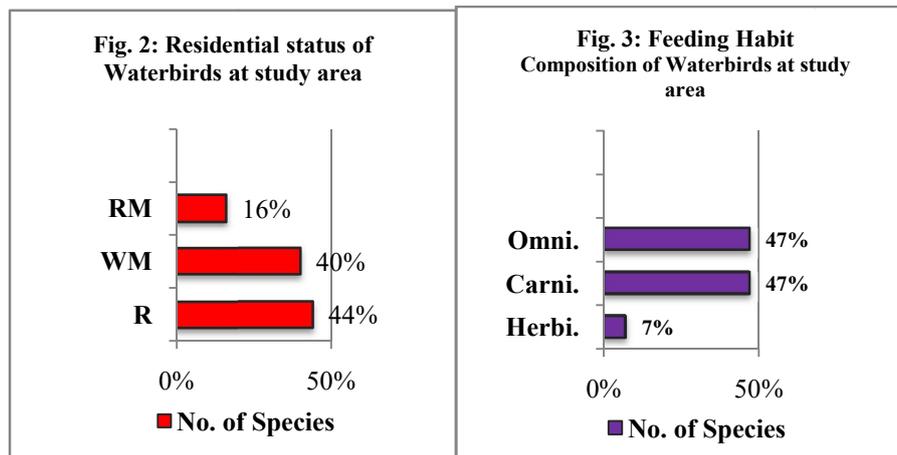
5) Ardeidae	23	<i>Ardeolagrayii</i>	Indian Pond Heron	<i>Dhokari / BhuraBagla</i>	Carni	R	BL, CL, KL
	24	<i>Ardeacinerea</i>	Grey Heron	<i>RakhiBagla</i>	Carni	R	BL, CL, KL
	25	<i>Ardeapurpurea</i>	Purple Heron	<i>JambhalaBagla</i>	Carni	R	BL, CL, KL
	26	<i>Bubulcus ibis</i>	Cattle Egret	<i>Gay Bagla</i>	Carni	R	BL, CL, KL
	27	<i>Casmerodiusalbus</i>	Great Egret	<i>MothaBagla</i>	Carni	R	BL, CL, KL
	28	<i>Mesophoyxintermedia</i>	Intermediate Egret	<i>MadhyamBagla</i>	Carni	R	BL, CL, KL
	29	<i>Egrettaazarzetta</i>	Little Egret	<i>LahanBagla</i>	Carni	R	BL, CL, KL
6)Phalacrocoracidae	30	<i>Phalacrocoraxniger</i>	Little Cormorant	<i>ChhotaPankawala</i>	Carni	R	BL, CL, KL
	31	<i>Phalacrocoraxfuscicollis</i>	Indian Cormorant	<i>BhartiyPankawala</i>	Carni	RM	BL, CL, KL
8) Rallidae	32	<i>Porphyrioporphyrio</i>	Purple Swamphen	<i>JambhaliPankombdi</i>	Omni	R	CL, KL
	33	<i>Gallinulachloropus</i>	Common Moorhen	<i>Kali Pankombdi</i>	Omni	R	CL, KL
	34	<i>Fulicaatra</i>	Common Coot	<i>Warkari</i>	Omni	R	CL, KL
9) Recurvirostridae	35	<i>Himantopus</i>	Black-winged Stilt	<i>Shekatya</i>	Omni	RM	BL, CL, KL
10) Charadriidae	36	<i>Vanellusduvaucelii</i>	River Lapwing	<i>NadiTitwi</i>	Carni	RM	BL, CL
	37	<i>Vanellusindicus</i>	Red-wattled Lapwing	<i>Titwi</i>	Omni	R	BL, CL, KL
	38	<i>Charadriusdubius</i>	Little Ringed Plover	<i>ChhotaKanthariChikhlya</i>	Carni	RM	BL, CL, KL
11) Jacanidae	39	<i>Hydrophasianuschirurgus</i>	Pheasant-tailed Jacana	<i>Lamb SheptichaKamalpakshi</i>	Omni	R	CL, KL
	40	<i>Metopidiusindicus</i>	Bronze-winged Jacana	<i>KashyapanakhiKamalpakshi</i>	Omni	R	CL, KL
	41	<i>Tringastagnatilis</i>	Marsh Sandpiper	<i>ChikhliTutari</i>	Carni	WM	BL, CL, KL
	42	<i>Tringaglareola</i>	Wood Sandpiper	<i>ThipkewaliTutari</i>	Carni	WM	CL, KL
	43	<i>Actitishypoleucos</i>	Common Sandpiper	<i>SamanyaTutari</i>	Carni	WM	BL, KL

#### Abbreviations used:

**Feeding Habit:**Herbi. = Herbivorous, **Carni.** = Carnivorous, **Omni.** = Omnivorous.  
**Residential Status:**R = Residents, **WM** = Winter Migrants, **RM** = Resident Migrants.  
**Area:** **BL** = Bodalkasa lake, **CL** = Chorkhamara lake, **KL** = Khairbandha lake.

Out of observed 43 waterbird species, 19 species were residents (44%), 17 species were winter migrants (40%) and 07 species were resident migrants (16%) (Figure No. 2). As per

feeding habits of the birds, out of 43 waterbird species, 03 species were herbivorous (07%), 20 species were carnivorous (47%) and 20 species were omnivorous (47%) (Figure No. 3).



The family anatidae was found dominant with 15 waterbird species, followed by family ardeidae with 07 species, family jacanidae with 05 species, family ciconiidae with 04 species, family rallidae and charadriidae with 03 species each, family threskiornithidae and phalacrocoracidae with 02 species each, family podicipedidae and recurvirostridae 01 species each.

### Discussion

Only 43 waterbird species were observed from Bodalkasa, Chorkhamara and Khairbandha lakes in Gondia district of Maharashtra during present study; earlier there were 51 water bird species have been recorded from the same lakes during February 2014 to January 2016 (Puri and Virani, 2017). Earlier from Bodalkasalake 28 waterbird species were recorded (Puri and Virani, 2016a), now only 26 waterbird species were observed. Earlier from Chorkhamara lake 42 waterbird species were recorded (Puri and Virani, 2017), now only 37 waterbird species including one new species Garganey (*Anasquerquedula*) were observed. Earlier from Khairbandha lake 46 waterbird species were recorded (Puri and Virani, 2016b), now only 41 waterbird species were observed.

Total nine species including Eurasian Wigeon, Ferruginous Duck, Great Cormorant, Oriental Darter, Pacific Golden Plover, Common Snipe, Common Greenshank, Temminck's Stint and Dunlin were not seen during the present study period after the gap of two years. But one new species Garganey (*Anasquerquedula*) was observed from Chorkhamara lake during the present study period. Compared to the previous

studies in the district, the present study indicates a decline in the number of birds species. The main reasons for decline of bird diversity in the study area may be due to mainly threatened by habitat destruction and modification, anthropogenic pressure.

However, the occurrence of 43 waterbird species during the present study period is perhaps an indication of the fact that the study lakes from Gondia district may become a favourable habitat still for the birds. Further, the present study indicates that the study area attracts some waterbirds mostly cormorants, storks, ducks, geese, sandpipers, egrets, herons, plovers, etc. This may be due to the availability of their most preferred food items in the lakes such as insects, crustaceans, molluscs, fishes, amphibians, etc.

As compared to old data, the number of bird species and their population was declined during present study, hence, it is necessary to find out the solution for this problem. So, there is need of strict implementation of conservation strategy for the prevention of the bird diversity at the present study area in Gondia district, Maharashtra State, India.

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