

New species for the avifauna of adjoining coastal areas of Purba Medinipur district, West Bengal, India

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Abstract To upgrade the known avifaunal assemblages of adjoining coastal areas of Purba Medinipur district, West Bengal, India, opportunistic survey were carried out during January 2020 to August 2022. The survey yielded additions of 36 bird species in 10 orders and 17 families to the coastal area of Purba Medinipur district, based on photographic evidences. Among these recorded birds, 30 species were classified as Least Concern, two species were Near Threatened (*Aythya nyroca*, *Calidris canutus*), one species was Vulnerable (*Aythya ferina*), two species were Endangered (*Calidris tenuirostris*, *Rynchops albicollis*) and one species was Not Assessed (*Porphyrio poliocephalus*). Details of all the records are given here.

Keywords: additional records, opportunistic survey, West Bengal

Összefoglalás Az indiai Nyugat-Bengál térségében fekvő Purba Medinipur körzet eddig ismert madárfaunájának frissítése érdekében 2020 januárja és 2022 augusztus között opportunisztikus felméréseket végeztünk. A felmérések eredményeképpen 10 rend 17 családjába tartozó 36, a térségre új madárfajt találtunk Purba Medinipur körzet tengerparti területein, melyek határozása fotós bizonyítékokon alapszik. A felmért fajok közül 30 a legkevésbé veszélyeztetett, kettő a veszélyeztetettséghez közeli (*Aythya nyroca*, *Calidris canutus*), egy a sérülékeny (*Aythya ferina*), kettő a Veszélyeztetett (*Calidris tenuirostris*, *Rynchops albicollis*), egy nincs értékelve (*Porphyrio poliocephalus*) IUCN Red List védetségű kategóriába tartozik.

Kulcsszavak: új megfigyelések, opportunisztikus felmérés, Nyugat-Bengál

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Introduction

Along the East coast of India, studies related to coastal bird diversity attains focus mainly on the Important Bird Areas (IBAs), namely Point Calimere Wildlife Sanctuary of Tamil Nadu, Chilika Lake and Bhitarkanika National Park of Odisha, and Sundarbans of West Bengal (Sivaperuman & Venkatraman 2015). Among the two coastal districts (Purba Medinipur & South 24 Parganas) of West Bengal, South 24 Parganas gained much more attention

from researchers and naturalist owing to the presence of the world’s largest coastal wetland: Sundarban Mangrove (home to about 360 bird species) (Venkatraman *et al.* 2019). In the Purba Medinipur district, which represents 27% coastal environment of West Bengal, only a few studies have been carried out on avifaunal diversity. Patra and Chakrabarti (2014) first reported 86 species of birds belonging to 10 orders and 35 families from Digha area.

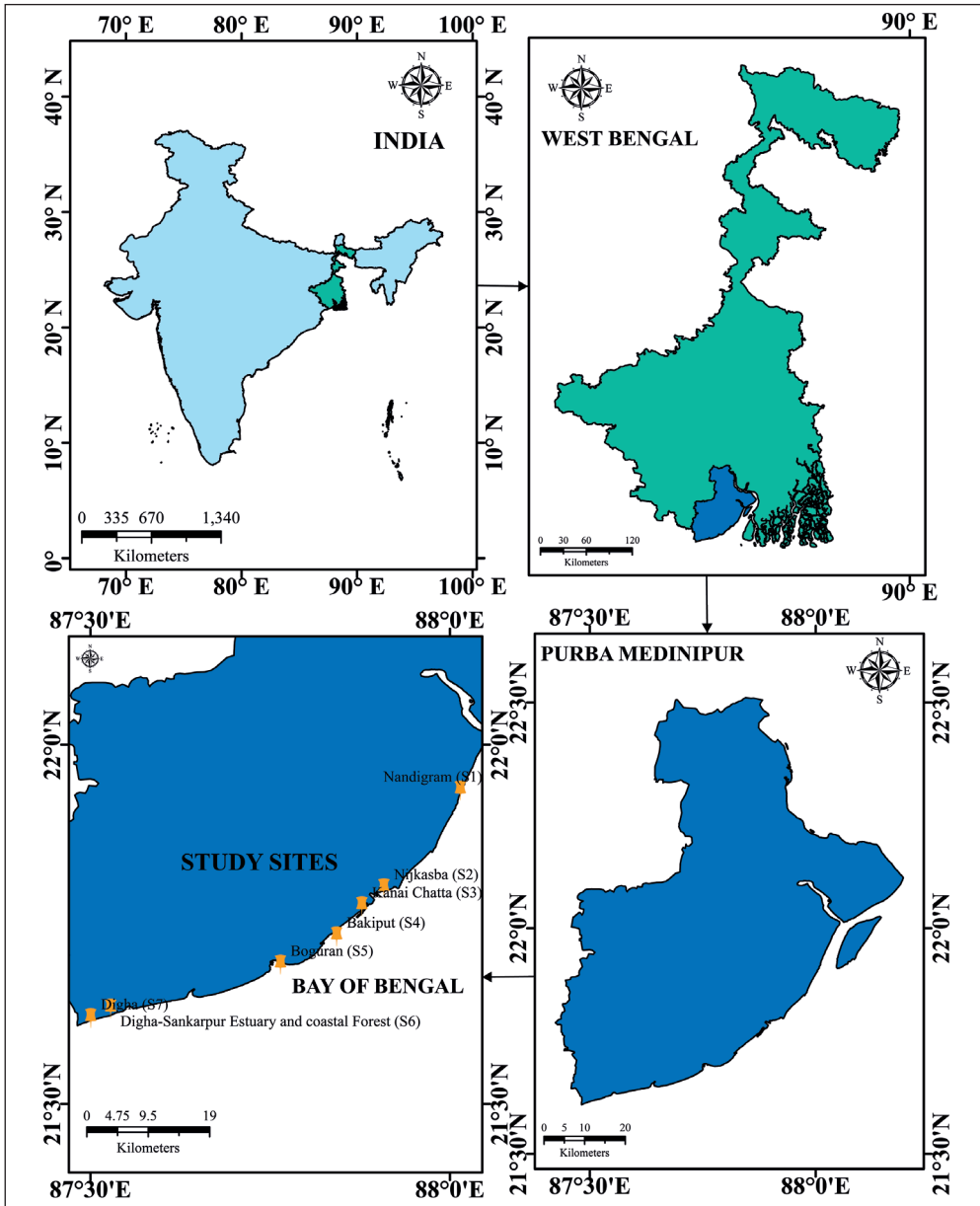


Figure 1. Location of the study area
 1. ábra A vizsgált területek elhelyezkedése

Then Payra *et al.* (2017) reported 171 species of birds from six selected coastal sites of the district. In 2020, Payra (2020) reported 225 bird species from adjoining coastal areas of the district by compiling 29 newly recorded species, and all the previously published records from literatures and eBird. Recently, Abbott's Babbler (*Malacocincla abbotti*) has also been reported from the adjacent Coastal area of the district by Payra (2021a), and most recently, Payra (2021b) recorded Oriental Plover (*Charadrius veredus*) from Digha-Shankarpur estuary, which is an addition for the Indian mainland avifauna. Here in this paper, an attempt has been made to look into the complete avifaunal assemblages in adjoining coastal areas of the district.

Materials and Methods

Study area

Purba Medinipur district located at the southernmost part of West Bengal comes under the lower Indo-Gangetic Plain and Eastern coastal Plains. Covering an area of about 4,151.64 km², the district represents about 60 km of coastal tract. The eastern, northern and western parts of the district are dominated by almost entirely flat planes and the southern parts are covered by coastal plains. The tropical climate of this area provides annual rainfalls ranging between 1,400 mm and 1,700 mm. The temperature of the months of March to June usually ranges between 30 °C and 38 °C and remains lower (15–25 °C) during the months of November to February. Vegetation of the coastal forest of the district is chiefly dominated by *Casuarina equisetifolia*, but mixed vegetation of *Eucalyptus globulus* and *Acacia auriculiformis* are also seen. Undergrowth of the forest mainly consists of *Clerodendrum*, *Chromolaena*, *Lantana* and *Carissa* sp. Mangrove forest mainly composed of *Avicennia officinalis* and *Rhizophora mucronata*.

Data collection

Birds were monitored and recorded through opportunistic surveys between January 2020 and August 2022, at some selected places along the coast of Purba Medinipur district (*Table 1*). Field surveys were mostly carried out between 6:00 a.m. to 11:00 am and 12:30 p.m. to 6:00 p.m., covering different types of habitat, such as coastal forest, freshwater wetlands, fish culture ponds, estuaries, mud flats, mangroves and sea beach. Identification was done with the help of guide books of Message and Taylor (2005), Grimmett *et al.* (2011) and Grewal *et al.* (2016). Systematic arrangement, scientific and common names follows Praveen *et al.* (2016). Threatened status of birds were adopted from the IUCN Red List (IUCN 2022). Residential status of the birds followed Grimmett *et al.* (2011).

Table 1. Details of the study sites along the coastal areas of Purba Medinipur district, West Bengal, India

1. táblázat A Purba Medinipur kerület part menti vizsgálati helyszínei (Nyugat-Bengál, India)

Study Sites	Latitude	Longitude	Altitude (Meter/Above the sea level)	Habitat
Nandigram (S1)	21°56'9.86"N	88° 0'52.09"E	0 – 8	Sea Shore (SS), Aquaculture land (AQ) and Agriculture field (AG)
Nijkasba (S2)	21°48'00.2"N	87°54'29.5"E	0 – 10	Sea shore (SS), Mangroves (MG) and Coastal Forest (CF)
Kanai Chatta (S3)	21°46'29.70"N	87°52'39.36"E	0 – 10	Sea shore (SS), Coastal Forest (CF), Mangroves (MG), Fresh Water Wetland (FW), Agricultural Field (AG), Aquaculture land (AQ) and Village woodland (VW)
Bakiput (S4)	21°43'58.6"N	87°50'32.9"E	0 – 4	Sea Shore (SS), Mangroves (MG) and Coastal Forest (CF)
Boguran (S5)	21°41'37.25"N	87°45'51.83"E	0 – 5	Sea Shore (SS), Coastal Forest (CF), Agricultural Field (AG) and Aquaculture Land (AQ)
Digha-Sankarpur Estuary and coastal Forest (S6)	21°37'56.68"N	87°31'41.19"E	0 – 6	Sea Shore (SS), Aquaculture Land (AQ), Agriculture Field (AG), Coastal Forest (CF) and Mangroves (MG)
Digha (S7)	21°37'9.23"N	87°30'1.82"E	0 – 15	Sea Shore (SS) and Coastal Forest (CF)

Results

36 species of birds belonging to 10 orders and 17 families are new additions to the area. Among these species, 30 species were classified as Least Concern, two species as Near Threatened (*Aythya nyroca*, *Calidris canutus*), one species as Vulnerable (*Aythya ferina*), two species as Endangered (*Calidris tenuirostris*, *Rynchops albicollis*) and one species as not assessed (*Porphyrio poliocephalus*). Among these additional species, considering the species number, order Passeriformes was found to be richest with 10 species, followed by Charadriiformes with eight species, Anseriformes with seven species, Accipitriformes, Caprimulgiformes, Falconiformes, and Gruiformes each with two species, Columbiformes, Cuculiformes and Psittaciformes each with one species. Out of these 36 species, 17 species of birds were classified as waterbirds and the remaining 19 species were terrestrial. Details of the recorded bird species are given below.

Anseriformes: Anatidae**Common Shelduck** *Tadorna tadorna*

This species breeds in Western Europe, the Mediterranean to central Asia through eastern Siberia and northeast China. Widespread during winter, migrates south to northern Africa, Iran, India, central China, south western Korea, Japan and Taiwan (Brazil 2009, Johnsgard 2010).

A total of 22 individuals of Common Shelduck were observed by PD, on 28 November 2020 at 6:44 am, at the coastline of Kanai Chatta. Then on 29 January 2021, four individuals were observed near the coast of Boguran. Between 11 to 28 February 2022, 13 individuals were frequently sighted at the sea beach in Kanai Chatta.

Ferruginous Duck *Aythya nyroca*

This species breeds in central and eastern Europe to central Asia and in northern Africa. During winter, it migrates southwards to Africa, the Mediterranean region, Persian Gulf, South and Southeast Asia (Vinicombe 2000, Brazil 2009).

Eight–nine individuals were observed by PD, between December 2020 and February 2021 at Kanai Chatta. AP observed about 15 individuals on 28 November 2020, at the fish pond near Digha-Shankarpur estuary, along with Gadwal, Red Crested Pochard and Lesser Whistling Duck. 12–13 individuals were frequently observed between 5 November 2021 and 15 March 2022 in Kanai Chatta.

Northern Shoveler *Spatula clypeata*

This species breeds in most areas of Nearctic and Palaearctic regions (Dubowy *et al.* 2020). Its wintering range extends from northern parts of North America, North and East Africa, Persian Gulf, South and Southeast Asia (Johnsgard 2010).

On 25 November 2020, PD observed one female individual in a freshwater wetland near the sea coast of Kanai Chatta.

Eurasian Wigeon *Mareca penelope*

The breeding range of this species extends from Iceland across northern parts of Europe and Palaearctic. In winter, it migrates to North Africa, east to India, Sri Lanka, Southeast Asia and Japan (Johnsgard 2010, Carboneras *et al.* 2020).

A single female was spotted on 28 November 2020 by AP, among the flocks of Ferruginous Duck and Lesser Whistling Duck in a fish pond near Digha-Shankarpur estuary. On 10 February 2022, PD observed two individuals of this species in Kanai Chatta. Again AM and PD observed near about 100 individuals in Haldi River, near Nandigram on 22 February 2022.

Northern Pintail *Anas acuta*

This dabbling duck breeds in northern parts of North America, Europe across the Palaearctic region. It spends the winter in North and Central America, North Africa, South and Southeast Asian countries (Johnsgard 2010).

On 24 October 2021, at 3:40 pm, PD noticed a female Northern Pintail sitting at sea beach of Bakiput coastal area.

Knob-billed Duck *Sarkidiornis melanotos*

This species is resident throughout sub-Saharan Africa, Madagascar, India, Nepal, and Bangladesh to Cambodia in Southeast Asia and in Southeast China (Johnsgard 2010, Birdlife International 2016a).

A single female was observed by AP, on 30 January 21, at 7:30 am, at Ghersai of Digha-Shankarpur Estuary.

Common Pochard *Aythya ferina*

The breeding range of this “Vulnerable” diving duck extends from western Europe, east through central Asia, Siberia and northern China. During winter a part of the whole population migrates to Europe, North Africa, the Mediterranean, Black and Caspian Seas, Indian Subcontinent to southern China and Japan (Brazil 2009, Johnsgard 2010).

Between 11 January 2022 to 16 January 2022, a male Common Pochard was frequently observed by PD, at Kanai Chatta, among the flock of Lesser Whistling Duck and Common Coot.

Columbiformes: Columbidae

Orange-breasted Green Pigeon *Treron bicinctus*

This species is found in the forests and well-wooded country. Resident in the Himalayas, hills of India, Bangladesh and Sri Lanka (Arlott 2015). In peninsular India, it is recorded from West Bengal and Chota Nagpur, south-eastern Ghats, also occurs in the western Ghats, hill ranges from northward Kerala through Karnataka to Goa (Kausik 2013).

PD observed one female on 11 April 2020, at 5:57 am, while feeding on the fruits of a fig tree at Kanai Chatta. Then, one male was recorded on 7 February 2021 at the same place. Further one female individual was sighted on 15 January 2022, at Digha-Sankarpur estuary.

Caprimulgiformes: Caprimulgidae

Jerdon’s Nightjar *Caprimulgus atripennis*

This species is found on the forest edge. Resident in central and southern peninsular India (from Goa to Kerala, Tamil Nadu to eastwards Chota Nagpur Plateau) and Sri Lanka (Arlott 2015). The nearest known locality of this bird is located in Bhadutola Reserve Forest, Paschim Medinipur district, West Bengal (Giri & Maity 2021).

On 7 March 2022, at 6:30 pm, two individuals were noticed by PD, at Kanai Chatta. It was identified based on a call record and uploaded to eBird (Das 2022).

Indian Nightjar *Caprimulgus asiaticus*

This species is widespread resident throughout the south and Southeast Asia (BirdLife International 2016b, Grewal *et al.* 2016).

On 20 December 2020, at 5:35 pm a single individual was observed by AP. After that, two individuals were continuously sighted at the same place between 5:30 pm to 6:00 pm during 25 December 2020 to 7 January 2021.

Cuculiformes: Cuculidae

Common Cuckoo *Cuculus canorus*

The species has an extremely large range. Its breeding range extends from Iberia, Ireland, Russia, and Siberia to Japan. During winter, it migrates to Africa, south and Southeast Asia (Brazil 2009). In the Indian Subcontinent, it is known to breed in the hills of Pakistan, North, Central and Northeast India and the Himalayas (Grimmett *et al.* 2011).

One female individual was spotted by PD, on 2 November 2020 and 19 November 2020 respectively, at the mangrove forest, adjacent to the sea beach of Kanai Chatta. Again, AP and PD observed one individual at Digha coastal forest, on 11 March 2022.

Gruiformes: Rallidae

Grey-headed Swamphen *Porphyrio poliocephalus*

The species widely occurs from the Middle East countries to southern China and Thailand, throughout the Indian Subcontinent (Pranty & Callaghan 2020).

Single individual was observed by PD, on 11 April 2020 at Kanai Chatta. Then seven to nine individuals were frequently sighted by PD and AM at the same wetland from April 2021 to March 2022.

Slaty-breasted Rail *Lewinia striata*

In India, this species is confined to Indian Peninsula and Northeast India. It can also be found in Bangladesh, Sri Lanka, China and Southeast Asia (Grewal *et al.* 2016).

Two to four individuals were frequently sighted by PD, at Kanai Chatta, between 08 February 2022 and 15 March 2022.

Charadriiformes: Scolopacidae

Ruddy Turnstone *Arenaria interpres*

This species breeds near the Arctic coast of Northern Hemisphere (northern parts of North America, Europe and Asia). During winter, it moves south to the temperate and tropical regions South America, Africa, Asia and Australia (Brazil 2009). It is a scarce winter visitor to the Indian coast. Relatively common at northwest coast, as compared to eastern coastline of India (Grewal *et al.* 2016).

On 27 August 2021, at 2:58 pm, PD observed a single individual at Nijkasba. Again one individual (breeding plumage) was observed on 2 September 2021, at 9:50 am, in Bakiput.

Great Knot *Calidris tenuirostris*

The Great Knot is one of the long-distance migratory waders of the East Asian-Australian Flyway (Lisovski *et al.* 2016). It breeds in northeast Siberia and during winter it migrates to Australia, throughout the coastline of Southeast Asia, Indian Subcontinent and eastern coast of the Arabian Peninsula (Hayman *et al.* 2011).

The bird was continuously sighted by PD, during May 2020 to January 2022, at the coast of Kanai Chatta, Nijkasba, Bakiput and Boguran area.

In Kanai Chatta, eight individuals were observed on 10 May 2020 at 06:52 am. One individual was observed on 24 April 2021 at 01:07 pm. On 01 November 2021, 8:00 pm, about 33 individuals were recorded.

In Nijkasba, three individuals were recorded on 08 May 2021, at 12:34 pm. Similarly, on 22 June 2021, about 267 individuals (most of them were in non-breeding plumage, a few were in breeding plumage) were seen at the same place. On 05 July 2021, nine individuals were recorded. About 127 individuals were observed on 23 July 2021. On 11 August 2021, at 03:30 pm, 13 individuals were observed. About 47 individuals on 26 August 2021, at 01:00 pm. 24 individuals were observed on 03 November 2021, at 9:00 pm. Seven individuals were observed on 21 November 2021, at 11:00 pm. About 83 individuals on 21 December 2021, at 12:20 pm. and about 134 individuals were observed on 02 January 2022, at 12:20 pm.

In Bakiput area, approximately 47 individuals were seen on 14 July 2021. Seven individuals were observed on 19 July 2021 at the same place. On 21 August 2021, at 01.00 pm, about 37 individuals were recorded.

In Boguran, approximately 31 individuals were observed on 04 November 2021, at 8:00 pm. Then, on 22 November 2021, at 3:00 pm, 11 individuals were seen at the same place.

Red Knot *Calidris canutus*

A medium sized shorebird which breeds in the high arctic region of Canada, Alaska, Greenland and Central and East Siberia. During winter, it migrates southward to the coastal zones of North and South-America, north-western Europe, West-Africa, South-Asia and Australia (Message & Taylor 2005, Hayman *et al.* 2011). In India, it is a rare winter visitor to the East Coast (Grewal *et al.* 2016).

Approximately 21 individuals (one in breeding plumage) were observed by PD, at Bakiput on 14 July 2021, at 2:30 pm. On 19 August 2021, at 7:30 am, about 29 individuals were observed at the same place. Then, on 02 October 2021, at 11:00 am one individual was observed at the same place.

At Boguran, one individual was spotted on 08 October 2021, at 3:40 pm.

Broad-billed Sandpiper *Calidris falcinellus*

This small sized wader breeds in Northwest Europe and Siberia. During winter, it migrates south to the coasts of Africa, South and Southeast Asia and Australia, covering long distances (Message & Taylor 2005, Brazil 2009).

One individual was observed by PD at 3.00 pm on 11 April 2021 at Bakiput. One individual was observed by PD, at 12.30 pm on 21 September 2021 at Nijkasba.

At the same location, one individual was observed on 26 September 2021, at 9:00 am. Then, at the same place, two individuals were seen on 09 October 2021, at 13:45 pm. One individual was observed on 19 October 2021, at 11:30 am. On 6 November 2021, at 11:30 am, 16 individuals were recorded. On 20 November 2021, at 12:00 pm, seven individuals were observed. On 21 December 2021, at 12:20 pm, about 27 individuals were seen. On 02 January 2022, at 12:20 pm, about 43 individuals were observed. On 02 February 2022, at 8:00 am about 36 individuals were recorded.

Dunlin *Calidris alpina*

This species breeds along the coastline of the Northern Hemisphere in Arctic and sub-Arctic region of northern Europe and Asia. During winter, it migrates southward to the coastal areas of North America, Africa, South and Southeast Asia and the Middle East countries (Message & Taylor 2005). This species is a common winter visitor to the Indian coast and comparatively common at northwest coast (Grewal *et al.* 2016).

From Nijkasba, two individuals (breeding and non-breeding plumage) were observed by PD, on 21 September 2021, at 11:30 pm. Again, two individuals (breeding and non-breeding plumage) were sighted at the same place on 26 September 2021, at 8:00 am. Four individuals were recorded on 09 October 2021, at 1:00 pm. on 19 October 2021, at 11:30 am, seven individuals were seen. On 06 November 2021, at 12:00 pm, six individuals were sighted. On 20 November 2021, at 12:00 pm, six individuals were observed. On 21 December 2021, at 12:20 pm, about three individuals were observed. On 02 January 2022, at 12:20 pm, three individuals and on 02 February 2022, at 8:00 pm, about six individuals were recorded.

Two individuals were observed at Kanai Chatta, on 18 October 2021, at 10:00 am.

Charadriiformes: Laridae

Indian Skimmer *Rynchops albicollis*

This globally 'Endangered' bird is confined to Bangladesh, India, Myanmar and Pakistan. Currently, its breeding range is restricted to India and western Bangladesh (Kabir *et al.* 2016). In India, it is known to breed in National Chambal Sanctuary, Narora Ramsar site, River Mahanadi, Son Gharial Sanctuary, River Ganga, Turtle Wildlife Sanctuary and Pong Dam (Ankit *et al.* 2018, Debata *et al.* 2019, Mital *et al.* 2019).

A single individual was continuously observed by PD, between 13 April and 16 April 2021 at sea beach of Nijkasba, during low tide between 12:00 pm and 5:30 pm. Most of the time, it was seen sitting among the mixed flock of Whiskered Tern, Common Tern, White-winged Tern and Black-headed Gull.

Bridled Tern *Onychoprion anaethetus*

This species widely occurs in Central American coast, western and eastern Africa coast, the Middle East, Southeast Asian and Australian coast (Brazil 2009, BirdLife International 2019). In India, it breeds on the West coast (Maharashtra coast and Lakshadweep), Andaman and the Maldives (Arlott 2015).

On 30 September 2021, at 8.30 am, a single individual was observed by PD and AM, at sea beach of Digha.

Slender-billed Gull *Chroicocephalus genei*

This species is resident in Pakistan and winter visitor to Bhutan, India, Nepal and Sri Lanka (Grewal *et al.* 2016).

During survey on 22 February 2022, at 12.30 pm, one individual was spotted by PD and AM, at the Junction of Hooghly River and Bay of Bengal, Nandigram.

Accipitriformes: Accipitridae

Changeable Hawk-eagle *Nisaetus cirrhatus*

This large bird of prey species widely distributed, ranging from eastwards India through Southeast Asia to Philippines and Greater Sundas (Gunawan & Noske 2017).

One individual was sighted by PD, on 26 August 2022, while sitting on a *Casuarina equisetifolia* tree at Kanai Chatta coastal forest.

White-eyed Buzzard *Butastur teesa*

This species occurs in Iran, Pakistan, throughout India, Nepal east to Bangladesh, Myanmar and China (BirdLife International 2016c).

One individual was sighted by PD, on 11 January 2022 at Kanai Chatta. Later, the bird was frequently observed at the same place between 13 January 2022 and 27 February 2022.

Falconiformes: Falconidae

Amur Falcon *Falco amurensis*

This species breeds in the Palaearctic region of East Asia from Transbaikalia to Ussuriland, and northeast Mongolia to North Korea and eastern China. During winter, it migrates to Sub-Saharan Africa via Indian Subcontinent (Ferguson-Lees & Christie 2001, Brazil 2009).

One individual was sighted by PD, on 19 November 2021 at 8.21 am while hovering at the sky in Kanai Chatta. A single female was recorded by AP on 26 November 2020, at the coastal fishery pond near Digha-Shankarpur estuary. Then, on 27 November 2020, five to six individuals were observed near the Digha Coastal Forest.

Eurasian Hobby *Falco subbuteo*

The distribution range of this bird extends from Europe, eastwards through central Asia and northern Africa. In winter, the species migrates to central and southern Africa, India and southern China (Brazil 2009). In the Indian Subcontinent, it breeds in the Himalayan region and widespread during winter (Arlott 2015).

One individual was sighted on 28 October 2020, at 7:16 am, in Kanai Chatta by PD. Then, a single individual was spotted by AP, on 27 November 2020, at about 2:54 pm while the bird was hovering along with the flock of Amur Falcon, near the Digha Coastal Forest. Again PD observed one immature individual at Dariyapur, on 31 March 2021, at 4.30 pm.

Psittaciformes: Psittaculidae**Plum-headed Parakeet** *Psittacula cyanocephala*

This species is endemic to the Indian Subcontinent, distributed from northeast Pakistan to Bhutan and south to Sri Lanka (Collar & Boesman 2020).

On 23 September 2021, at about 8:00 am, PD observed one male Plum-headed Parakeet sitting on a bamboo tree, at Kanai Chatta.

Passeriformes: Dicruridae**Lesser Racket-tailed Drongo** *Dicrurus remifer*

This species is a breeding resident in the Himalayan foothills, from Uttarakhand east to Myanmar (Grewal *et al.* 2016).

On 31 October 2020, PD observed one immature individual at the sea beach of Kanai Chatta.

Passeriformes: Irenidae**Jerdon's Leafbird** *Chloropsis jerdoni*

This species is found in open forests and woodlands. The distribution of this bird restricted to Peninsular India and in Sri Lanka (Grimmett *et al.* 2011, Arlott 2015).

Single male was observed by PD, on 17 September 2020, at 01:36 pm, at Kanai Chatta. Again, it was sighted at the same place on 06 May 2021, at 7.00 am.

Passeriformes: Emberizidae**Black-headed Bunting** *Emberiza melanocephala*

This species breeds in south-eastern parts of Europe to Iran. During winter, it migrates to northern, western and central India and Southeast-Nepal via Southern Pakistan (Grimmett *et al.* 2011, BirdLife International 2016d). In the Bengal plains of eastern India, it is an uncommon but widespread visitor with scattered wintering records (Adhurya *et al.* 2015).

On 27 September 2021, at 01:00 pm, one individual of Black-headed Bunting was observed by PD, at Kanai Chatta, while sitting on an electric wire along with the Scaly-breasted Munia and Baya Weaver.

Passeriformes: Phylloscopidae**Yellow-browed Warbler** *Phylloscopus inornatus*

The species breeds in the forest of Ural Mountains to eastwards Republic of Sakha and Sakhalin, Northeast China. During winter, it migrates to South and Southeast Asia (Brazil 2009, Sander *et al.* 2017). In the Indian Subcontinent, it is distributed from central Nepal to Northeast India, Bangladesh.

On 13 November 2020, at about 12:10 pm, a single individual was sighted by AP, at the coastal forest of Shankarpur foraging among the canopies of *Casuarina* and *Eucalyptus* trees.

Green-crowned Warbler *Seicercus burkii*

This species is found in forest undergrowth and secondary growth. It breeds in the Himalayas wintering at lower elevations and in the northeast, and is sporadically recorded elsewhere in Indian Subcontinent (Arlott 2015).

On 13 November 2020, two individuals were observed by AP, between 12:40 pm to 01:20 pm, at coastal forest of Shankarpur foraging among the dense undergrowth of the coastal forest.

Greenish Warbler *Phylloscopus trochiloides*

This species is a breeding resident in the Himalayas. During winter, it is widespread in the lowland of peninsula India and Sri Lanka (Grewal *et al.* 2016).

A single adult individual was observed on 19 October 2020, at 3:41 pm while foraging among the canopy of *Vachellia nilotica* tree at Kuliyata, Purba Medinipur.

Passeriformes: Sturnidae

Bank Myna *Acridotheres ginginianus*

This is a resident species occurring mainly in the Indian subcontinent from Pakistan in west, through India to Bangladesh, Nepal and Bhutan and with old records of this species in southern Afghanistan (Abed & Salim 2019). In India, distribution records has been reported in the planes of northern and central India from the Himalayan foothills, Terai to a line from Mumbai to Balasore in Odisha and Visakhapatnam, Srikakulam and Chennai in the southernmost distribution (Ali & Ripley 2007, Taher *et al.* 2010).

A single individual was spotted by AP, on 8 December 2020, among a flock of Common Myna, near the sea beach of Shankarpur. The individual was foraging on the ground along with Common Myna. Again on 15 April 2022, at 10:00 am, one individual was sighted at Kanai Chatta.

Passeriformes: Muscicapidae

Red-breasted Flycatcher *Ficedula parva*

This species breeds across Eastern Europe and Central Asia. Non-breeding found mainly Pakistan and northern, western and central part of India, locally in southeastern Arabia (Mitrus *et al.* 2005, Porter & Aspinall 2010).

On 3 November 2020, a single individual was observed by AP at the coastal forest of Shankarpur.

Blue Rock-Thrush *Monticola solitarius*

This species is recorded from Southern Palearctic, Northern Afrotropics and Oriental regions (Choi *et al.* 2011). In the Indian region, it breeds in the Himalayas and during winter, it is widespread throughout the peninsula (Grewal *et al.* 2016).

One young individual was observed by AP, at the coastal forest of Shankarpur on 21 December 2020. It was foraging on the ground.

Passeriformes: Turdidae

Scaly Thrush *Zoothera dauma*

This species breeds in Western Himalaya and in east to Assam, south-central China, North-Indochina, Taiwan, West and North-Myanmar and North and West-Thailand. Non-breeding ranges recorded in Himalaya foothills, south China, lowlands of Northeast Indian Subcontinent and Southeast Asia (Robson 2014, Collar *et al.* 2020).

A single individual was observed by AP, on 14 November 2020, at 12:40 pm in the Shankarpur coastal forest feeding on ground under the dense bushes of Cashew tree. Later, on 19 December 2020, one individual was observed at the coastal forest of Shankarpur estuary. On 15 January 2022 at 1:00 pm, PD was observed one individual sitting on a *Casuarina equisetifolia* tree at Shankarpur coastal forest.

Discussion

As a result of current additional records of 36 bird species, 15 species have been recorded for the first time from Purba Medinipur. Thus, the total species richness of the avifauna in adjoining coastal areas of Purba Medinipur district increases to approximately 263 species (Payra 2020, 2021a, 2021b). The coastal area of Purba Medinipur district is located at the overlapping area of East Asia-Australasia Flyway and Central Asian Flyway, thus, the coastal area of the district comes under migratory flyways of many species of waders and waterbirds and served as an important stop-over and wintering site. Our present records with new locality of bird species will serve as valuable information to understand and monitor their distribution pattern and movement over time and place. The coast of Purba Medinipur possesses many coastal wetlands, including mudflats, freshwater wetland, fishery ponds, estuaries, mangroves and as well as coastal forests, are most likely major attractions for many bird species for roosting, feeding, and nesting. Thus, conserving such habitats will be a significant stepping stone towards the conservation and protection of birds of coastal area of the district.

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Table 2. List of the newly recorded birds from the adjoining coastal areas of Purba Medinipur district, West Bengal, India. Study Sites: S1-Nandigram; S2-Nijkasba; S3-Kanai Chatta; S4-Bakiput; S5-Boguran; S6-Digha-shankarpur Estuary; S7-Digha; Habitat: SS-Sea Shore; FW-Fresh Water Wetland; AQ-Aquaculture Land; CF-Coastal Forest; AG-Agricultural Field; VW-Village Woodland; MG-Mangroves; Residential Status: RE-Resident; WM-Winter Migrant; PM-Passage Migrant (Grimmett *et al.* 2011); IUCN Status: LC-Least Concern; NT-Near Threatened; VU-Vulnerable; EN-Endangered; NA-Not Assessed (IUCN Red List). ** = New records from Purba Medinipur District

2. táblázat Az újonnan rögzített madarak listája a nyugat-bengáli Purba Medinipur körzet szomszédos tengerparti területeiről. Területek: S1-Nandigram; S2-Nijkasba; S3-Kanai Chatta; S4-Bakiput; S5-Boguran; S6-Digha-shankarpur torkolat; S7-Digha; Élőhely: SS-tengerpart; FW-édesvízes élőhely; AQ-vízgazdálkodási terület; CF-parti erdő; AG-mezőgazdasági terület; VW-kezelt erdő; MG-Mangrove erdő; Lakossági állapot: RE-állandó; WM-téli migráns; PM-ideiglenesen itt tartózkodó (Grimmett *et al.* 2011); IUCN állapota: LC-Nem Fenyegetett; NT-Mérsékeltlen Fenyegetett; VU-Sebezhető; EN-Veszélyeztetett; NA-Nem értékelt (IUCN Red List). ** = Új adatok Purba Medinipur területéről

Sl. No.	Order/Family	Species name\ Scientific Name	Study Sites	Habitat	Residential Status	IUCN status
1	Anseriformes: Anatidae	Common Shelduck <i>Tadorna tadorna</i>	S3, S5	SS	WM	LC
2		Ferruginous Duck <i>Aythya nyroca</i>	S3, S6	FW,AQ	WM	NT
3		Northern Shoveler <i>Spatula clypeata</i>	S3	FW	WM	LC
4		Eurasian Wigeon <i>Mareca penelope</i>	S1,S3, S6	SS,FW,AQ	WM	LC
5		Northern Pintail <i>Anas acuta</i>	S4	SS	WM	LC
6		Knob-billed Duck <i>Sarkidiornis melanotos</i>	S6	AQ	WM	LC
7		Common Pochard <i>Aythya farina</i>	S3	FW	WM	VU
8	Columbiformes: Columbidae	Orange-breasted Green <i>Treron bicinctus</i> **	S3, S6	CF,VW	RE	LC
9	Caprimulgiformes: Caprimulgidae	Jerdon's Nightjar <i>Caprimulgus atripennis</i> **	S3	CF,MG	RE	LC
10		Indian Nightjar <i>Caprimulgus asiaticus</i> **	S6	CF,VW	RE	LC
11	Cuculiformes: Cuculidae	Common Cuckoo <i>Cuculus canorus</i>	S3, S7	MG,CF	RE	LC
12	Gruiformes: Rallidae	Grey-headed Swamphen <i>Porphyrio poliocephalus</i>	S3	FW	RE	NA
13		Slaty-breasted Rail <i>Lewinia striata</i>	S3	FW	RE	LC
14	Charadriiformes: Scolopacidae	Ruddy Turnstone <i>Arenaria interpres</i>	S2, S4	SS	WM	LC
15		Great Knot <i>Calidris tenuirostris</i> **	S2, S3, S4, S5	SS	WM	EN

Sl. No.	Order/Family	Species name\ Scientific Name	Study Sites	Habitat	Residential Status	IUCN status
16		Red Knot <i>Calidris canutus</i> **	S4, S5	SS	WM	NT
17		Broad-billed Sandpiper <i>Calidris falcinellus</i> **	S2	SS	WM	LC
18		Dunlin <i>Calidris alpina</i> **	S2, S3	SS	WM	LC
19	Charadriiformes: Laridae	Indian Skimmer <i>Rynchops albicollis</i> **	S2	SS	RE	EN
20		Bridled tern <i>Onychoprion anaethetus</i> **	S7	SS	RE	LC
21		Slender-billed Gull <i>Chroicocephalus genei</i> **	S1	SS	WM	LC
22	Accipitriformes: Accipitridae	White-eyed Buzzard <i>Buteo teesa</i>	S3	AG,FW,VW	RE	LC
23		Changeable Hawk-eagle <i>Nisaetus cirrhatus</i>	S3	CF	RE	LC
24	Falconiformes: Falconidae	Amur Falcon <i>Falco amurensis</i>	S3,S6,S7	CF,AG,VW	PM	LC
25		Eurasian Hobby <i>Falco subbuteo</i>	S3, S7	FW,CF	WM	LC
26	Psittaciformes: Psittaculidae	Plum-headed Parakeet <i>Psittacula cyanocephala</i>	S3	VW	RE	LC
27	Passeriformes: Dicruridae	Lesser Racket-tailed Drongo <i>Dicrurus remifer</i> **	S3	CF	RE	LC
28	Passeriformes: Chloropseidae	Jerdon's Leafbird <i>Chloropsis jerdoni</i>	S3	FW	RE	LC
29	Passeriformes: Emberizidae	Black-headed Bunting <i>Emberiza melanocephala</i> **	S3	AG	WM	LC
30	Passeriformes: Phylloscopidae	Yellow-browed Warbler <i>Phylloscopus inornatus</i> **	S6	CF	WM	LC
31		Green-crowned Warbler <i>Phylloscopus burkii</i> **	S6	CF	WM	LC
32		Greenish Warbler <i>Phylloscopus trochiloides</i>	S6	VW	WM & PM	LC
33	Passeriformes: Sturnidae	Bank Myna <i>Acridotheres ginginianus</i>	S6,S3	AG	RE	LC
34	Passeriformes: Muscicapidae	Red-breasted Flycatcher <i>Ficedula parva</i> **	S6	CF	WM & PM	LC
35		Blue Rock Thrush <i>Monticola solitaries</i>	S6	CF	RE & WM	LC
36	Passeriformes: Turdidae	Scaly Thrush <i>Zoothera dauma</i>	S6	CF	WM	LC

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