

# A new wintering site in Eastern India for the Endangered Nordmann's Greenshank *Tringa guttifer*: Evidence from telemetry-assisted field surveys

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## Introduction

Nordmann's Greenshank *Tringa guttifer* is one of the many shorebird species that have declined along the East Asian-Australasian Flyway (EAAF); a flyway that supports the highest diversity of shorebirds in the world (Cao et al. 2023). With an estimated population of about 900–1200 individuals (Wetland International 2023), it is categorized as 'Endangered' (BirdLife International 2023). It breeds during June–August in sparse larch forests near the coasts of western and northern Sea of Okhotsk, bays of Khabarovsk Krai, and northeastern Sakhalin Island of Russia. It migrates southwards along the coasts of China, South Korea, Hong Kong, and Taiwan to spend the non-breeding period mainly in the mudflats and sandflats of Thailand, Cambodia, Vietnam, Malay Peninsula, and Bangladesh (Brazil 2009; Hayman 2011; Zöckler et al. 2018; Maleko et al. 2021; Sangha 2021).

Most historical records of Nordmann's Greenshank from the Indian subcontinent are disputed. Past records from Nepal and Sri Lanka were found to be doubtful (Rasmussen & Anderton 2012). During revision of existing records of Nordmann's Greenshank from 11 states of India, Praveen et al. (2021) deemed all as dubious and excluded the species from the list of Indian birds. However, there are several well-documented wintering sites recorded in Bangladesh; namely Kaladia, Harsher Char, Domar Char, Sonadia Island (Cox's Bazar), Nijum Dwip, Noakhali, Jahajja Char (Meghna Estuary), Jahajja Char North, and Foillatoli (Bird et al. 2010; Thompson et al. 2014; Chowdhury & Foysal 2017; Zockler et al. 2018; Chowdhury et al. 2020). The first documented evidence from India was when Kasambe & Kasambe (2022) reported a sighting of a Nordmann's Greenshank on 21 December 2020 at Akshi Beach, Raigad, Maharashtra, on the western coast of India.

On 14 February 2022, MM reported a sighting of 3 unidentified waders at Lothian Island, West Bengal [1]. From his photographs shared on social media, those birds were identified as Nordmann's Greenshanks from their stunted appearance and thick, upcurved bill. The news of this discovery raised hopes among the local birdwatchers that more Nordmann's Greenshanks may be found along coastal West Bengal and it might be a potential wintering site.



[1] Nordmann's Greenshank at Lothian Island, West Bengal on 11 February 2022. (Photo: Milan Mandal)

## Methodology

The Mai Po Nature Reserve and Inner Deep Bay areas of Hong Kong Special Administrative Region regularly support 50,000–60,000 migratory birds every winter. However, the population of migratory birds along the flyway has been declining, highlighting the importance of identifying and protecting their critical habitats. Therefore, to identify migratory routes and important sites in the flyway, WWF-Hong Kong has collaborated with experts under the Wetland Incubator project to deploy satellite tracking devices to specific migratory birds.

On 15 April 2022, one Nordmann's Greenshank was trapped and subsequently GPS-tagged as D1 in Mai Po Nature Reserve, Hong Kong (22.48°N, 114.03°E) by Hong Kong Waterbirds Ringing Group, supported by WWF-Hong Kong. It left Hong Kong on 08 May 2022, 23 days after being released. GPS logs showed that it was in West Bengal, India from 29 December 2022 to 20 April 2023. During the period, it mainly stayed around the tidal areas at the mouth of Rasulpur River in East Medinipur district (21.79°, 87.89°E) and outlying sand flats south of Sagar Island in the Bay of Bengal (21.64°N, 87.97°E).

On 29 December 2022, SD and his colleagues were informed by the Animal Tracker mobile app that the Nordmann's Greenshank, tagged as D1 aka Siu Ching aka DXA1315 has arrived in West Bengal and it is moving around the area between Meidinagar sea beach (21.80°N, 87.92°E) and Hijli sea beach (21.79°N, 87.89°E) of Purba Medinipur district. On 01 January 2023, SD, SA, SB and colleagues (Biswanath Mondal, Santanab Majumder) reached Hijli sea beach (21.79°N, 87.89°E) at 0940 h and surveyed the area for over four hours but the Nordmann's Greenshank (D1) could not be located. Over the next few months, SB connected with FKWC at WWF-Hong Kong and received regular feed of D1's positions. Based on the telemetry data, several excursions were undertaken to trace this specific tagged bird.

## Results & Discussion

On 26 March 2023, at 1226 h during high tide, PD encountered a single Nordmann's Greenshank at Meidinagar sea beach, Purba Medinipur (21.80°N, 87.92°E) (Das 2023). It was roosting on an open sandy beach along with a Common Greenshank. It was distinguished from the similar looking Common Greenshank by noting its thicker, slightly upturned, bicoloured bill, shorter yellow legs, clean white underparts and greenish upperparts (Kasambe & Kasambe 2022). Again, on 30 April 2023, at 0635 hours, three individuals were seen foraging on tidal mudflats by PD at Hijli sea beach, Purba Medinipur (21.79°N, 87.89°E) (Das 2023). These birds were in a mixed flock with Temminck's Stints *Calidris temminckii*, Terek Sandpipers *Xenus cinereus*, Curlew Sandpipers *C. ferruginea*, and Common Redshanks *T. totanus*. Thereafter, on 07 May 2023 at 1246 h, PD & AP observed two individuals [2, 3] at Meidinagar sea beach (21.80°N, 87.92°E), of which one individual was foraging on the mudflat close to sea with a Tibetan Sand-Plover *Anarhynchus atrifrons* and the other one was roosting on the beach with Tibetan Sand-Plovers, Whiskered Terns *Chlidonias hybrida*, and Dunlins *C. alpina* (Das & Payra 2023). Again, on 08 May 2023, at 1115 h, PD observed one individual at this exact location during high tide (Das 2023).



[2] Nordmann's Greenshank at coastal Purba Medinipur, West Bengal, India, 07 May 2023 (Photo: Arajast Payra)



[3] Nordmann's Greenshank with Tibetan Sand-Plover at coastal Purba Medinipur, West Bengal, India, 07 May 2023 (Photo: Arajast Payra)

Based on PD and AP's experience, SD and SA visited Hijli (21.79°N, 87.89°E) and Meidinagar (21.80°N, 87.92°E) on 14 May 2023. At Meidinagar sea beach, they identified a Nordmann's Greenshank [4]. The bird took off shortly and joined a flock of waders in flight [5]. On further scrutiny of their photographs, SD and SA were able to identify two more individuals in the flying flock (Das & Aon 2023).



[4] Nordmann's Greenshank at its coastal Purba Medinipur habitat, West Bengal, India, 14 May 2023 (Photo: Sandip Das)



[5] Nordmann's Greenshank in flight, Purba Medinipur, West Bengal, India, 14 May 2023 (Photo: Sandip Das)

However, none of the individuals sighted during this entire period were seen with GPS tags, and hence no visual confirmation of D1's presence was obtained. In all the direct observations of the species, only once a call was heard on 26 Mar 2023, when a bird flew with a short 'kuk' sound. From the GPS data of D1, it was noticed that it was spending most of its time on shallow coastal mudflats during low tides and roosting during high tides, mostly on coastal sand flats but sometimes in inland ponds during night. The areas near Hijli beach and Meidinagar beach are unprotected and near human habitation where vessel traffic and fishermen were present. But these birds were foraging c.500m into the water where it was difficult to approach and hence remained undisturbed. GPS data of D1 shows that in the night, it was often travelling to inaccessible sand flats south-west of Sagar Island, areas which are completely free from any kind of human disturbances.

With sightings of multiple individuals from two consecutive wintering seasons from West Bengal coasts, there is now reason to speculate that this species perhaps winters here regularly but was hitherto unknown due to the remote nature of the tidal mudflats where it chooses to stay.



Fig. 1. Nordmann's Greenshank observations and telemetric records from West Bengal.

Table 1: Sighting records of Nordmann's Greenshank from West Bengal, India.			
Sl. No	Date	Number of Individuals	Observer
1	14 February 2022 16:06 h	3	MM

2	26 Mar 2023 12:26 h	1	PD
3	30 Apr 2023 06:35 h	3	PD
4	07 May 2023 12:46 h	2	PD & AP
5	08 May 2023 11:15 h	1	PD
6	14 May 2023 09:48 h	1 & 3	SD & SA

## Conclusion

The success of finding D1, and a new wintering site for Nordmann's Greenshank completely depended on the availability of telemetry data. The regular feed of GPX data from scientists at WWF-HK during the entire period had kept the local birdwatchers updated about the bird's whereabouts. It helped them plan several field trips, and expand their area of search with each visit. In this process, the birdwatchers discovered a new hotspot for wintering waders, and discovered large congregations of several migratory waders in numbers that were hitherto unreported from the region. This was a unique way in which scientists, remotely located at Hong Kong, collaborated with independent field birdwatchers in West Bengal, and together, their effort produced successful results. This experience also highlights the importance of multi-national collaboration in monitoring global flyways, and proves that such collaborations can reveal crucial information for the conservation of globally endangered migratory species.

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