SHORT COMMUNICATION

WATERBIRDS FROM THE MUDFLATS OF THANE CREEK, MUMBAI, MAHARASHTRA, INDIA: A REVIEW OF DISTRIBUTION RECORDS FROM INDIA

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Waterbirds from the mudflats of Thane Creek, Mumbai, Maharashtra, India: a review of distribution records from India

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Abstract: Thane creek is one of the coastal and marine protected sites located in Mumbai which declared as a sanctuary recently in 2015. Creek region provides diverse habitat to birds for feeding, nesting and resting, making it a potential bird watching sight for ornithologists and enthusiasts. This article presents some interesting observations of waterbird species recorded from mudflats of Thane creek near Bhandup Pumping Station, Mumbai and also reviewed their previous records from various states of India.

Keywords: Bhandup Pumping Station, bird watching, mangrove, waterbirds.

Thane Creek, near Bhandup Pumping Station, is an area located in a central suburb of Mumbai, India that shows heterogeneous habitat including mangroves, interspersed with salt pans and marshland. It measures about 2.25 km² (19.150°N & 72.956°E). Diverse habitat of the region offers wide range of opportunities to birds for feeding, nesting and resting, making it a potential bird watching sight for ornithologists and enthusiasts.

Thane Creek (Image 1) is situated between 19.004°N to 19.250°N latitudes & 72.933°E to 73.000°E longitudes spread over around 26km long, and connects to the Mumbai Harbor on its south and to Ulhas River on its north near Thane City. The substratum of the creek is made up of consolidated and unconsolidated boulders intermingled with loose rocks, and rarely with sand and gravel. Extensive mudflats (Image 1) are formed along the banks of the creek which are characterized by growth of mangroves (Athalye 2013). The mudflats of the mangrove ecosystems are reported to play a significant role in the conservation of resident birds, migratory and endangered birds (Chaudhari-Pachpande & Pejaver 2016).

Studies are available on avifaunal diversity of India (Praveen et al. 2016a). Present survey was conducted from December 2015 to May 2018. Equipment such as Olympus DPSI 10 X 50 wide angle binocular & digital camera model Cannon 700D with Cannon 100–400 mm IS-II telephoto lens was used for the present study. The waders feeding in the intertidal area were observed during the low tide. The bird species were identified using standard field guides (Rasmussen & Anderton 2012; Grimmett et al. 2013) and care was taken to avoid disturbing the birds during the survey.


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Most birds have specific habitat requirements from season to season, a loss of which may lead to their extinction. Chaudhari-Pachpande & Pejaver (2016) highlighted that habitat destruction is considered as one of the main reasons for such a decrease in bird species population. Wetlands are reported as highly fragile ecosystem due to increasing anthropogenic stress. Therefore, this calls for an urgent need for conservation of bird habitats to sustain their population. In this study, we report some interesting observations of water bird species and also review their previous records from various states of India. This urban diversity of water birds, however, could be under the threat from various anthropogenic activities. Such urban pockets of habitats need to be conserved.

A brief account of observations of species is given below:

**Long-billed Dowitcher Limnodromus scolopaceus**

The Long-billed Dowitcher is a recent addition to the avifauna of the Indian Subcontinent (Holt 1999), and is considered a vagrant to the area (Rasmussen & Anderton 2012). On 24 February 2018, while observing waders on the mudflats of Thane Creek (19.133°N, 72.962°E), a lone, adult individual in non-breeding plumage was observed near Bhandup Pumping Station. In the morning, Omkar Dilip Adhikari and Himanshu Tembhkekar spotted a wader looking very similar to a snipe foraging in the mudflats along with a flock of other species of the waders such as Common Sandpiper, Common Redshank, Common Greenshank, Wood Sandpiper, Black-tailed Godwit and Little Stint on low tide. The author photographed these birds.

It was suspected to be a one of the American dowitchers in the field; later while comparing the photographs with other dowitchers, the author observed and found the thick and straight bill twice as long as head in size and greenish at base, supercilium straight till the eye, grey-washed breast with lightly barred flanks, thick neck and bulky shoulders, short greenish-yellow legs. On further study it was identified as Long-billed Dowitcher (*L. scolopaceus*) (Rasmussen & Anderton 2005; Grimmett et al. 2013) (Image 2)

On the next day at forenoon, the author observed it again at the same place foraging on mudflats for
approximately four hours from low tide to high tide. At high tide the bird took off and disappeared into the nearby mangroves. The sewing machine-like behavior was observed while feeding on marine worms, very small crustaceans, shell animals, and small marine flora. Later, the same species were observed and photographed by many bird enthusiasts in next 12 days at the same spot.

Sharma et al. (2013) states that *L. scolopaceus* was observed and documented six times from various states of India such as Rajasthan, Haryana, Gujarat, and Punjab along with the other waders. Recently, Sreenivasan (2016) reported its occurrence from Kerala State and he considered this report as the first record from peninsular India. This species was observed twice at Thane Creek in last two years (2017–2018). Firstly, the sighting of this bird was reported by a birdwatcher Ronit Datta (pers. comm. January 2017) from Thane Creek on 17 January 2017 in morning session. On same day, author also observed the same species at same location but in evening session. Bird activity was observed for next three days while feeding on mudflats especially at low tide.

**Black-necked Grebe *Podiceps nigricollis***

*Podiceps nigricollis* is a rare winter migrant which breeds in Baluchistan and spends winters mainly in Pakistan, northwestern India, and Nepal (Rasmussen & Anderton 2012). Prasad (2003) states that Black-necked Grebes are rare winter visitors to western Maharashtra and very few sightings have been recorded from this region. Recently, on 26 October 2017, the bird was observed and photographed (Image 3) at Bhandup Pumping Station (19.139303°N, 72.962901°E) along with the four individuals of Little Grebe *Tachybaptus ruficollis*. The author also observed this individual feeding on small fish, crustaceans and small insects. Like other grebe species, sunbathing behavior by raising its rump and facing away from the sun was observed. Earlier, in the month of October 2017, the same species were photographed by Akshay Shinde at Bhandup Pumping Station. The bird was observed while feeding on tadpoles, small fish and insects. Previously, this species was reported from various states of India such as Maharashtra (Raha 2013), Gujarat (Sukumar & Mani 2016), Odisha (Nair et al. 2015), Uttarakhand (Bhatt et al. 2015), Jammu & Kashmir (Khan 2016; Quadros et al. 2016), Assam (Choudhury 2006), and Himachal Pradesh (Kumar 2015).

**White Stork *Ciconia ciconia***

This species is a widespread winter visitor to India, passage migrant to Afghanistan and Pakistan; vagrant to Sri Lanka. It breeds in Europe spreading to central Asia (Rasmussen & Anderton 2012; Grimmett et al. 2013). According to Kasambe et al. (2015), *Ciconia ciconia* is an uncommon winter visitor to western Maharashtra with decreasing numbers in south but more common in Gujarat than other states in India. On
21 February 2016, the bird was observed in flight by the Omkar Dilip Adhikari and Himanshu Tembhekar (Image 4). In January 2017, it was observed while resting on mudflats. Kasambe et al. (2015) have compiled the data of recent records of this species from various districts of Maharashtra State. Here we report one more recent record of White Stork from Mumbai region. This species has been observed and documented from several states of India such as Gujarat (Akhtar & Tiwari 1993; Kasambe et al. 2015), Rajasthan (Prater 1931; Jayapal et al. 2012–13), Karnataka (Praveen 2016b), Andhra Pradesh (Ahmed 1996), Tamil Nadu (Daniels 2016), Kerala (Praveen 2015), Assam (Choudhury 2006), Bihar (Dey et al. 2014), Arunachal Pradesh (Borang 2015), Goa (Baidya & Bhagat 2018), Himachal Pradesh (Prasad 2006), and Uttarakhand (Bhatt 2015).

**Grey-headed Lapwing *Vanellus cinereus***

The observation was published in Adhikari (2018) and (Roshnath 2017) discussed the previous records of this species from several states of India.

**White-tailed Lapwing *Vanellus leucurus***

The White-tailed Lapwing is a winter visitor to India. This species breeds in Russia and migrates in winter to northeastern Africa, the Middle East, and the Indian subcontinent, later to return to their breeding grounds in March and April. It is occasionally sighted in the western region of Maharashtra State, India, but rarely documented (Satose et al. 2016). Recently, on 19 December 2017, the bird was observed and photographed (Image 5) by local birdwatcher Omkar Nar while resting on mudflats. Previously, this species has been reported from various states of India such as Kerala (Praveen 2015), Himachal Pradesh (Kumar 2015), Delhi (Urfi 2003), Uttar Pradesh (Ansari & Nawab 2015), Rajasthan (Mohan & Gaur 2008), Maharashtra (Satose et al. 2016), Chhattisgarh (Chandra 2015), Uttarakhnad (Mohan & Sondhi 2015), Goa (Baidya & Bhagat 2018), Calcutta, and Odisha (Rasmussen & Anderton 2012).

**Common Shelduck *Tadorna tadorna***

*Tadorna tadorna* is a widespread winter visitor to India (Rasmussen & Anderton 2012). On 7 January 2017, at 17.30h, the author accompanied by wildlife photographers Souvik Kundu and Shyam Iyer observed and photographed (Image 6) a total of four pairs of Common Shelduck in mixed flock of ducks such as Northern Shovellers, Garganey Ducks, Gadwall Ducks and Common Teal. Two weeks before this observation (Patil & Pawar 2017) reported sighting of same species from Panje wetland, Uran, Navi Mumbai, and also mentioned that the above report stands as the first record of its occurrence on the western coast of Maharashtra. The bird was observed while foraging in shallow water by upending and head dipping, and mostly by digging, scything and dabbling on mudflats. The author made a note of its diet which includes small fishes, molluscs, insects, crustaceans, marine worms and plant materials. Previously, this species has been reported from various states of India such as Maharashtra (Raha 2013; Patil & Pawar 2017), Uttar Pradesh (Searight 1928; Quadros et al. 2016), Jammu & Kashmir (Quadros et al. 2016), Punjab (Waite 1933), Odisha (Fooks 1939; Bhujabal 2014), Delhi (Goswami 2014), Bihar (Dey et al. 2014), Manipur (Higgins 1913), Uttarakhnad (Bhatt 2015), West Bengal (Inglis 1934), Himachal Pradesh (Kumar 2015), Gujarat (Maharaoo of Kutch 1971; Vyas & Munipara 2009), Assam (Lahkar 2009), Arunachal Pradesh (Borang 2015), Karnataka (Ghorpade 2016), and Andhra Pradesh & Telangana (Taher 2016).
White-winged Tern Chlidonias leucopterus
Pittie et al. (2005) state that the White-winged Tern Chlidonias leucopterus has been described as a winter visitor to Assam, Bangladesh, and Sri Lanka, irregularly in the rest of the Indian peninsula and in the Maldives and Andaman Island. They also reviewed its distribution from various states of India and summarized its previous records by placing them roughly into three zones such as western coast (Maharashtra, Gujarat, Goa, Kerala), eastern coast (Odisha, Tamil Nadu) and inland (Jammu & Kashmir, Punjab, Rajasthan, Jharkhand, Delhi, Karnataka, Madhya Pradesh). Further, they confirm that migration of the White-winged Tern is more common along the east and west coasts of India, than it is in the central (India). Singh (2016) reported first record of this species from Manipur State. He discussed that it was possibly less vagrant than appears, as responsible to be overlooked among the numerous Whiskered Terns with which it keeps in winter, and is impossible to distinguish from goodly before it starts moulting into its distinctive summer plumage. Its group loving nature and the fact that it keeps with Whiskered Terns is well documented. Amin & Sheth (2016) reported occurrence of White-winged Tern along with the flock of Whiskered Terns in breeding plumage from Bhandup Pumping Station and one more sighting of this species along with the flock of Whiskered Terns in breeding plumage was recorded on 15 April 2017 from the same location by local bird watcher Avinash Bhagat (pers. comm. 15 April 2017). It is quite possible that this species might be a regular visitor of this place but remained overlooked due to its occurrence with a flock of Whiskered Terns and its appearance in non-breeding plumage in the western coast of Maharashtra.

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