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First Report of Breeding Pair of Red-necked Phalarope (*Phalaropus lobatus*) on the Sambhar Ramsar Site, Rajasthan, India

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Abstract: The Red-necked Phalarope (*Phalaropus lobatus*) is a vagrant to the Indian Subcontinent with only a little observation. 18 April no any breeding features was show in group, but it's was observed on date 16th May 2020 all 10 pairs have breeding characters show in male and female birds. Sambhar Salt Lake (Ramsar site) where it can be considered a recurring record due to repeated sightings, but the continuation of birds in Sambhar which used to come here during winter is difficult to explain due to climate change.

Keywords: Red-necked phalarope, *Phalaropus lobatus*, Breeding pair, Sambhar salt lake

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Introduction

Red-necked Phalarope (*Phalaropus lobatus*) breed mainly in Arctic regions of North America and Eurasia. It is migratory and unusually winters wader at sea on tropical oceans. The red-necked phalarope is tiny headed, outsized bodied wading bird with a long needle-like bill and lobed toes. In breeding time plumage, adults have white throat patches and a predominantly dark grey head and back. The male has a paler underside than the female, almost entirely white, whereas females have a grey breast. Breeding females have a more

brightly colored chestnut red neck than the male. Non-breeding adult birds have pale silvery-grey upperparts, white face and under parts, and a small black patch behind the eye. Juveniles look like non-breeding adults but also have a grey-brown wash on the nape, shoulders and upper wings, and a darker coronet. In the Indian Subcontinent Red-necked Phalarope and Red Phalarope are reported (Kazmierczak, 2000; Grimmett *et al.*, 2011; Rasmussen and Anderton, 2012). Species range is very wide and therefore

does not meet size limitation criteria (common occurrence < 20,000 km², plus reduction or change in size) although population decline is likely, based on population trends (>30% decline in ten years or three generations) the decline is enough to reach the vulnerability point. It is not expected to be fast. The population is very large and therefore does not meet the requirements of the large-scale population (adults < 10,000, estimated decline > 10% ten or three generations, or certain population models). These species are rated as Least Concern as per data bases of Birds Life International (2023). Both species winter in the South Pacific, with the Red-necked Phalarope also breeding in the Arabian Sea, and the Red Phalarope in the Atlantic off Africa. Red-necked Phalaropes in Europe and Asia migrate overland, and are sometimes encountered in some numbers on inland wetlands, but Red Phalaropes occur only inland when storm driven (Chandler, 2009).

The Red-necked Phalarope is the smallest of the three Phalarope species, and has the most widespread circum-polar breeding range. A wading bird of the open ocean, it lives virtually as a seabird most of the year, coming on shore to breed. Red-necked Phalarope is not an uncommon wader, during the autumn passage, at suitable locations in Rajasthan. It is regular during autumn passage at Sambhar Lake (Kochiya Ki Dhani and Near Shambhar Railway station), where they were seen during August almost every year since 1990. In disparity, very little is known about the migration of species at sea; the most detailed information about migration comes from a single saline lake in California (Rubega and Inouye, 1994) and the Bay of Fundy (Mercier, 1985; Mercier and Gaskin, 1985; Brown and Gaskin, 1988). Few studies of tracking of birds from breeding locations in Greenland, Iceland and the Shetland islands, Scotland has found that the marked individuals descend the Atlantic coast of North America and then cross the western Caribbean and central America to winter in the Pacific; returning by the similar routes (Smith *et al.*, 2018). It is rarely recorded inland, but on passage is recorded practically throughout

Afghanistan, Pakistan, and north-western India; a few records are from west Nepal, Bihar, and inland southern India (Rasmussen and Anderton, 2012). According to Ali and Ripley (1980) it is recorded from a few inland localities on spring and/or autumn passage. On breeding ground and on fresh waters in migration they eat generally insects, including adults and larvae of flies, beetles, caddisflies. During stopovers on alkaline lakes, may eat many brine shrimp. Winter diet on ocean probably includes small crustaceans and mollusks. An predictable 42,000 consideration to breed in Arctic National Wildlife Refuge, Alaska (Brown *et al.*, 2007), although at least local declines have been reported in some areas in recent decades (Bart *et al.*, 2007; Sammler *et al.*, 2008). More than 1,000,000 birds winter in Arabian Sea, with large numbers of these moving through Central Asia, e.g. Kazakhstan, where between c. 590,000 and 650,000 individuals have been estimated to pass through the Tengiz-Korgalzhyn region in spring (< 200,000 in autumn; Schielzeth *et al.*, 2010).

The Red-necked cormorant is a small shorebird that spends most of its time in the open ocean. It has a length of 6-8 inches and a wingspan of 14-15 inches. It has a long, pointed black beak and long black legs with lobed fingers. During the breeding season, the female's breast is gray. The back is dark gray with brown stripes. Its head is dark gray, with a white spot over its eyes, its neck is red, and its chin is white. The color of the males is similar, but slightly darker, with a white line above the eye. During the breeding season, it has a red-necked gray back and a white belly. It has a white head with black patches on his face. More than a few authors identified Red-necked Phalarope (*Phalaropus lobatus*) calls from a flock as well as single one (Andrew Spencer, 2014; Michel Robert, 2022).

Materials and Methods

The red neck phalarope in Sambhar was first seen in summer on 18th April 2020, Jhapok dam, Sambhar Salt Lake, Jaipur (26.9035°N, 75.1284°E) when it was 20 in numbers. Flock was reported



(1)

(2)

(3)

Fig. 1: Adult female Red-necked Phalarope, breeding plumage during male approaching.

Fig. 2: Adult female Red-necked Phalarope, breeding plumage during grooming.

Fig. 3: Adult female Red-necked Phalarope, breeding plumage.

with Canon 700d with Tamron 150-600 mm G2 lens and recorded. It was the first time that this bird was seen after the end of winter, it was seen in the Sambhar Lake (26.9043°N, 75.1227°E) on 16th May 2020. On date 18 April no any breeding features was show in group, but it was observed on date 16th May 2020 that all 10 pairs have breeding characters shown in male and female birds. The temperature was recorded at a minimum of 29°C and a maximum of 33°C. Sambhar Lake has got 2-3 feet of water after the last 35 years or else the water of Sambhar Lake evaporates in summer. Earlier from here no record of breeding pair with characters of red neck phalarope in spring or summer passage records from Rajasthan. During the breeding season, red-necked woodcocks feed on insects, crustaceans and mollusks. Sand red-necked is not designed for diving, so in the ocean it scrapes zooplankton, small crustaceans and mollusks from the surface. It usually occurs in areas where ocean currents meet and form and rising water levels bring food to the surface.

In female forehead, crown, hindneck, and sides of head blackish neutral gray, Small, brilliant white spots above and below eye, mahogany red bands extend from behind ear coverts down sides of neck, and across front of neck to form horseshoe-shaped collar, variably spotted dark neutral gray

on central fore-neck. Upper back and scapulars blackish neutral gray; cinnamon double streak on upperparts formed by edging on outer back- and scapular-feathers. Upper tail-coverts black, fringed cinnamon and tipped white; feathers of sides of rump and upper tail-coverts mostly white. All wing feathers retained from basic plumage (Figs. 1, 2, 3). In males forehead, crown, lores, and cheeks sepia, washed raw umber on cheeks. Blurry mixed white and raw umber super cilium, falls short of bill. White spots above and below eye less bright and less distinct than in female. Lower back, rump, upper tail-coverts, tail, all wing feathers same as in female. Fore neck, chest, sides of breast, and flanks dark neutral gray, broadly fringed white and all other under parts white (Figs. 4 to 9).



Fig. 4: Adult male Red-necked Phalarope, breeding plumage.



Fig. 5: First arrival of Red-necked Phalarope *Phalaropus lobatus* (18th April 2020, Jhapok dam, Sambhar Salt Lake, Jaipur).



Fig. 6: Females of Red-necked Phalarope *Phalaropus lobatus*.



(A)

(B)

Fig. 7 (A, B): Adult female Red-necked Phalarope, breeding plumage.

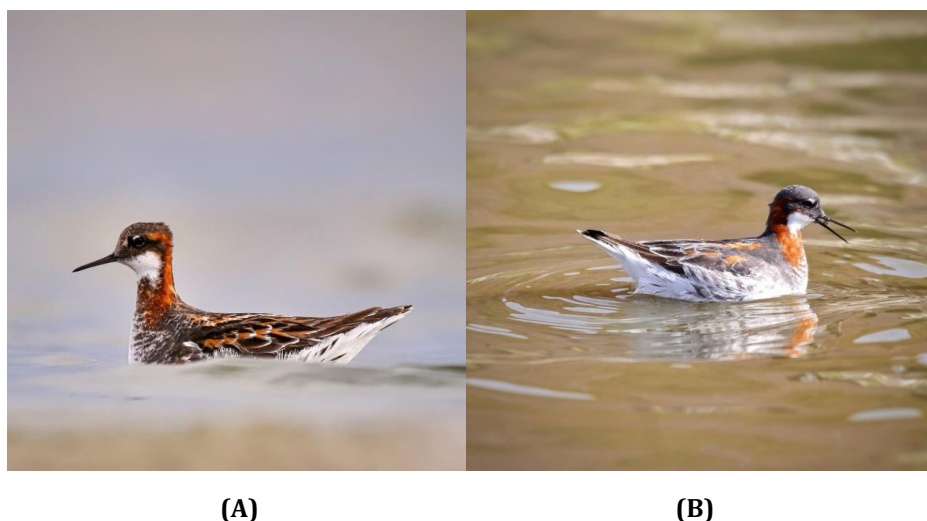


Fig. 8 (A, B): Adult female Red-necked Phalarope, breeding plumage.

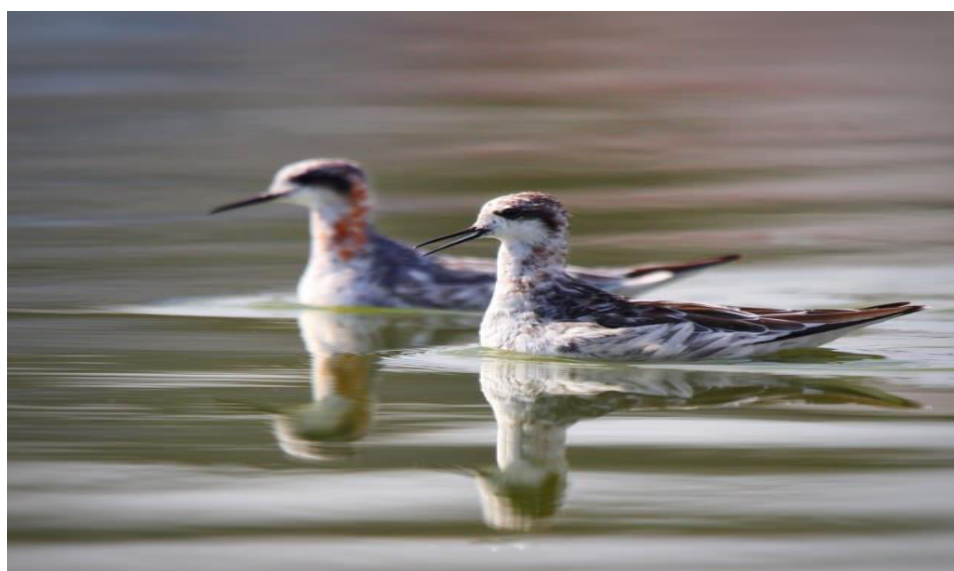


Fig. 9: Breeding pair of Red-necked Phalarope *Phalaropus lobatus*.

Results and Discussion

The red neck phalarope is a vagrant to the Indian Subcontinent with only a little observation (Table 1). They have the most marine migration of any species of wader and migrate almost exclusively via sea routes to their main wintering areas. Such strange domestic occurrences, of normally marine or littoral species, are frequently related to unusual weather patterns, and especially to extremely strong aground winds (Ash and Ashford, 1977). Sambhar Salt Lake (Ramsar site)

where it can be considered a recurring record due to repeated sightings, but the continuation of birds in Sambhar which used to come here during winter is difficult to explain due to climate change. It is first time recorded breeding pairs in India due to climate change.

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Table 1: Records of Red-necked Phalarope from the Indian Subcontinent (2002-2020)

S. No.	Location	Authors	Numbers of Birds
1	5 th February 1999, at Kochia ki Dhani, freshwater pond, Sambhar Lake (26.58°N, 75.05°E)	Sangha (2002)	17
2	2 nd November 2001, at Kochia ki Dhani, freshwater pond, Sambhar Lake (26.58°N, 75.05°E)	Sangha (2009)	5
3	18 th December 2007, at Vakeria dhand (23.43°N, 23.60°E), Banni, Great Rann of Kachchh	Jugal Tiwari (2007); Cited in (Sangha, 2017)	1
4	1 st December 2009, Sambhar Lake	Divyabhanusinh Chavda & late Shantanu Kumar (2009) Lit.Cited in (Sangha, H. S., 2017)	13
5	West Nepal, Bihar, and inland southern India	Rasmussen & Anderton (2012)	-
6	1 st December 2013, at Kochia ki Dhani, freshwater pond, Sambhar Lake (26.58°N, 75.05°E)	Abhinav C (2013); Cited in (Sangha, 2017)	14
7	9 th September 2013 at Jaisalmer (Rajasthan)	Mishra (2013)	2
8	6 th February 2015 at the Najafgarh wetlands (28.60°N, 76.99°E), southwestern Delhi District	Sanjay Sharma (2015)	1
9	8 th February 2015 Soor Sarovar, (27.23°N, 77.85°E), Agra District (Uttar Pradesh)	Cited in (Sangha, 2017)	1
10	16 th December 2015, at Badopal (25.15°N, 60.04°E), a saline wetland, in Hanumangarh District, Rajasthan,	Jännes (2015)	1
11	6 th May 2018, Malkhed Spillway and Reservoir, Yavatmal District, Maharashtra, India	Sangha (2015) Cited in (Sangha, 2017)	3
12	20 th September 2018, Nal Sarovar Bird Sanctuary, near Ahmedabad, Gujarat, India	Praveen Joshi (2021)	1
13	29 th September 2018 Tal Chappar Wildlife Sanctuary, Churu District, Rajasthan, India	Viral Patel and Pankaj Maheria (2018)	1
14	12 th October 2018 Dhigal, Haryana, India	Pranjal J Saikia (2018) Cited in (Sangha, 2017)	1
15	31 st January 2019, Valsura Salt Pans, Jamnagar, Gujarat, India	Nikhil Devasar (2018)	1
16	18 th April 2020, Jhapok dam, Sambhar salt Lake, Jaipur	Patel (2019) Cited in (Sangha, 2017)	1
17	16 th May 2020, Dadu Dayal ji ki chatr, Sambhar salt Lake, Jaipur	Gorav Sharma and Bohra (2020)	20
		Gorav Sharma (2020); Bohra (2020)	16

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