Waterbirds in Great Vedaranyam Swamps, Pt. Calimere

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Introduction

The Point Calimere Wildlife Sanctuary (10°18' N, 79°51' E) is situated on a low promontory on the Coromandel Coast in the Bay of Bengal (Fig. 1). The adjoining Great Vedaranyam Swamp stretches parallel to the Palk Strait for about 48 km, and is separated from it by a sandbank. Its north-south dimensions vary from about 10 km at its broadest in the east, to about 8 km in the central part and about 6 km in its western portion. Five freshwater channels connected to the Cauvery River empty into the swamp. There is a gradual slope from north to south. The total area is about 349 sq. km. In about two-thirds of the swamp, the habitat varies seasonally. During the monsoon and periods of south-westerly winds, there is a continuous expanse of fresh, brackish or saline water extending to the northern tip of the swamp. At other times, the area of open water gradually dries up from north to south. During the drying stage, there are exposed flats and shallow pools. The entire swamp is about 30km long and 9km wide. The extreme eastern promontory of the swamp, comprising Kodikkarai and Kodikkadu Reserve Forest, has been declared a wildlife sanctuary. Point Calimere Wildlife Sanctuary supports both littoral and terrestrial life zones (Ali 1980; Manakadan 1992). It comprises 26 sq. km of tropical dry evergreen forest intermingled with scrub jungle and mangrove vegetation and intersected by numerous tidal inlets and creeks. Point Calimere Wildlife Sanctuary was declared as a Ramsar site on 19th August 2002. Exploitation of the Great Vedaranyam Swamp for salt extraction and other marine-based industries is fast growing. Two private chemical companies have been operating in the leased swamp areas adjoining the wildlife sanctuary.

Materials and Methods

The presnt study was conducted at the Great Vedaranyam Swamp of the Point Calimere Wildlife Sanctuary, Nagapattinam District, Tamil Nadu, India between January 2008 and December 2009. The swamp was demarcated into three transects for the study purpose and each transect was 5000m length and 400m width. Observations were done twice a month from early in the morning and late evening. Birds were observed, using a 7x50 field binoculars and a 30x60 telescope. For bird species identification, several guide studies were used (Ali 1969; King *et al.* 1978; Sonobe & Usui 2000).

Results and Discussion

Surveys indicated the occurrence of 46 waterbird species from 11 families (Table 1). Of these, 34 species were migrant, 10 species resident and 2 species local migrant. The dominant family was Scolopacidae, representing 12 species followed by Laridae (9 species) and Charadriidae (7species) and Ardeidae (5 species). In the study period, Lesser Flamingo was recorded only during November and December 2008. Birds like Black Ibis, Northern Pintail, Common Teal, Garganey, Northern Shoveller, Grey Plover, Common Ringed Plover, Whimbrel, Terek Sandpiper, Common Sandpiper, Ruddy Turn Stone, Pallas's Gull and Common Tern was mostly observed between October and March. The avifauna of the Great Vedaranyam Swamps is divided into five ecological groups based on similarities in methods of procuring food. These groups are small waders (19 species), large waders (11 species), aerial foragers (9 species), swimming birds (6 species) and divers (1 species). The highest number of species gathering (46 species) occurred November and December 2008 and the lowest number of species (16 species) was observed in July 2009 (Fig. 2).

Earlier, Manakadan (1992) recorded 54 waterbird species in the Great Vedaranyam Swamp. Anbazhagan (1988) noted that 230 species of birds in this study area. Ramsar Site Report (2002) indicated that 119 waterbirds and 138 land birds visit the Point Calimere Wildlife Sanctuary. Baruah (2005) gathered a list of 269 species of birds in Point Calimere Wildlife Sanctuary of which 103 species were migratory waterbirds. Compared previous studies, the present study indicated that the numbers of migratory waterbird species were declined over the years. Balachandran (2006) stated that Point Calimere is now degraded as a result of human interference and a decline of over 70% has been noted in the wader populations. We concluded that the main reasons for causes of waterbirds in the study area may be due to illegal hunting of birds, significant decline of annual rainfall, hyper-saline conditions due to salt-pans have been hampered by embankments constructed in the swamp by chemical companies and fish catching carried out by local peoples in the swamp.

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Table 1. List of water birds recorded in the Great Vedaranyam Swamps of the Point Calimere Wildlife Sanctuary

Order/Family	Common Name	Scientific Name	Status	Ecological Group
Pelecaniformes				
Pelecanidae	Spot-billed Pelican	*Pelecanus philippensis*	R	SB
Phalacrocoracidae	Little Cormorant	*Phalacrocorax niger*	R	D
Ciconiiformes				
Ardeidae	Little Egret	*Egretta garzetta*	R	LW
Ardeidae	Western Reef-Egret	*Egretta gularis*	R	LW
Ardeidae	Grey Heron	*Ardea cinerea*	R	LW
Ardeidae	Large Egret	*Casmerodius albus*	R	LW
Ardeidae	Median Egret	*Mesophoyx intermedia*	R	LW
Ardeidae	Indian Pond Heron	*Ardeola grayii*	R	LW
Ciconiidae	Painted Stork	*Mycteria leucocephala*	R	LW
Threskiornithidae	Eurasian Spoonbill	*Platalea leucorodia*	LM	LW
Threskiornithidae	Black Ibis	*Pseudibis papillosa*	LM	LW
Phoenicopteriformes				
Phoenicopteridae	Greater Flamingo	*Phoenicopterus ruber*	M	LW
Phoenicopteridae	Lesser Flamingo	*Phoenicopterus minor*	M	LW
Anseriformes				
Anatidae	Northern Pintail	*Anas acuta*	M	SB
Anatidae	Garganey	*Anas querquedula*	M	SB
Anatidae	Common Teal	*Anas crecca*	M	SB
Anatidae	Northern Shoveller	*Anas clypeata*	M	SB
Charadriiformes				
Charadriidae	Grey Plover	*Pluvialis squatarola*	M	SW
Charadriidae	Common Ringed Plover	*Charadrius hiaticula*	M	SW
Charadriidae	Little Ringed Plover	*Charadrius dudius*	M	SW
Charadriidae	Kentish Plover	*Charadrius alexandrinus*	M	SW
Charadriidae	Lesser Sand Plover	*Charadrius mongolus*	M	SW
Scolopacidae	Black-tailed Godwit	*Limosa limosa*	M	SW
Scolopacidae	Bar-tailed Godwit	*Limosa lapponica*	M	SW
Scolopacidae	Whimbrel	*Numenius phaeopus*	M	SW
Scolopacidae	Eurasian Curlew	*Numenius arquata*	M	SW
Scolopacidae	Common Redshank	*Tringa totamus*	M	SW
Scolopacidae	Common Greenshank	*Tringa nebularia*	M	SW
Scolopacidae	Marsh Sandpiper	*Tringa stagnatilis*	M	SW
Scolopacidae	Terek Sandpiper	*Xenus cinereus*	M	SW
Scolopacidae	Common Sandpiper	*Actitis hypoleucos*	M	SW
Scolopacidae	Curlew Sandpiper	*Calidris ferruginea*	M	SW
Scolopacidae	Ruddy Turnstone	*Arenaria interpres*	M	SW
Scolopacidae	Little Stint	*Calidris minuta*	M	SW
Phalarropodidae	Red-necked Phalarope	*Phalaropus lobatus*	M	SB
Charadriidae	Black-winged Stilt	*Himantopus himantopus*	M	SW
Charadriidae	Red-wattled Lapwing	*Vanellus indicus*	R	SW
Laridae	Heuglin's Gull	*Larus heuglini*	M	AF
Laridae	Pallas's Gull	*Larus ichthyaetus*	M	AF
Laridae	Brown-headed Gull	*Larus brunnicephalus*	M	AF
Laridae	Black-headed Gull	*Larus ridibundus*	M	AF
Laridae	Gull-billed Tern	*Gelochelidon nilotica*	M	AF
Laridae	Caspian Tern	*Sterna caspia*	M	AF
Laridae	Common Tern	*Sterna hirundo*	M	AF
Laridae	Little Tern	*Sterna albifrons*	M	AF
Laridae	Whiskered Tern	*Chlidonias hybridus*	M	AF

R - Resident; LM - Local Migrant; M - Migrant; SB - Swimming Birds; D - Divers; LW - Large Waders; SW - Small Waders; AF - Aerial Foragers

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Fig. 1: Map showing the study area

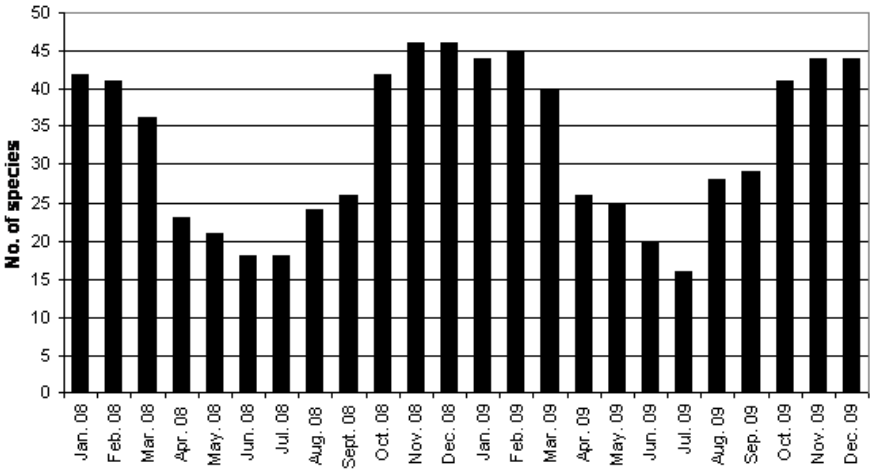

Fig. 2: Monthly totals of waterbird species at the Great Vedaranyam Swamp, Point Calimere Wildlife Sanctuary