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Some Observations on the Birds and Mammals In India Bay, Russian Bay and Larsemann Hills

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ABSTRACT

Opportunistic observations on birds and mammals of two distinct areas of Eastern Antarctica were carried out during the 27th Indian Antarctic Expedition. A total of 8 species of birds and 4 species of mammals were observed in India Bay and Russian Bay area. In India Bay 136 birds (individuals) belonging to 5 families were enumerated. Family Procellariidae with 3 species was the most dominant group. Number of Emperor Penguins was highest in Russian Bay. In Larsemann area, 7 species of birds and 3 species of mammals were recorded. Adelie penguin was the most common species in both areas. Leopard Seal was the most rare species. Only one individual was seen in Russian Bay area.

Keywords: East Antarctica, Birds, Mammals, India Bay, Larsemann Hills.

1.0 INTRODUCTION

Birds and mammals are important component of vertebrate fauna of Antarctica. The Antarctic region supports the habitation of over 21 mammal species, including 6 species of seals and 15 species of whales (Bonner 1985), and about 45 species of birds (Siegfried 1985, Hoyo et al. 1992). Fauna of some of the areas of Antarctica are well documented, while most areas are poorly studied and yet be explored. In contrast with the studies carried out by foreign scientists (Richter et al. 1990), our knowledge on the diversity, distribution and biology of most Antarctic faunal elements is scanty (Venkatraman and Hazra 2005). Although some studies on population status and ecology were carried out by Indian scientists during earlier expeditions (Bhatnagar and Sathyakumar 1999a, 1999b; Hussain and Saxena 2000). During 14th and 15th Indian expeditions, Bhatnagar and Sathyakumar (1999a,b) monitored the birds and mammals in Indian Ocean and Antarctica. They reported the occurrence of about 50 avian species and 14 mammals. Hussain and Saxena (2000) also followed same study pattern and reported the occurrence of 64 species of birds and 14 species of marine mammals during voyage. During the 27th expedition, apart from systematic study on the occurrence of birds

and mammals en-route to Antarctica and during return journey, opportunistic observations on the occurrence of birds, mammals in two distinct domains i.e. in India Bay - Russian Bay area and in Larsemann Hills area were also recorded.

2.0 OBSERVATIONS

Observations on birds and mammals were carried out in India Bay, Russian Bay and Larsemann Hills, East Antarctica. On 03.01.08 and 04.01.08, occurrence of avian species and mammals were recorded in India Bay. All observations were made from the ship with the help of Nikon field binocular (12 x 50). The surveyed area was about 1.5 km2. The India Bay is the ice shelf area, about 80 km from Schirmacher Oasis. Russian Bay is about 20 km from India Bay towards west; it was surveyed during 03.02.2008 and 13.02.2008. Birds and mammals seen in about 1.5 km2 area, were recorded. Larsemann Hills were surveyed during 24.02.08 to 09.03.08. Bharati and adjacent areas (69° 24' 56.65" S; 76° 12' 34.90" E) were surveyed during 27.02.08 to 04.03.08. McLeod Island (69° 22' 09.10" S; 76° 08' 37.76" E) was surveyed on 06.03.08, while Fisher Island (69° 23' 35.02" S; 76° 13' 27.29" E) was covered on 07.03.08. Some middle areas of Stornes Peninsula (69° 24' 58.21" S; 76° 07' 26.80" E) were surveyed on 09.03.08. On the sighting of an individual- location, date, time, weather conditions, numbers and behavioural activity, if any, were recorded.

3.0 RESULTS AND DISCUSSION

Present study was conducted in two different areas of Antarctica. First area (two localities i.e. India Bay and Russian Bay) showed the occurrence of 8 avian species and 4 mammals **(Table 1)**. Second area (Larsemann Hills: four localities), which was about 2800 km away from the first area, indicated the occurrence of 7 species of birds and 3 species of mammals **(Table 2)**. In India Bay, 136 birds (individuals) belonging to 5 families were enumerated. Family Procellariidae with 3 species was the most dominant group. However, number of individuals of penguins was higher. Compared to India Bay, in Russian Bay, only 4 species of birds could be observed. Among mammals, 2 species were seen in India Bay **(Fig. 1)**; while in Russian Bay, 4 species of mammals were seen. In Russian Bay, survey was conducted for two days. During first visit, two species of penguins **(Fig. 2)** and 3 species of seals were seen; while during second survey, a larger number of Adelie penguins and 1 species of seal (i.e. Weddell Seal) could be observed.

Table 1– Birds and mammals observed in India Bay and Russian Bay

S. no.	Common Name	Species name	Indian bay	Russian bay	
A. Birds:			**03.01.08 & 04.01.08**	**03.02.08**	**03.02.08**
I. Family: Diomedeidae					
1	Wandering Albatross	*Diomedea exulanus*	2	-	-
II. Family: Procellariidae					
2	Southern Fulmar	*Fulmarus glacialoides*	4	-	-
3	Southern Giant Petrel	*Macronectes giganteus*	3	-	-
4	Snow Petrel	*Pagodroma nivea*	9	5	26
III. Family: Spheniscidae					
5	Adelie Penguin	*Pygoscelis adeliae*	78	44	105
6	Emperor Penguin	*Aptenodytes forsteri*	32	55	11
IV. Family: Stercorariidae					
7	South Polar Skua	*Catharacta maccormicki*	3	-	-
V. Family: Hydrobatidae					
8	Wilson's Storm Petrel	*Oceanites oceanicus*	5	2	1
B. Mammals					
I. Family: Delphinidae					
1	Killer Whale	*Orcinus orca*	6	2	-
II. Family: Phocidae					
2	Weddell Seal	*Leptonychotes weddellii*	11	5	2
3	Crabeater Seal	*Lobodon carcinophagus*	-	2	-
4	Leopard Seal	*Hydrurga leptonyx*	-	1	-

Table 2– Birds and mammals observed in Larsemann hills, East Antarctica

S. no.	Common Name	Species name	Bharti & adjacent area	McLoed Island	Fisher Island	Stornus peninsula
A. Birds:			**27.02.08 to 04.03.08**	**06.03.08**	**07.03.08**	**09.03.08**
I. Family: Diomedeidae						
1	Light-mantled Sooty Albatross	*Phoebetria palpebrata*	-	2	-	-
II. Family: Procellariidae						
2	Southern Fulmar	*Fulmarus glacialoides*	3	-	-	-
3	Snow Petrel	*Pagodroma nivea*	2	-	5	-
III. Family: Spheniscidae						
4	Adelie Penguin	*Pygoscelis adeliae*	-	21	173	-
5	Emperor Penguin	*Aptenodytes forsteri*	-	3	-	-
IV. Family: Stercorariidae						
6	South Polar Skua	*Catharacta maccormicki*	9	5	2	-
V. Family: Hydrobatidae						
7	Wilson's Storm Petrel	*Oceanites oceanicus*	2	-	-	2
B. Mammals						
I. Family: Delphinidae						
1	Killer Whale	*Orcinus orca*	2	-	-	-
II. Family: Phocidae						
2	Weddell Seal	*Leptonychotes weddellii*	8	3	2	-
3	Crabeater Seal	*Lobodon carcinophagus*	2	-	-	1

In Larsemann Hills, 4 localities (i.e. Bharati, Fisher, McLeod and Stornes islands) were surveyed. On Bharati and adjacent area, 4 species of birds and 3 species of mammals were identified **(Fig. 3)**. On 03.03.08,

three Southern Fulmars were seen, while two Snow Petrels were seen on 04.03.08. Two Light-mantled Sooty Albatross were seen on 25.02.08 in McLeod area. Total 9 individuals (in 3 groups) of South Polar Skua were observed in Bharati area (details in Table 2). On 28.02.08, two individuals of Killer Whales were seen in Quilty Bay near Bharati Island. Adelie Penguins were seen only on McLeod and Fisher islands. On 07.03.08, about 173 individuals in scattered flocks were observed on western part of the Fisher Island (Fig. 4), while on 06.03.08 few individuals (ca. 21) were observed on McLeod Island. Three individuals of Emperor Penguin were also seen on McLeod Island. Stornes Peninsula is a large area. In present study, only a small south-eastern part could be covered and 2 Wilson's Storm Petrels and 1 Crabeater Seal on the eastern shore were observed.

Fig. 1: Photograph showing 3 Killer Whales in India Bay

Fig. 2: Flocks of Adelie Penguins in Russian Bay

Fig. 3: Weddell Seal at Bharati Island (southern area), Larsemman Hills.

Fig. 4: Adelie Penguins at Fisher Island, Larsemman Hills

During previous expeditions, some studies on the birds and mammals have been conducted, mainly to monitor the seals and penguins along the shelf ice in India Bay (Bhatnagar and Sathyakumar 1999b); in that study, Adelie Penguin was the most abundant species, followed by Emperor Penguin, Weddell Seal and Crabeater Seal. In the present study also, Adelie Penguins were the most abundant. It was also observed that number of species and individuals in Larsemann Hills was relatively less, as compared to India Bay - Russian Bay area. It may be due to habitat preference, availability of nesting space; or due to different period of observation. However, it is not easy to conclude it without detailed systematic studies. So, it is suggested that detailed, systematic, extensive surveys should be conducted to understand the patterns of species

distribution, co-existence, habitat use, abundance and population limiting factors in Antarctica. The present study provides only a baseline data on occurrence of species in a few localities of East Antarctica.

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