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CAPTURE OF COASTAL BIRDS IN THE PILLAIMADAM LAGOON AT MANDAPAM, SOUTH-EAST COAST OF INDIA

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ABSTRACT

Regular observations were made on the coastal birds caught in the Pillaimadam lagoon by a specially designed nylon net. Blinded birds are used to lure the birds. *Gelochelidon nilotica*, *Sterna bengalensis*, *S. bergi*, *S. sandvicensis sandvicensis* and *Hydroprogne caspia* are some of the common birds caught. Seasonal variation and the species composition were also observed.

INTRODUCTION

We have fairly good knowledge of the lagoon birds of India (Jerdon, 1864 ; Ali and Ripley, 1981). However, information on the details of various methods of catching coastal birds and the number of birds caught are still wanting (Ali, 1963). In the present investigation method of capture of coastal birds, their seasonal variation and the species composition are studied.

MATERIAL AND METHODS

Regular visits were made to the Pillaimadam lagoon (09° 17'N and 79° 6' E) situated along the Mandapam Coast adjacent to the Palk Bay to study the bird catching during 1981 to 1983. The birds were caught by the 'Narikuravas' a nomadic tribe, experts in bird trapping. Platforms were made in the mud flats to erect the bird-nets. The nets were made of 0.5 mm nylon twine with 40 mm mesh. Bamboo poles of length 1 m were attached to the head rope and the foot rope at 1 m interval. One end of the net was fastened to a peg driven in the mud and the other end to a lever through an iron wire of length 30-40 m. The bird-catcher waits at the end of the wire which, is attached to the lever.

The length of the net is about 15 to 20 m. The bait-birds are blinded by tying their eyelids together with their own feather rachis. Further they are stunned by delivering a strong hit at the back of the head. The stunned birds stand stationary inside the net. On seeing the bait birds, the other overflying lagoon birds land near them. When sufficient number of birds land in the net, the lever is released and the net collapses on the birds trapping them. The operation is repeated for about 6 to 8 hours.

OBSERVATIONS

Seasonal variation

The coastal birds were caught during the months of May to November with a peak in September when the mud flats were exposed. During this period small pools were formed making the fishes vulnerable to the birds of prey. Further the rise in water temperature and the consequent increase in salinity result in high mortality of the fishes in the pools. The dying or the dead fishes form a forage to the coastal birds which visit the lagoon in large numbers.

The nets were operated from May when a few patches of land were exposed in the lagoon. Usually the operation of the nets was restricted

to a few days in a month. The covering of the exposed land in the lagoon by the influx of sea water during 4 days before and after the new moon and full moon prevented the setting up of the nets. Nets were not set during the days of heavy wind also. However, by July-August more land area was exposed and the number of birds visiting the lagoon also increased. It may be observed that 26.5% of the birds were caught during September 1982 and 23.5% in September 1983. From August

to September the distant migratory birds start frequenting the lagoon and are captured (Table 1).

Species composition

Gelochelidon nilotica was the most common species forming 46.6% of the catch during 1982 and 33.5% in 1983. It was followed by *Sterna bengalensis* contributing 22.8% and 21.2% during the years 1982 and 1983 respectively. *Sterna bergi* accounted for 14.7% in 1982 and

TABLE 1. Occurrence of coastal birds in the nets at the Pillaimadam lagoon during 1982 and 1983

	1982						Total	%
	June	July	Aug.	Sep.	Oct.	Nov.		
<i>G. nilotica</i>	70	85	200	250	170	80	855	46.6
<i>S. bengalensis</i>	20	48	120	125	90	25	428	22.8
<i>S. bergi</i>	30	20	70	80	65	10	275	14.6
<i>H. capsia</i>	10	17	20	17	20	25	109	5.17
<i>S. s. sandvicensis</i>	—	—	2	4	15	8	29	1.5
Other species	30	20	46	20	34	26	176	9.4
Total	160	190	458	496	394	174	1872	

	1983						Total	%
	June	July	Aug.	Sep.	Oct.	Nov.		
<i>G. nilotica</i>	85	120	140	214	164	40	763	33.5
<i>S. bengalensis</i>	30	80	97	108	100	70	485	21.2
<i>S. bergi</i>	50	78	108	90	84	65	475	20.8
<i>H. capsia</i>	20	14	20	47	60	15	176	7.7
<i>S. s. sandvicensis</i>	—	8	10	15	20	14	67	2.9
Other species	40	70	50	64	72	22	318	13.9
Total	225	370	425	538	500	226	2284	

20.8% in 1983. Other species of coastal birds such as *Hydroprogne caspia*, *Sterna sandvicensis sandvicensis*, *Calidris minuta* *C. alexandricus* also occurred in the nets.

Economic importance

The coastal birds form a delicacy with the meat eating population of the coast. During the season a pair of *G. nilotica* weighing 150-200 g was sold at a rate of Rs. 4.00 and the smaller birds for Rs. 2.00. A few families of 'Narikuravas' consisting of about 15 members subsist on bird catching, leading a nomadic life.

DISCUSSION

Information on the number of coastal birds caught and the impact of such capture on the coastal bird population is much desired (Ali, 1961). However our present knowledge on this aspect is far from satisfactory. The present

study pertains to the number of coastal birds caught in the Pillaimadam lagoon. But apart from Pillaimadam lagoon there are many mud flats, tidal flats, low lying areas and lagoons in the Rameswaram island from where large numbers of birds are caught. There is no report of the birds caught in the area based on regular sampling. The magnitude of the catch can be understood only by collecting detailed data on the occurrence of the birds in the nets. However, the remoteness of the bird catching areas may be one of the difficulties in collecting the data.

As the coastal birds occur in flocks and are trapped enmass there is danger of the whole stock getting depleted. Further it has been recently observed that the distant migratory birds like *Sterna s. sandvicensis* also visit this area for wintering (Lal Mohan, 1983 in press). Therefore detailed studies are required on the coastal birds of south east coast of India.

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