

Newsletter for Birdwatchers

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Conservation of waterbirds and wetlands in the East Asia Flyway and objectives of a Flyway network

Wetlands and migratory waterbirds in the East Asia Flyway are under considerable threat and rapid action is required to prevent the loss of key sites and species. Some conservation and research activities relating to the migratory waterbirds in the Flyway have so far been carried out in most of the countries, including Australia, China, Hong Kong, Indonesia, Japan, Malaysia, Philippines, Taiwan, Thailand and the USSR. There has been some interaction between the various individuals and countries, eg. through INTERWADER. With a rapid increase in the number of studies underway in the different countries, there is an urgent need for improved coordination of the activities of individuals working on waterbirds in the Flyway.

During the last eight years, AWB has through its various cooperative programs supported numerous studies and conservation activities on migratory waterbirds in the Flyway. As a logical continuation of this work, an attempt is now being made to improve links between those working in the Flyway and to collate recent information to get a clear picture of the situation and priorities. It is therefore proposed that AWB assist in the establishment of a network of individuals and organizations active in the study and protection of waterbirds and their habitats in the Flyway. Initially, there will be an emphasis on migratory shorebirds.

Funding for the establishment of the network has been allocated by the Australian National Parks and Wildlife Service, with some additional support from the MacArthur Foundation and World Wide Fund for Nature.

The primary objectives for the formation of a network of individuals working on waterbirds in the Flyway are: to promote the effective protection of important waterbird sites in the Flyway, to use existing information to identify future research needs, and to obtain additional required data by providing coordination for waterbird research and protection activities in the Flyway.

Activities that will be taken up include:

1. Collation and analysis of existing ground and aerial count data on shorebird usage of wetlands of the Flyway, in order to revise listings of sites of importance.
2. Encouragement of wider coverage of the region during the midwinter waterfowl counts (Asian Waterfowl Census).

3. Assistance in communication and collaboration between individuals and organizations involved in shorebird research and protection in the Flyway. Production of a newsletter is being considered: it will be devoted to waterbird conservation and migration studies, colour marking and banding reports, important site counts, survey reports and so on.
4. Promotion, organisation and arrangement of support for teams to survey and conduct research at important or potentially important sites on the Flyway.
5. Support of the development of local agencies and units in key countries with expertise in waterbird research and conservation.
6. Promotion of establishment of waterbird reserves in each country.
7. Promotion of international agreements and conventions relevant to waterbirds.
8. Preparation of an overview document, with sections for each Flyway country, listing the important shorebird sites, identifying the conservation issues and recommended action to improve site protection.
9. Collection or revision of population estimates of different species using the Flyway.
10. Advice on research priorities in countries in the Flyway.
11. Production of information and educational material about shorebird migration in the Flyway.
12. Support of work on endangered migratory species of waterbirds, eg. Baikal Teal *Anas formosa*.

How individuals/organizations can help in the flyway network:

1. Inform others about your present and future activities.
2. Suggest potentially important sites which need further surveys. Help organize and support expeditions to these sites.
3. Send to AWB regular counts of shorebirds at different sites taken during the migration and winter season in your area.
4. Send in reports, articles and papers about shorebirds.
5. Provide banding (ringing) reports and totals of shorebirds banded, and if required send in recoveries to be followed up.
6. Provide information about threats to shorebirds and their habitats in your area.
7. Promote conservation of key sites and species.

8. Provide information to other network members.

Please address all information and enquiries to Taej Mundkur (Waterbird and Flyway Projects Officer) at AWB headquarters.

Japan Withdraws Funding from the Narmada

According to a report in World Rivers Review (Vol.5 No.5, Sept./Oct.1989) the Japanese Government has withdrawn bilateral co-financing for the World Bank Sardar Sarovar project in India. This is the result of a decision that Japan's Overseas Economic Cooperation Fund (OECF) will not provide funding in the coming year of the project.

The Sardar Sarovar project (SSP) in India's Narmada river which is intended to provide drinking and irrigation water to the drought-prone West-Central Indian State of Gujarat has been called "India's greatest planned environmental disaster". The massive dam project is the first phase of the Narmada valley development project, involving the eventual construction of 3,000 various scaled dams and the uprooting of over 1 million people. 100,000 people will be displaced by SSP, and their fertile farmlands and forests submerged.

Japan's environmental performance has been oft-criticized for many years, drifting and tropical timber consumption being two areas which have received particular attention. More recently NGOs have criticized severely the environmental policies of Japan's ODA. This step by Japan to withdraw funding from a major dam project on environmental and social grounds is therefore a very encouraging step and bodes particularly well for the future role that Japan might play in reducing use of development assistance for projects which adversely effect wetland systems. It is hoped that Japan will increase its involvement in wetland conservation in the developing world and in particular in Asia. One of the major mechanisms through which this could be achieved would be by channelling development assistance to conservation projects rather than to those which destroy wetlands.

Source: World Rivers Review (Sept/Oct 1989)

Cover: Red-whiskered Bulbul (*Pycnonotus jocosus*). A familiar bird with a pointed black crest, frequenting gardens and open scrub jungle. Its call is a variety of cheery musical notes. Both parents share in nest construction; a fairly neat cup, incubation of eggs and rearing of chicks.

Photo: S. Sridhar, ARPS

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EDITORIAL

The BNHS Bird Migration Project Annual Report 1989-90

This project is obviously the most important one from the point of view of collecting data on both the resident as well as the migrant birds of India. 11,928 birds were ringed from October 1989 - September 1990. The netting and ringing was done at Point Calimere, Pulicat Lake, Sriharikota, Chilka Lake, Kutch, Hingolgodh, Rajkot and Tirupati. The largest number of land birds ringed was in Sriharikota, and the largest number of aquatic birds was ringed in Point Calimere. Among the notable sightings during the camps were a Jerdon's Courser in Cuddapa, Andhra Pradesh, and a Black Tern (presumably in Point Calimere).

It is worth noting that one of the best protected areas in India is Sriharikota Island which now virtually belongs to the Indian Space Research Organisation. The Tropical Dry Evergreen Forest here is richer than anywhere else. Other Defence establishments in India with vast areas under their command could emulate ISRO's conservation approach. As many as 146 birds caught during the netting operations were recaptured. When a ringed bird is recaptured it provides an exceptional opportunity for understanding various aspects of avian biology. For example, a Lesser Sandplover ringed in November 1971 at Point Calimere "was retrapped after a gap of 19 years in January 1990, which was the longest longevity period among the small waders. Since the bird was ringed as an adult (more than one year) the minimum age for the bird may be 20 years".

One thing which disturbed me was the attempt to ring raptors in the Chhari-Dhand area of Kutch. "The technique basically consists of a rodent bait placed on the ground between strategically located twigs, to which an organic glue has been applied. As the raptor flies to grab the bait, the glue sticks to its flight feathers throwing it off balance." Apparently Marsh Harriers, Pale Harriers and a Steppe Eagle were caught by this method. I hope the birds were not damaged in any way, and presumably BNHS scientists can be trusted to ensure that no damage was done.

These camps of the BNHS, several located in the same areas year after year, provide a wonderful opportunity for monitoring the state of the habitat, apart from the birds. When the bird ringing project was started in the 1960s, I recall going to the 'BANNI' north of the Kutch mainland. It was a magnificent grassland, most attractive with the capparid bushes and their pink flowers. Apparently there has not been a big change. The Report says "since the last twenty five years substantial portions of this pastureland has been gradually invaded by the exotic weed *Prosopis juliflora*". Various other measures too have affected the productivity of this grassland.

Coastal Marine Ecosystem in the Gulf of Kutch

The final report, 1991, of the WWF-India sponsored Research Project under the leadership of Prof. R.M. Naik of Saurashtra University appears to be a very worthwhile thorough investigation into the anthropogenic pressures on this area. Of particular interest to us is the Chapter on Coastal and Island Birds, and the special attention given to the nesting of the Little Tern *Sterna albifrons* "to illustrate how a ground nesting water bird adjusts to a man-made habitat."

During this 5 year study from 1984 to 1989, a total of 80 species of birds were recorded in the Islands and the coast, and surprisingly, a greater number, 86 from the salt works. Also somewhat inexplicable is the fact that though Great Reed Warblers were present in the mangrove swamps, and their "territorial behaviour was evident", no nests were located. I recall hearing the loud and jolly calls of these birds emanating from the mangroves of Mahim Creek in Bombay, and around Revas across the Bombay harbour.

This report is well worth reading for the well researched insight it provides into the ecological problems of a fascinating natural area.

There are certain special features of the salt pans which are advantageous to nesting birds, so it is cheering to be told that all man made structures are not unfavourable to birds, as compared to the natural environment.

The Black Tern *Chlidonias niger*

Ketan Tatu, 4/21 Azad Apts., Ambawadi, Ahmedabad 380 015, seems to have identified a few specimens of this species in Vastrapur village in Ahmedabad. There are 19 species of terns in India, many of them confusingly similar, but by careful observation over several hours between 30th August and 4th September 1991, and by consulting all the major references he seems to be pretty sure of this identification. The Black Tern has apparently only been recorded once before from Delhi, and in Point Calimere.

Tatu first saw two terns smaller than a Ring Dove flying over the marsh adjoining the 7 hectare pond. He found no noticeable fork in the tail, belly white, and "dull brown blotches ... on the greyish upper surface of the wings." These markings seem to indicate definitely that the birds were Black Terns. On the evening of 31st August "a unique behaviour was observed. One of these terns started to throw itself violently from the air into the pond ... sometimes even disappearing below the ... surface for (a) few moments". Apart from these Black Terns, Tatu identified two Whiskered Terns *Chlidonias hybridus* in breeding plumage.

The new dictionary of Birds by Sri Landsborough Thompson says: "The group of marsh terns includes the Black Tern, *Sterna (Chlidonias) nigra* darker than any of the (others). It has a Holarctic range in middle temperate latitudes and breeds in small colonies on fresh water

marshes, swampy grasslands and reed fringed shores of lakes and slowly flowing rivers". Since this kind of habitat is available in India, perhaps we will see more of the Black Tern.

EXTRACTS

Magpie Robin: slow progress

For the last decade the population of magpie robin *Copsychus sechellarum* has oscillated between 20 and 26 birds despite a successful cat eradication programme on Fregate, the most easterly of the Seychelles, in 1981/82. Since 1960 this island, which has never been colonized by rats has been the only home of the bird. Factors preventing its recovery were identified in 1988: reduction in feeding quality, decline of suitable nesting trees and increase in nest disturbance, and in 1990 a recovery plan was launched. Initial efforts are concentrating on increasing the availability of food in the short term - providing supplementary feeding (cockroaches) and increasing access to food by digging over fertile soil or splitting rotten trunks - and in the long term, by restoring indigenous forest.

Source: World Birdwatch, March 1991, 10-11.

Atlas of the Breeding Birds of Arabia

This project, launched in 1984, has now collected reports from 200 observers as well as obtaining records from literature and museum sources. The National Commission for Wildlife Conservation and Development of Saudi Arabia is now sponsoring the Atlas financially and will publish it in due course. Meanwhile The *Phoenix* carries news of progress: the most recent issue covered species of interest, potential reserves and more.

Source: Michael C. Jennings, Co-ordinator of the Atlas and Editor of the *Phoenix*, 1 Warners Farm, Warners Drove, Somersham, Cambridgeshire PE17 3HW, UK.

Hawk study questions minimum viable population hypothesis

The red-tailed hawk *Buteo jamaicensis socorroensis* of Socorro, the largest of the four Revillagigedo Islands in the Mexican tropical Pacific, appears to have had a stable population of 15-20 pairs at least from 1953 to 1990 and possibly for longer. This calls into question the widely accepted concept of a minimum population size of 50 reproducing pairs required for short term survival and maintenance of genetic variability; it certainly seems to invalidate the long term survival threshold number of 500 breeding pairs. In 123 years since the discovery of the island population some 41 hawk generations have successfully maintained it. The bird's large size, its longevity and low predation rate may have provided buffers against extinction; inbreeding must occur but has had no fitness-reducing effects so far. This small viable population

deserves serious attention from genetic, demographic, behavioural and ecological viewpoints.

Source: Conservation Biology, 4 (4), 441-443.

Yellow-eyed penguin plummets

Despite tremendous efforts by conservationists, numbers of yellow-eyed penguins *Megadyptes antipodes* on mainland New Zealand continue to plummet. The latest census shows that only 167 breeding pairs are left on South

Island - a 50% drop from the year before and the lowest ever recorded. The Yellow-eyed Penguin Trust, boosted by an annual grant of \$ 65,000 from a dairy company (Mainland Products), is carrying out fencing and replanting work, trapping predators and running an education programme to alert people to the hazards of dogs attacking penguins and the dumping of unwanted cats.

Source: Forest and Bird, February 1991, 4.

CHECKLIST OF BIRDS IN THE BHITARKANIKA WILDLIFE SANCTUARY, ORISSA

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Bhitarkanika Wildlife Sanctuary (notified on 2nd April 1975), is one of the two last strongholds of mangrove forest (the other is Sundarban in West Bengal) in India. It is located in the deltaic region of the Baitarani-Brahmani river, mostly comprising the ex- Zamindary forests of Kanika in Cuttack District of Orissa (Fig.1). This is an ideal Sanctuary and it is unique as far as its flora and fauna are concerned.

Bhitarkanika Wildlife Sanctuary provides an ideal habitat not only to a variety of reptiles (such as the endangered Saltwater crocodiles, Pacific Ridley Sea turtles, Water monitor lizards, King Cobra and Pythons, etc.) and mammals (spotted deer, hyaeras and fishing cats but also to a variety of common and rare birds including a number of migratory birds. The avifauna of this mangrove ecosystem includes a host of raptors such as Whitebellied sea eagles and Brahminy kites, and a number of colourful resident birds. Open billed storks, white ibis, egrets, herons, little cormorants and darters build their nests on trees like *Avicennia*, *Exoecaria* and other mangrove plants during mid June to end of October, every year. It has been

estimated that more than 80,000 birds nest together and the place is locally known as 'Bagagahan' (Neronry). There are seven species of kingfishers including the rare white collared *Halcyon chloris* and Brownwinged storkbilled kingfishers *Pelargopsis amauroptera*.

In addition, a good population (more than 700) of Barheaded geese *Anser indicus* were seen feeding and roosting along with Brahminy ducks, inside the Sanctuary during the winter months.

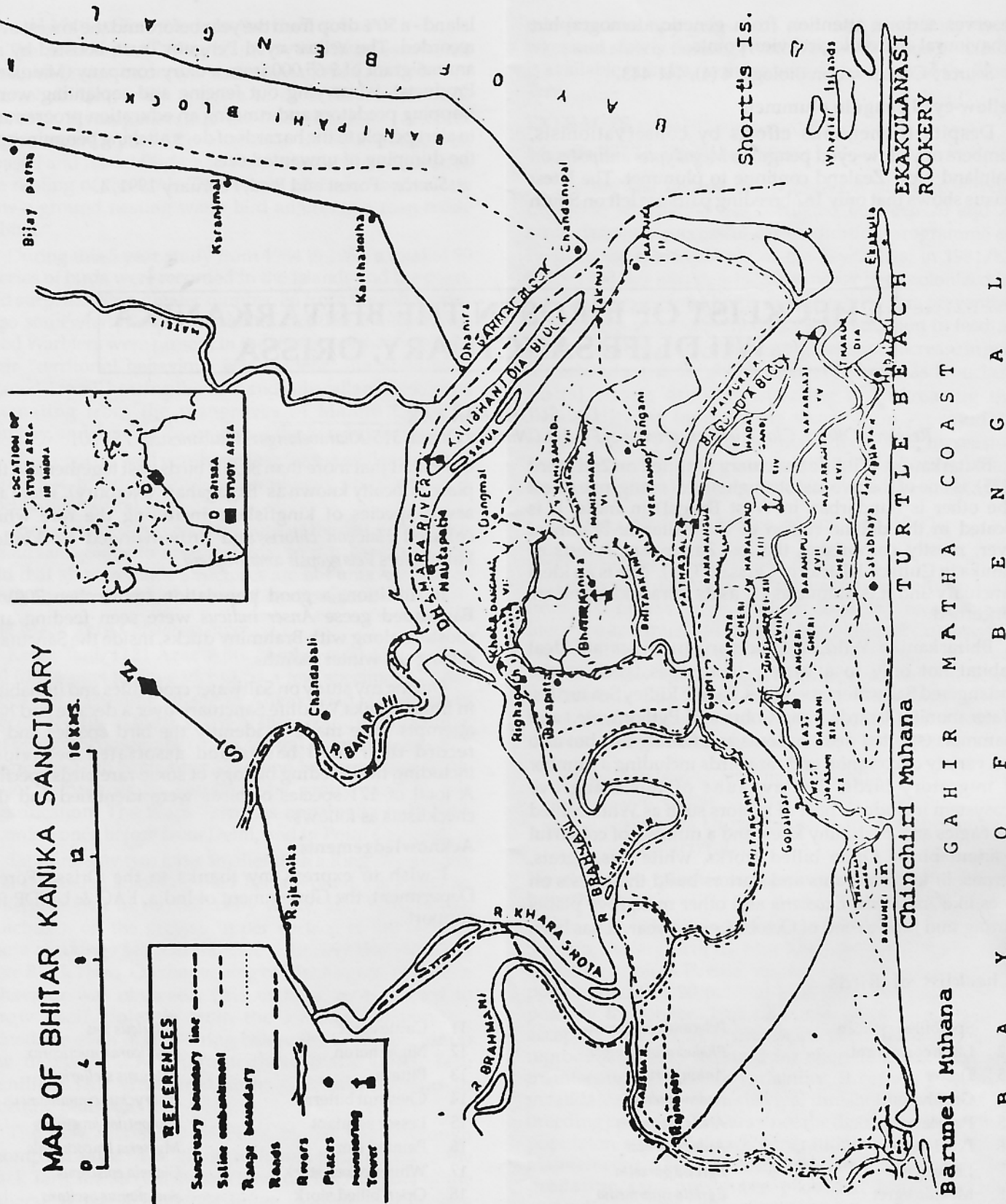
During my study on Saltwater crocodiles and its habitat in Bhitarkanika Wildlife Sanctuary over a decade and half attempts were made to identify the bird species and to record their food habits and associated behaviour including the breeding biology of some rare birds species. A total of 171 species of birds were identified and the checklist is as follows.

Acknowledgements

I wish to express my thanks to the Orissa Forest Department, the Government of India, FAO & UNDP for support.

Checklist of Birds

1	Spotbilled pelican	<i>Pelecanus philippensis</i>	11	Cattle egret	<i>Bubulcus ibis</i>
2	Little cormorant	<i>Phalacrocorax niger</i>	12	Night heron	<i>Nycticorax nycticorax</i>
3	Darter	<i>Anhinga rufa</i>	13	Bittern	<i>Botaurus stellaris</i>
4	Grey heron	<i>Ardea cinerea</i>	14	Chestnut bittern	<i>Ixobrychus cinnamomeus</i>
5	Purple heron	<i>Ardea purpurea</i>	15	Lesser adjutant	<i>Leptoptilos javanicus</i>
6	Pond heron	<i>Ardeola grayii</i>	16	Painted stork	<i>Mycteria leucocephala</i>
7	Little egret	<i>Egretta garzetta</i>	17	Whitenecked stork	<i>Ciconia episcopus</i>
8	Median egret	<i>Egretta intermedia</i>	18	Open billed stork	<i>Anastomus oscitans</i>
9	Large egret	<i>Egretta alba</i>	19	Blacknecked stork	<i>Ephippiorhynchus asiaticus</i>
10	Little green heron	<i>Butorides striatus</i>	20	White ibis	<i>Threskiornis melanocephala</i>



THE BHITARKANIKA WILDLIFE SANCTUARY, ORISSA

B A Y O F B E N G A L

Barwel Muhana

Chinchiri Muhana

GAHIR MATHA COAST

TURTLE BEACH

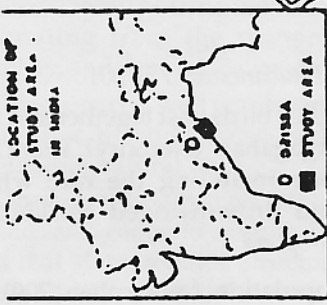
EKAKULANASI
ROOKERY

Shortt's IS.

Wheller Islands

MAP OF BHITAR KANIKA SANCTUARY

- REFERENCES**
- Sanctuary boundary line
 - Saline embankment
 - Ridge boundary
 - Roads
 - Rivers
 - Places
 - Monitoring Tower



21 Spoonbill	<i>Platalea leucorodia</i>	73 Brownheaded gull	<i>Larus brunnicephalus</i>
22 Lesser flamingo	<i>Phoenicopterus roseus</i>	74 Blackheaded gull	<i>Larus ridibundus</i>
23 Barheaded goose	<i>Anser indicus</i>	75 Gullbilled tern	<i>Gelochelidon nilotica</i>
24 Lesser whistling teal	<i>Dendrocygna javanica</i>	76 Whiskered tern	<i>Chlidonias hybrida</i>
25 Ruddy shelduck	<i>Tadorna ferruginea</i>	77 Indian river tern	<i>Sterna aurantia</i>
26 Garganey teal	<i>Anas querquedula</i>	78 Little tern	<i>Sterna albifrons</i>
27 Gadwall	<i>Anas strepera</i>	79 Indian skimmer	<i>Rynchops albicollis</i>
28 Paintail	<i>Anas acuta</i>	80 Spotted dove	<i>Streptopelia chinensis</i>
29 Blackwinged kite	<i>Elanus caeruleus</i>	81 Little brown dove	<i>Streptopelia senegalensis</i>
30 Crested honey Buzard	<i>Pernis ptilorhynchus</i>	82 Indian ring dove	<i>Streptopelia decaocto</i>
31 Pariah kite	<i>Milvus migrans</i>	83 Emerald dove	<i>Chalcophaps indica</i>
32 Brahminy kite	<i>Haliastur indus</i>	84 Blue rock pigeon	<i>Columba livia</i>
33 Shikra	<i>Accipiter badius</i>	85 Large parakeet	<i>Psittacula eupatria</i>
34 Indian whitebacked vulture	<i>Gyps bengalensis</i>	86 Roseringed parakeet	<i>Psittacula krameri</i>
35 Scavenger vulture	<i>Neophron percnopterus</i>	87 Blossomheaded parakeet	<i>Psittacula cyanocephala</i>
36 Short-toed eagle	<i>Circus gallicus</i>	88 Koel	<i>Eudynamis scolopacea</i>
37 Whitebellied sea eagle	<i>Haliaeetus leucogaster</i>	89 Large green-billed malkoha	<i>Rhopodytes tristis</i>
38 Booted Hawk eagle	<i>Hieraaetus pennatus</i>	90 Crow pheasant	<i>Centropus sinensis</i>
39 Pallas' fishing eagle	<i>Haliaeetus leucoryphus</i>	91 Spotted owl	<i>Athene brama</i>
40 Marsh harrier	<i>Circus aeruginosus</i>	92 Jungle nightjar	<i>Caprimulgus indicus</i>
41 Hen harrier	<i>Circus cyaneus</i>	93 Common Indian nightjar	<i>Caprimulgus asiaticus</i>
42 Pied harrier	<i>Circus melanoleucos</i>	94 Palm swift	<i>Cypsiurus parvus</i>
43 Crested serpent eagle	<i>Spilornis cheela</i>	95 Lesser pied kingfisher	<i>Ceryle rudis</i>
44 Osprey	<i>Pandion haliaetus</i>	96 Storkbilled kingfisher	<i>Pelargopsis capensis</i>
45 Kestrel	<i>Falco tinnunculus</i>	97 Blackcapped kingfisher	<i>Halcyon pileata</i>
46 Red jungle fowl	<i>Gallus gallus</i>	98 Whitebreasted kingfisher	<i>Halcyon smyrnensis</i>
47 Whitebreasted waterhen	<i>Amaurornis phoenicurus</i>	99 Common kingfisher	<i>Alcedo atthis</i>
48 Bronzewinged jacana	<i>Metopidius indicus</i>	100 White collared kingfisher	<i>Halcyon chloris</i>
49 Blackwinged stilt	<i>Himantopus himantopus</i>	101 Brownwinged storkbilled kingfisher	<i>Pelargopsis amauroptera</i>
50 Red wattled lapwing	<i>Vanellus indicus</i>	102 Green bee eater	<i>Merops orientalis</i>
51 Black bellied plover	<i>Pluvialis squatarola</i>	103 Bluetailed bee eater	<i>Merops philippinus</i>
52 Golden plover	<i>Pluvialis dominica</i>	104 Chestnut headed bee eater	<i>Merops leschenaultii</i>
53 Large sand plover	<i>Charadrius leschenaultii</i>	105 Indian roller	<i>Caracias benghalensis</i>
54 Little ringed plover	<i>Charadrius dubius</i>	106 Hoopoe	<i>Upupa epops</i>
55 Kentish plover	<i>Charadrius alexandrinus</i>	107 Green barbet	<i>Megalaima zelylanica</i>
56 Lesser sand plover	<i>Charadrius mongolus</i>	108 Crimsonbreasted barbet	<i>Megalaima haemacephala</i>
57 Fantail snipe	<i>Capella gallinago</i>	109 Common grey hornbill	<i>Tockus birostris</i>
58 Curlew	<i>Numenius arquata</i>	110 Fulvous-breasted pied woodpecker	<i>Picoides macei</i>
59 Terek sandpiper	<i>Tringa terek</i>	111 Blacknaped green woodpecker	<i>Picus canus</i>
60 Wood sandpiper	<i>Tringa glareola</i>	112 Large goldenbacked woodpecker	<i>Chrysocolaptes leucopterus</i>
61 Little grebe	<i>Podiceps ruficollis</i>	113 Yellowfronted pied woodpecker	<i>Picoides mahrattensis</i>
62 Greenshank	<i>Tringa nebularia</i>	114 Indian Pitta	<i>Pitta brachyura</i>
63 Redshank	<i>Tringa totanus</i>	115 Bush lark	<i>Mirafra assamica</i>
64 Green sandpiper	<i>Tringa ochropus</i>	116 Eastern Skylark	<i>Alauda gulgula</i>
65 Little stint	<i>Calidris minutus</i>	117 Ashycrowned finch lark	<i>Eremopterix grisea</i>
66 Temminck's stint	<i>Calidris temminckii</i>	118 Swallow	<i>Hirundo rustica</i>
67 Marsh sandpiper	<i>Tringa stagnatilis</i>	119 Redrumped swallow	<i>Hirundo daurica</i>
68 Dunlin	<i>Calidris alpina</i>	120 Rufousbacked shrike	<i>Lanius schach</i>
69 Curlew sandpiper	<i>Calidris testacea</i>	121 Grey shrike	<i>Lanius excubitor</i>
70 Common sandpiper	<i>Tringa hypoleucos</i>		
71 Crab plover	<i>Dromas ardeola</i>		
72 Whimbrel	<i>Numenius phaeopus</i>		

122 Golden oriole	<i>Oriolus oriolus</i>	147 White throated fantail flycatcher	<i>Rhipidura aureola</i>
123 Blackheaded oriole	<i>Oriolus xanthornus</i>	148 Blyth's reed warbler	<i>Acrocephalus dumetorum</i>
124 Black drongo	<i>Dicrurus adsimilis</i>	149 Tailor bird	<i>Orthotomus sutorius</i>
125 Haircrested drongo	<i>Dicrurus hottentottus</i>	150 Thick-billed warbler	<i>Phragamaticola aedon</i>
126 Pied myna	<i>Sturnus contra</i>	151 Great reed warbler	<i>Acrocephalus stentoreus</i>
127 Greyheaded myna	<i>Sturnus malabaricus</i>	152 Bluethroat	<i>Erithacus svecicus</i>
128 Jungle myna	<i>Acridotheres fuscus</i>	153 Magpie robin	<i>Copsychus saularis</i>
129 Common myna	<i>Acridotheres tristis</i>	154 Orangheaded groundthrush	<i>Zoothera citrina</i>
130 Jungle crow	<i>Corvus macrorhynchos</i>	155 Tickell's thrush	<i>Turdus unicolor</i>
131 House crow	<i>Corvus splendens</i>	156 Indian tree pipit	<i>Anthus hodgsoni</i>
132 Indian treepie	<i>Dendrocitta vagabunda</i>	157 Paddyfield pipit	<i>Anthus novaeseelandiae</i>
133 Blackheaded cuckoo shrike	<i>Coracina melanoptera</i>	158 Yellow wagtail	<i>Motacilla flava</i>
134 Smaller grey cuckoo shrike	<i>Coracina melaschistos</i>	159 Yellowheaded wagtail	<i>Motacilla citreola</i>
135 Scarlet minivet	<i>Pericocotus flammeus</i>	160 Purplerumped sunbird	<i>Nectarinia zeylonica</i>
136 Common lora	<i>Aegithina tiphia</i>	161 Loten's sunbird	<i>Nectarinia lotenia</i>
137 Blackheaded bulbul	<i>Pycnonotus atriceps</i>	162 Purple sunbird	<i>Nectarinia asiatica</i>
138 Redwhiskered bulbul	<i>Pycnonotus jocosus</i>	163 White-eye	<i>Zosterops palpebrosa</i>
139 Redvented bulbul	<i>Pycnonotus cafer</i>	164 House sparrow	<i>Passer domesticus</i>
140 Yelloweyed babbler	<i>Chrysomma sinensis</i>	165 Tree sparrow	<i>Passer montanus</i>
141 Common babbler	<i>Turdoides caudatus</i>	166 Baya	<i>Ploceus philippinus</i>
142 Redcapped babbler	<i>Timalia pileata</i>	167 White throated munia	<i>Lonchura malabarica</i>
143 Redbreasted flycatcher	<i>Mucicapa parva</i>	168 Red munia	<i>Estrilda amandava</i>
144 Verditer flycatcher	<i>Mucicapa thalassina</i>	169 Black headed munia	<i>Lonchura malacca</i>
145 Paradise flycatcher	<i>Terpsiphone paradisi</i>	170 Common rosefinch	<i>Carpodacus erythrinus</i>
146 Blaknaped monarch flycatcher	<i>Monarcha azurea</i>		

SOME OBSERVATIONS ON THE WATER-BIRD POPULATIONS OF THE VEDANTHANGAL BIRD SANCTUARY

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Introduction

Although the Vedanthangal Bird Sanctuary has been in existence officially since 1936, very few scientific studies have been conducted here. There are few records of the bird populations of this heronry which is in existence for over 200 years now, protected by the local villagers. The only record of bird numbers of this heronry is that of Krishnan (1961) who estimated 6000 birds in a good year including young and non-breeding birds. Spillett (1968) also quotes a similar figure.

The need for regular monitoring of birds of this heronry was felt by the second author (RKGM) in 1981. Regular (fortnightly) counts were made for the 1981-82 season. Later, in 1985-86, a count was made by him on 1st March, 1986. Regular counts thereafter were not possible because of the recurring droughts in this area. In January 1991, members of Madras Naturalists' Society (MNS), undertook a bird count in the sanctuary as a part of the annual Asian Waterfowl Count. A count of birds was also made by VS in February 1991 for the purpose of this paper. These data gave us an opportunity to compare waterbird populations of the sanctuary over a decade.

We realize the limitations of these restricted pieces of information and hence only cautious conclusions are drawn. The main aim of this paper is to give a broad trend of the populations of waterbirds at Vedanthangal over the last decade. We hope this will motivate some one to do a more thorough study of the sanctuary and its birds.

Study site

Vedanthangal is situated about 80 kms. to the south of Madras and is 120m. above the sea level. It is about 50 kms inland from the sea and receives 1140 mm. of rainfall per year from the northeast monsoon between October and December. The months April - June are the hottest with temperatures shooting up to 38 °C.

The Vedanthangal tank encompasses an area of 30 hectares. A long bund along the western side impounds the water. The tank is bordered by agricultural lands and the countryside around Vedanthangal is mainly flat, with a few low-ridged denuded hillocks. Apart from the huge Madurantakam tank, there are about 60-70 smaller tanks around the sanctuary area. These are filled during the northeast monsoon but remain dry during the summer months. Four small canals feed the Vedanthangal tank, which has a maximum depth of 5m. along the bund.

TABLE - 1
A List of Breeding Waterbirds of Vedanthangal

Spottedbilled or Grey Pelican	<i>Pelecanus philippensis</i>
Large Cormorant	<i>Phalacrocorax carbo</i>
Indian Shag	<i>P. fuscicollis</i>
Little Cormorant	<i>P. niger</i>
Darter	<i>Anhinga rufa</i>
Grey Heron	<i>Ardea cinerea</i>
Large Egret	<i>A. alba</i>
Smaller (Median) Egret	<i>Egretta intermedia</i>
Little Egret	<i>E. garzetta</i>
Night Heron	<i>Nycticorax nycticorax</i>
Openbilled Stork	<i>Anastomus oscitans</i>
White Ibis	<i>Threskiornis aethiopica</i>
Spoonbill	<i>Platalea leucordia</i>

Apart from the tank at Vedanthangal, birds are known to nest in two adjacent tanks at Karikili, which is some 7-8 kms. from Vedanthangal. The thirteen species of waterbirds which nest in these tanks (Table-1), use the *Barringtonia acutangula* trees that grow in these tank beds. These trees are submerged when the tank fills up, leaving only the top branches exposed. Originally, about 12 hectares of the tank was occupied by the 550 or so *Barringtonia* trees (Krishnan 1961). In 1946, the Forest Department planted about 1000 *Barringtonia* seeds. But regeneration was unsuccessful. Further attempts were made with *Acacia nilotica* and the 1978-80 plantings were successful. Today, there is a good stand of *Acacia* at the tank. It is estimated (Paulraj, 1984) that there are 5000 *Acacia* and almost 1000 *Barringtonia* trees at Vedanthangal. With the tank at its full capacity, only about 100 *Barringtonia* trees are above submergence level.

Methods and Materials

The methods used in the different years were essentially the same. The watchtower atop the bund was the main censusing station. In 1981-82 and 1986, a pair of 14x40 binoculars mounted on a stand was used by RKGM while in 1991, VS used a 16-45 x 60 telescope.

Day counts were conducted during the afternoon when light was favourable. Counts were made by slowly panning the binoculars/telescope from one end of the colony to the other. Both adult and young birds were counted. The count of birds returning to roost in the late evening was done using the block method (Howes and Bakewell, 1989).

For convenience, we grouped the nesting birds based on their similarity in appearance, into 6 major classes (Table-2). The little cormorants, shags and large cormorants were grouped as 'Egrets'. This facilitated rapid counting, especially in the late evenings when light was low to distinguish between the different species. Other species present had to be left out for reasons such as cryptic colouration (Pond Heron, waders) and concealment amongst foliage (Night Herons, ducks, rails, Dabchick)

TABLE - 2
Results of Counts

(a) Day Count

Date	COR	GHE	GR	OB	IB	SB	TOTAL
13 Jan.-82	790	243	-	59	88	25	1205
13 Jan.91	563	347	117	256	61	79	1423
17 Feb.82	1000	297	-	140	125	30	1592
12 Feb.91	800	200	100	250	30	120	1500
5 Mar.82	1336	191	-	124	110	28	1789
1 Mar. 86	1571	260	68	598	270	88	2855

(b) Roost Count

13 Jan. 82		No count taken					
13 Jan. 91	1271	18	2087	21	164	11	3572
17 Feb. 82	682	8	2213	9	143	1	3056
12 Feb. 91		No count taken					
5 Mar. 82	1495	5	1425	2	309	1	3237
1 Mar. 86	1038	14	339*	6	212	2	1611

(* Partial count)

Results

Table 2 gives the results of the three counts made in 1986 and 1991 with comparable dates in 1981-82. This includes day counts and roost (evening) counts (wherever figures are available).

Table 3 shows the maximum numbers we counted of the various species in the three seasons. The figure for egrets for 1986 is partial as a complete roost count of egrets was not taken. About 2000 egrets (mainly cattle egrets) have been counted roosting in Vedanthangal in 1981-82 and 1990-91.

Looking at the figures for the three years as seen in Table 2, it is seen that there are variations on comparable dates in different years. But a look at the maximums recorded for various species in the 3 years (Table 3), show that numbers for the three years are more or less the same ($\pm 20\%$) excepting open bills and Spoonbills in 1985-86 and cormorants, Ibis and Spoonbills in 1990-91. The overall difference in total number of birds present between 1981-82 and 1991 is only 10%.

Table 3
Maximum recorded numbers in the three seasons

Season	COR	GW	EGR	OB	IB	SB	All Species
1981-82	2831 ⁴	305 ²	2456 ³	330 ³	419 ⁴	38 ¹	5599 ³
1985-86a	2609	274	407 ^b	604	482	90	4466 ^b
1990-91	1834 ⁵	365 ⁵	2204 ⁵	277 ⁵	225 ⁵	120 ⁶	4995 ⁵
% increase/ decrease in 1985-86 over 1981-82	-7.8%	-10.2%	-	+83%	+15%	+136.8%	-
% increase/ decrease in 1990-91 over 1981-82	-35.2%	+19.7%	-10.3%	-16.1%	-46.3%	+215.8%	-10%
(Dates of counts :	1) 5 Feb. 82	2) 17 Feb. 82	3) 26 Feb. 82	4) 5 Mar. 82	5) 13 Jan. 91	6) 12 Feb. 91	

a - Counted on 13 Mar. 86

b - Roosting Egrets only partly counted).

[COR - Cormorants OB - Openbill Stork

GH - Grey Heron IB - White Ibis

EGR - Egrets SB - Spoonbill]

Discussion

Assuming the majority of the birds present and included in the day counts are nesting, the variation in the numbers seen in Table 2 (comparable dates in different years) appears to be a result of changes in the nesting phenology. Nesting is triggered by the availability of water in the tank and nearby areas, which is used by the birds as a cue to availability of food and security against predators. Annual variations in the monsoon pattern could affect the onset of breeding activities and in years when rainfall is scanty, birds skip breeding, altogether.

Other reasons for variation in species numbers between the years include availability of suitable nest sites, competition for nest sites, dispersal patterns of the young and differential rates of fledgeling survival. Changes in the overall ecological conditions in the nesting and foraging sites could also account for this variation. Extrinsic factors such as disturbances and droughts in other areas may cause fluctuations in species composition: We have noticed Grey pelicans, which are not regular nesters at the heronry, nesting in fairly good numbers in certain years; in 1986 there was a sudden influx of over 100 Painted storks and about six pairs nested. These birds have never been reported nesting at Vedanthangal, earlier.

The comparable bird count figures of 1981-82, 1985-86 and 1990-91 seasons, seem to indicate that Vedanthangal can support a maximum of about 5-6000 water-birds, the figure estimated by Krishnan and Spillett. The planting of additional trees do not seem to have increased the bird populations. The newly planted *Acacia* trees are used as nest-sites occasionally and a few species of birds have been noticed using *Acacia* twigs for nesting material.

Our roost counts indicate that in the case of egrets, white Ibis and Cormorants, there has been a consistent trend in these three seasons towards more of these birds coming in to roost than other species (Table 2). These roosting birds account for 64-71% of the total birds counted. These, we presume, are non-breeding individuals, which include juvenile birds of the first brood. (We have noticed in the case of cormorants, young ones in nests as early as third week of November). Krishnan (1961) has also noted that all birds present at Vedanthangal may not be breeding at any given time.

Observations over the last decade show that Pond Herons and Cattle Egrets which have been known to breed here in earlier years (Krishnan, 1961) are no longer breeding (or may breed in negligible numbers) and use Vedanthangal mainly as a roost. Observation here and elsewhere (Santharam, 1987; 1988; and 1989) indicate Cattle Egrets and pond Herons are mainly winter visitors to the region, their movements regulated by the two monsoons. Similarly, Little Egrets, earlier reported to be among the most numerous nesting birds (Krishnan, 1961; Spillett, 1968) at Vedanthangal appear to be declining. Our counts

show consistently that only about 100 egrets are present in the tank during the day.

Recent changes in the land use and crop growing patterns in the neighbourhood of Vedanthangal are noteworthy. Several fields adjacent to the tank have been left fallow. In others, wet crops (Paddy, sugarcane), grown in earlier years have given way to dry crops such as ground nut as a result of recurring droughts. This may restrict the foraging habitat available for shallow feeders such as egrets, White Ibis etc. Cormorants who are divers and feed in deeper areas are also likely to be affected by the lower water storage in the nearby lakes, aggravated by indiscriminate agricultural use of electric pumps.

As has been pointed out by Krishnan (1961; 1978) and Spillett (1968), birds of Vedanthangal greatly depend on the nearby areas - wetlands, paddyfields and scrub-jungles. Mere protection conferred at the nesting site cannot ensure conservation of the heronry. We feel that a thorough, scientific study of the bird populations, their composition and relationship to the habitat conditions prevailing at and in the neighbourhood of Vedanthangal has to be undertaken to understand and manage this important heronry.

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Acknowledgements

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CORRESPONDENCE

ON BIRDS FREQUENTING WATER PUDDLES.
S.KARTHIKEYAN, 24, Opp. Banashankari Temple, 8th Block, Jayanagar P.O., Bangalore 560 082 and J.N. PRASAD, 13, 8th Cross, 30th Main, ITI Layout, Sarakki, J.P. Nagar I Phase, Bangalore 560 082

January 1991 was a hot month. The tanks in Bannerghatta National Park had very little water left in them. Between 17-19 January 1991, we were watching birds while surveying the area for the Yellowthroated Bulbul *Pycnonotus xantholaemus*

On 17 January while walking through a fairly dry patch of forest in Bannerghatta, our attention was drawn to a racket created by calling bulbuls. Heading in the direction we saw Redvented Bulbul *Pycnonotus cafer*, Redwhiskered Bulbul *Pycnonotus jocosus*, Whitebrowed Bulbul *Pycnonotus luteolus* and yellowthroated Bulbul *Pycnonotus xantholaemus* drinking and bathing from a small puddle of water from an otherwise dry streambed.

We observed them for sometime and moved on. With the day approaching noon, we were in search of water to have our brunch. Now again we heard a cacophony of calling bulbuls. On reaching the spot we found a puddle of water which was being used by three species of bulbuls, the Yellowthroated species missing this time. The obvious question that came to our minds was - could water puddles be found using bulbuls.

Our visit to the area on 18 January was uneventful but on 19 January when we put our speculations to test we had learnt to find a water source using the bulbuls.

Birding in a different part of the National Park during the late morning hours we again heard bulbuls calling which promptly led us to the spot only to see a pool of water. Having decided to spend sometime watching birds at the puddle of water, we sat on a rock at some distance away so as not to disturb the birds.

Redwhiskered and Redvented bulbuls were the most common birds at the water puddle and also the first ones to panic at the slightest movement. The Whitebrowed bulbuls were very cautious while approaching the water's edge, always using the cover offered by the vegetation so did the female Koel *Eudynamis scolopacea*.

Close behind us we heard sounds that were characteristic of ground birds. On turning back cautiously we saw a pair of quails with four young ones walking cautiously in the direction of the water puddle. No sooner they noticed our presence as we were about to get a look through our binoculars, they scurried into the undergrowth with young ones following them promptly not giving us a chance to identify them.

Continuing our watch, we were surprised at the variety of species that visited a waterbody. A Whitebrowed Fantail Flycatcher *Rhipidura aurocapilla* alighted at the water's edge close to us, often fanning its tail and prancing. Then it got into water and spread water all over by dipping its head and flipping the wings.

Spotted Munia *Lonchura punctulata*, Whitebacked Munia *Lonchura striata* and White-eye *Zosterops palpebrosa* also came to have a drink while some individuals also had a dip. A Blyth's Reed Warbler *Acrocephalus dumetorum* used the water sitting at the edge of it where there was good cover.

The Little Brown Dove *Streptopelia senegalensis* also joined the party by making a brief visit to the water body. The female Blackbird *Turdus merula* was seen joining the

bulbuls more often than the male for a drink. A White-throated Ground Thrush *Zoothera citrina* which had appeared on the scene promptly flew away due to disturbance as we prepared to leave.

Though we knew that our expectations were too high, we were eager to witness the Paradise Flycatcher *Terpsiphone paradisi* male in white plumage demonstrate its bathing technique.

Later, we went to watch birds in the forest. On our way back we decided to spend some more time at the same pool. It was now that our expectation was fulfilled. A male Paradise Flycatcher in its white dress settled down on a thin branch overhanging the water. It wasted no time as it dived into the water five times, preening itself subsequently and disappearing later.

In all fourteen species of birds were seen using the water puddle. Probably more species may have been recorded if not for the time constraint.

TWO NEW EAGLES IN ASSAM. ANWARUDDIN CHOUDHURY, Addl. Deputy Commissioner, Karbi Anglong, Diphu. For. corr: Islampur Road, Guwahati 781 007, Assam

Recently in Dhakuakhana Sub-Division of Lakhimpur district I observed and photographed two birds of prey, both seemed to be uncommon (Map 1). Later on I identified them as Bonelli's Hawk-Eagle *Hieraeetus fasciatus* and Short-toed Eagle *Circaetus gallicus* both new to Assam as well as the whole of North-East India.

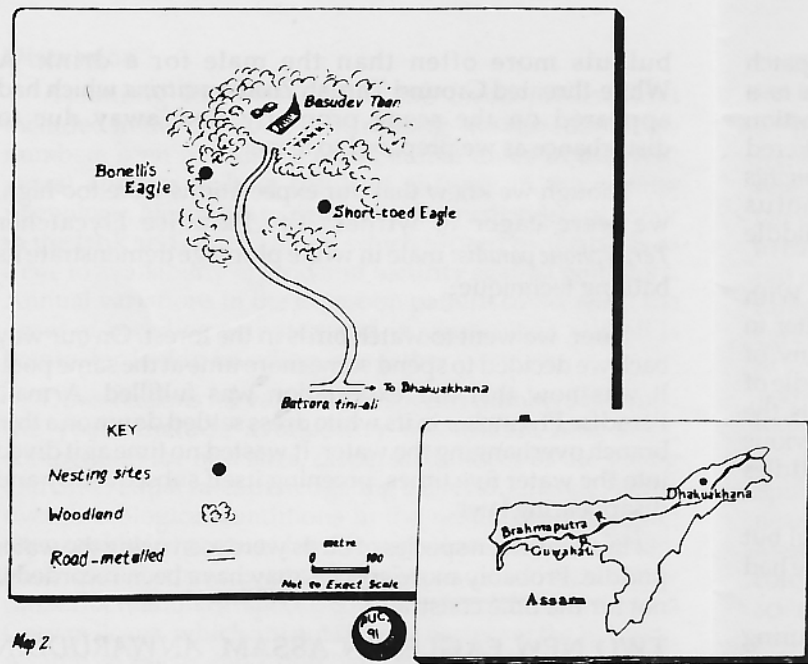
Bonelli's Hawk-Eagle

Also known as Bonelli's Eagle, this species is known to occur upto West Bengal (Ali & Ripley, 1983). It is a medium to large eagle with grey to grey-brown above and paler below. Throat and breast streaked with black. Legs feathered.

I first saw the bird on 15th March, 1991 in the light woodland near Basudeo than, c. 12 km from Dhakuakhana. Feathered legs, uncrested head, streaked throat and breast, and greyish upper parts made it obvious. A few minutes later one more appeared and tried to settle on a *Dillenia indica* tree overgrown with a 'jori' *Ficus sp.* But a rhesus monkey *Macaca mulatta* did not allow it to settle. On the tree I also noticed a nest at about 12-13 m height from the ground. The locals said that a pair is using the nest for the last several years. The nest was in the middle layer with dense foliage shielding it. Thereafter I again visited the spot on 19th March and saw one immature bird.

Short-toed Eagle

On 19th March, 1991 in the same area I saw another bird of prey. The local people call it *Ookoh*. Like the previous one, in this species also I found something new. So on 24th March I made another trip to the area and observed the bird thoroughly. It was slightly smaller than the commoner Pariah Kite *Milvus migrans* upperparts deep brown with



small buffy spots. Underparts brown with buff/whitish bars and streaks. Head grey and owl-like on frontal view. Unfeathered legs are whitish to grey with black claws. Bill deep grey with black tip. Made a harsh keea, keea call, easily audible from a considerable distance. All these characteristics have been further corroborated by the photographs shot there. And this leaves no room for any doubt to identify it as a Short-toed Eagle, first record not only in Assam, but whole of North-East India.

Unlike Bonelli's Eagle, its nest was on an open area. The tree is a deciduous species without foliage, locally called 'urium' *Bischofia javanica*. The nest was between the middle and canopy layers at c. 14-15 m height above ground. I next visited the area on 8 April, when the leaves started to appear. On all the visits only one bird seen. The locals confirmed that they are nesting since long back. Since it preys heavily on reptiles, especially snakes, the authorities of the *Than* keep watch so that nobody can harm the birds and their nest. Its occurrence in North-East India not reported anywhere (Ali & Ripley 1983; Choudhury 1990).

Discussion

Basudev *Than* is actually a temple with light woodland around (Map 2). Due to encroachment and felling, the jungle shrunked greatly and now covers only about four hectares of area with elephant grass and scattered trees and groves surrounded by cultivated countryside. Once known for its wild buffalo *Bubalus bubalis*, the area still has some python *Python molurus* and rhesus monkey. The discovery of these two species for the first time in North-East India and that too with permanent nesting sites the area naturally deserves special attention. So to preserve the area, I as the local Sub-Divisional Officer (civil) took up the matter with the *than* authorities, who on the other hand showed keen

interest. And we decided to :-

1. Fence off the area of about 50 bighas (about 7 hect) controlled by the *Than* through the Social Forestry Department. This will also prevent further encroachment and to some extent illegal felling.

2. Put a signboard prohibiting felling of trees and killing of any animals and birds within the *Than* area.

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NOTES FROM KUTCH. S. Asad Akhtar and J.K. Tiwari, Bird Migration Project, Bombay Natural History Society, Bombay 400023

I. Eastern Golden Plover and Golden Plover from Chhari-Dhandh, Kutch, Gujarat

1. Eastern Golden Plover, *Pluvialis dominica*

On 26-01-90, the Society's Mir Shikars, brought in a bird, which on identification turned out to be an Eastern Golden Plover. Its biometrics were as follows.

Wing = 174mm, Bill = 31 mm, Tarsus = 42.5mm, Tail = 66mm, Wt = 103 gms. The bird was undergoing a head and body moult. It was ringed (Ring No.B-52306) and released immediately.

According to the Birds of Kutch (Ali, 1945), this bird is not common in Kutch. A flock of 50-60 birds was observed once at Changdai jheel (Mandvi Taluka), in the second week of 1944 (Ali, op cit). Hence the above ringing record is the second for this bird in Kutch.

2. Golden Plover, *Pluvialis apricaria*

Again on 14-11-90 the Mir Shikars brought in a specimen of the Golden Plover which was ringed (Ring No.B-52128), and released immediately. Its biometrics were as follows:

Wing = -, Bill = 28mm, Tarsus = 39 mm, Tail = -, Wt = 75 gms. Its remiges and rectrices were undergoing a moult. This is the second record of this species from Kutch. Earlier two specimens of this were reported by Captain Butler (1875-6) from Kutch. Hence, the ringing record confirms the earlier (Butler, op cit) record after more than 116 years. The distribution of this species is not mentioned, either in the Birds of Kutch (1945), nor in the Handbook (1987).

In the light of above ringing records, the occurrence of Eastern Golden Plover, and the Golden Plover in Kutch is now confirmed.

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II. Dalmatian Pelican in Chhari-Dhand, Kutch, GUJARAT

On 4.3.1990, at about 11.15 hrs, we were on a general reconnaissance of the Dhand and taking a count of Waterfowl. There were about 1500 Rosy Pelicans, *Pelecanus onocrotalus* in a compact flock in one portion of the Dhand. Three Pelicans sitting at a distance from this flock, attracted our attention and on closer scrutiny they turned out to be Dalmatian Pelicans, *Pelecanus philippensis crispus*. The crescentic tuft of feathers above the bill was quite distinct and as we approached them closer they took to their wings, when their grey legs (pinkish in Rosy Pelican) were clearly visible. The dusky white undersurface also stood out and confirmed our identification.

Later nine more individuals were sighted in the Dhand during the reconnaissance. On 9.4.1990, three of these pelicans were observed again at about 11.30 hrs. They were observed in flight with the help of binoculars (8 X 30) as usual, and all the distinguishing features were clearly visible. During earlier reconnaissance we had used a Telescope (29x), which helped us in identifying this species more easily. Four individuals were seen again on 22.4.1990 in the Dhand at 11.15 hrs at some distance from a flock of Rosy Pelicans.

The Dalmatian Pelican, has been recorded once in Kutch in 1964 (Himatsinhji, Pers. Comm.). Hence the present sighting of the Dalmatian Pelican is the second sight record of this species in Kutch, after a gap of more than a quarter century.

III. Sighting of the Greylag Geese in Chhari-dhandh, Kutch, GUJARAT

On 25th November 1990, at c.09.25 hrs, we were on a general reconnaissance of the Dhand (Jheel) near Fulay village, taluk Nakatrana, Kutch. Our attention was drawn by a flock of six Common Cranes, *Grus grus* foraging in the dry area around the Dhandh. This particular flock had a ducklike bird in tow, which on closer scrutiny with binoculars turned out to be a Greylag goose *Anser anser*. The bird was extremely wary and followed the Cranes, which took off at the slightest suspicion, with the goose following them. It was seen over the next three or four days, in the company of the Cranes, foraging along with the flock.

Interestingly, Chhari-Dhandh was a regular hunting ground of the Kutch Royal family and goose shoots were arranged *annually* till about the first decade of this century. The last big shoot was arranged in the winter of 1912-13, after which the geese were not sighted. Climatic vagaries, scarcity of rains, sandstorms etc., seem to have disrupted

the birdlife in and around the Dhandh (H.H. Vijayarajji, 1912). The table below will give an indication of the numbers of geese frequenting the area, during the goose shooting days.

Year	Bag Size	Shoot
Jan 1910	73	M.K.S. Vijayarajji
Dec 1910	83	"
Nov 1912	104	"
Jan 1913	104	"

Note: The largest individual bag on any single shoot, was 12 geese by M.K.S. Vijayarajji, Chhari, 19.11.1910.

Hence, the present sight record of a single Greylag goose after a gap of almost 77 years (Vijayarajji, op. cit) is worth noting. The climatic vagaries still continue; moreover the rampant and insidious march of the exotic weed *Prosopis chilensis* has destroyed the better part of the grassland which was the most prominent habitat here.

Reference:

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IV. Broadbilled Sandpiper from Chhari-Dhandh, Kutch, GUJARAT

On 26.4.1990 at c.21.00 hrs, during wader mistnetting in the Dhandh (Jheel) near Fulay village, a specimen of the Broadbilled Sandpiper, *Limicola falcinellus*, was trapped. The bird was ringed (Ring No.AB-72644) and released immediately. Its biometrics were as follows.

Wing - 104 mm Bill = 37 mm Tarsus = 24.5 mm Tail = 39 mm Wt = 38 gms

The bird was undergoing a body moult. This is the second record of this species from Kutch, after the ringing in 1971, in Jakhau area, Abdasa taluka, District Kutch.

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AN UNUSUAL CONGREGATION OF SLENDER BILLED GULLS AT NIR VANDH, KUTCH, GUJARAT. S.A. HUSSAIN, S. ASAD AKHTAR AND J.K. TIWARI, Bombay Natural History Society, Bombay 400 023

On 2.2.1991, at c 17.00 hrs we reached Nir Vandh at the edge of the Great Rann of Kutch for the Flamingo City survey. We saw a huge flock of birds forming a pinkish white line at a distance and on scanning through the binoculars (8 x 30) we found that they were Gulls. We could also hear their screaming from where we were c.1/2 km away.

At c 17.30 hrs we visited the place and identified the gulls in the flock as Slenderbilled, *Larus genei* Breme, except for a few c 5-7 Lesser Blackbacked Gulls, *Larus fuscus*. We took a count of the gulls. About 2800 Slenderbilled were sitting on a small patch of land surrounded by shallow water and they were very restless and vocal.

The next morning on 3rd February we entered the Rann on camel back at c 08.00 hrs. We came across flocks of SBG ranging in numbers from c 30 to 200. According to our count there were c 5600 SBG and c 5 to 7 Lesser Blackbacked Gulls. During our sixteen month field studies in Kutch we have never come across such a concentration of SBG. Moreover, in our surveys for potential bird ranging sites in Kutch, we could hardly see more than 8 to 10 SBG along the coastline. One can think of two possibilities to explain the unusual concentration of these gulls.

1. SBG is a winter visitor to Kutch and here its number is augmented by immigrants. It is just possible that the concentration we saw was the populations dispersing to different parts of Kutch and nearby places.
2. There are reports (Anonymous, march 1991 and April 1991) of SBG affected by oil spills in the Gulf along with many other species e.g. Great Cormorant, Great Blackheaded Gull, Reef Heron, Curlew and Pintail. It is just possible that these gulls effected by the recent oil spill in the Gulf and changed their usual routes towards safer places.

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ASSAM : THE MAIN BREEDING GROUND OF SPOTBILLED PELICAN. RANJAN KUMAR DAS, D.C.F., Senior Wildlife Warden, Rajgarh Road, Byelane I, Chandmari, Guwahati, Assam

Assam is the main breeding ground of Spotbilled Pelicans *Pelecanus philippensis* in the country. Out of the total count of 2922 of this species of bird during the South Asian Mid-Winter Waterfowl Census of 1990, the major chunk of 2236 was found in Assam. Significantly, the census did not show the presence of this species in West Bengal, Pakistan, Bangladesh and Nepal. Andhra Pradesh harbours the second largest population of Spot-billed Pelicans next to Assam with 533 nos.

So the total number of nests, during preparation of this report is 206 (155 + 45 + 6) in recent time. During my visit to Dibru- Saikhowa Sanctuary in the latter part of June, I spotted 4 of this species of bird but failed to collect information on their nesting site.

Obviously, all the nesting sites are within the Protected Area insuring their survival. But they are easy victims to poachers outside the Protected area.

In Assam, the nesting sites as observed by different persons from time to time are given below:

No. of Nests	Month/Year	Place	sighted by
1. Kaziranga N.P.			
(i) 600 Nos	1984/85	Koladuar	Eunush Ali, A.C.F. R.K. Das, D.C.F.
(ii) 155 Nos.	Feb/March 1991	Agoratoli Range -do-	
2. Orang Sanctuary			
45 Nos.	1990	Velajar	P.K. Saikia, S.R.F., Dept. of Zoology, Guwahati Univ.
3. Pabitora Sanctuary			
(i) 6 Nos.	1987/88	Tuplung	A. Rabha, D.C.F.
(ii) 6 Nos.	1990/91	Tuplung	P. Barua, R.F.O.

The bird is a local migrant and could be seen in large numbers in past around the wetlands of Sibsagar town. But the sighting is becoming rare now-a-days as hunting takes place unabated.

The birds live in colonies for a number of years and the highest number of nests was 600 during 1984-85 at Koladuar under Eastern Range, Agoratoli, Kaziranga N.P. The nests were counted by Sri Eunush Ali, the then A.C.F. of the park, but gradually their number decreased and last winter I counted only 155 nests. The nests are built at a height of 15 to 20 m on Simul *Bombax ceiba* trees with a maximum of 12 nests on a single tree. The colony in 1984-85 extended 1.5 km East-West and 0.25 km North to the river Brahmaputra. They were counted upto 1500 nos. in an afternoon by Sri E. Ali at Debeswari Tapu (River island) of Brahmaputra spreading their wings and sunning themselves on the sand.

The breeding colony in Orang and Pabitora Sanctuary is quite different. The single nesting tree in Orang is a *Ficus* whereas it is Simul in Pabitora. In both the cases the nests are built not too high from the ground.

Till 1981, about 150 nests could be seen at Mihimukh, the main tourist spot at Kaziranga. But due to disturbance generated by heavy tourism, they deserted the site and shifted further North- East up to Baralimara and finally settled at Koladuar.

In Kaziranga, the nest building starts from the later part of September unlike other places in India. The whorl of the Simul tree with four or more strong branches are preferred for building the nests to get better support. The circumference of the nest is about 2 mtr with sufficient depth to accommodate the parents with their youngs. 3-4 eggs are laid in a clutch but in a captive condition, the gap between laying of the eggs may extend upto 6 days. Though the incubation is done by both the parents, the male plays the leading role. The incubation temperature may be 36.96°C to 37.09°C (Zoo's Print, Issue - August 1990, Dr S. Paulraj *et al.*). Hatching takes 30-33 days. The young require 5 months or slightly less time to fly but till then the whole pelican colony remains orchestrated by their calls. Even the elders are seen clapping their long spotted bills.

Most of the nests are deserted in the months of February but few remain up to March. The young attain sexual maturity after two years under captive condition.

Their feeding behaviour is very interesting - the young join the elders and together they drive the fish to a corner by flapping the wings on the surface of the water. The pink-yellowish pouch of the lower mandible is used for fishing as a sieve.

They fly in 'Echelon formation' but sometimes singly. They descend suddenly only to soar again spectacularly and like Vultures and Adjutant Storks, they even circle in the sky.

Suggestions for managing the nesting sites

1. Burning should never be practised under the pelican colony. Manual cutting of grasses are sufficient to allow penetration by herbivores. Annual grass cutting should be completed before the birds build their nests, i.e. before 20th September.
2. Tourism should be controlled to reduce disturbance. A Wetland separates the colony at Koladuar (Kaziranga) from the main road inside and no visitor should be allowed to go beyond this point. Of course a few nests are seen built on Simul trees just near the road and this is a good opportunity for studying their behaviour.

BATHING BEHAVIOUR OF SOME GARDEN BIRDS. S. DEVASAHAYAM and ANITA DEVASAHAYAM, M26/15 KSHB Colony, Malaparamba, Calicut 673 009

We had a bird bath in the compound of our residence at Malaparamba in Calicut (Kerala) which was a source of attraction to many birds. We placed the bath in such a way that we were able to observe the birds at close quarters from within the house itself. Fourteen species of birds visited the bath during the past two years and among them the tree pie *Dendrocitta vagabunda*, redwhiskered bulbul *Pycontous jocosus*, jungle babbler *Turdoides affinis* and magpie-robin *Copsychus saularis* were the most common and detailed observations were carried out on these four species alone which are highlighted here.

Season

The birds generally visited the bath during September to May. At Calicut the South West monsoon sets in during early June and it rains almost everyday till the end of August. The birds probably avoid taking a bath during this season since they may be getting wet frequently. However on a few occasions jungle babblers took a bath even when there was a slight drizzle.

Time and period

Though all the species visited the bath throughout the day, they preferred to visit it more during the afternoon and evening hours. The earliest visiting time observed was 7.25 hrs (redwhiskered bulbul) and the latest 18.05 hrs (magpie-robin). During the hot summer months many of the birds visited the bath on more than one occasion a day. The magpie-robin spent the maximum time while taking a bath (mean: 74.0 seconds) and the tree pie the minimum (mean: 36.9 seconds) (Table 1).

Type of bath

All the four species got into the bath and shook their head sideways while dipping their head in water and ruffling the wings, thus getting wet. The number of times the wings were ruffled during a bath was maximum in magpie-robin (mean: 15.9) and minimum in jungle babbler (4.2); the redwhiskered bulbul and tree pie ruffled its wings 7.0 and 8.3 times, respectively. The tree pie and jungle babblers got thoroughly wet and sometimes the latter was unable to fly immediately when suddenly disturbed. Jungle babblers behaved like rowdy school boys in a swimming pool by virtually falling into the bath and splashing the water all around to the accompaniment of harsh shrieks. Generally all the four species were reluctant to get into the water when it is dirty. The tree pie was very timid at the bath and did not alight down immediately on reaching the vicinity and flew away at the slightest disturbance. However the other three species were bolder. The redwhiskered bulbul and tree pie visited the bath in pairs during most of the occasions. However they did not get into the bath at the same time but one waited nearby till its partner finished its bath. Jungle babblers visited the bath in a group and sometimes an individual avoided taking a bath.

Table 1 Visiting period and time spent at bird bath

Bird	Visiting period (%)				Visiting time		Time spent (sec)	
	6-9 hrs	9-12 hrs	12-15 hrs	15-18 hrs	Earliest hrs	Latest hrs	Range	Mean
Tree pie	0	12	48	40	9.25	17.10	20-55	36.9
Red whiskered bulbul	16	20	28	36	7.25	17.15	15-125	52.4
Jungle babbler	8	4	36	52	8.15	17.15	20-60	45.4
Magpie-robin	8	8	56	28	8.25	18.05	45-150	574.0

(Based on 25 observations per species).

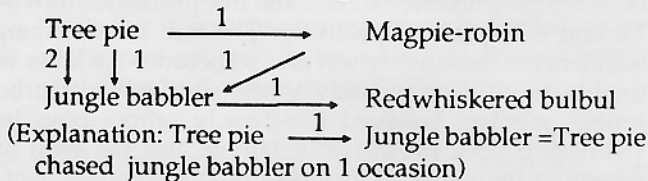
Other activities

The magpie-robin and tree pie drank water during 48 and 40% of the occasions respectively, while taking a bath. The Redwhiskered bulbul and jungle babblers drank water only during 20% of the occasions. The number of sips ranged from 1-3 in all species. Generally the birds drank water before beginning their bath and rarely during the middle of it. The tree pie and jungle babblers were very vociferous at the bath. Both the species advertised their presence on reaching the bath by their harsh calls/shrieks that continued during the bath also. The Redwhiskered bulbul made a lively chirpy call on arriving at the bath and a 'trrr' call at the bath. The magpie-robin was generally silent. The magpie-robin and jungle babblers also pecked at ants and other insects near the bath. All the species completed the preliminary preening by alighting on a nearby tree but flew away to a convenient spot to complete it.

Interactions among species

All the species except the redwhiskered bulbul were very aggressive and did not allow another species to take bath simultaneously. This may be due to the smaller size of the bath (25 cm diameter) and they would probably behave

Fig.1 Interactions among birds at bird bath



differently when provided with a bigger bath. The interactions among the various species are summed up in Fig.1.

STRAY BIRDS ON THE INDIAN INSTITUTE OF SCIENCE CAMPUS, BANGALORE. DR R J RANJIT DANIELS, Centre for Ecological Sciences, Indian Institute of Science, Bangalore 560 012

October and early November are times when migrant birds on passage halt at the campus of the Indian Institute of Science. Many stray records of such birds have been reported from this institute now and then. However, the most remarkable sighting I wish to announce is that of a black capped kingfisher *Halcyon pileata* that I saw at a pool of water within the campus in the evening of 2.11.1991. This species of kingfisher is being sighted for the first time in Bangalore. Though a species of mangrove forests and hill streams, the blackcapped kingfisher is reportedly a wandering bird venturing far inland.

On 28.10.1991 I saw a woodcock *Scolopax rusticola* fly out during the day from a drainage channel lined with dense vegetation in front of CES in the institute. Is this also a first

report for Bangalore? This wintering wader is more often sighted in the hills of peninsular India.

The inclusion of the above two species has made the total list of birds sighted at the IISc campus 141. This is remarkable for its size of 1.7 km².

OUR NATIVE WOODCOCK. THOMAS F. MARTIN, 12/16 Edward Road, Bangalore 560 052

Woodcock *Scolopax rusticola* is a member of the family Charadriidae but, unlike its close relative the snipe who are intimately connected with water and live as close as possible to it, had forsaken the usual habitat of its family group and took to living in thick shady forests and boggy glades, and a solitary existence. The locations of its habitat are those heavily forested and wooded areas containing moist and leafy bottom lands, which enable the bird to probe for its daily fare in the soft earth and among the litter of fallen dead leaves. In spite of this environmental disparity with the other members of its family, the woodcock has retained the same general structure of the snipe but with a distended belly which makes it very much heavier than its close relative the Jack Snipe *Gallinago minima*.

The humble earthworm is the a la carte of the woodcock, on which the bird chiefly and voraciously feeds - reportedly consuming its own body weight of such food in a day. When faced with a shortage of its favourite food, *scolopax rusticola* then resorts for feeding on other forms of animal and vegetable matter associated with living or growing among the fallen dead leaves which hold a fair amount of moisture content.

The species is known to become active with the coming of that fading golden glow that descends at the closing hour of twilight, when it makes a roving search for its staple food in the soft earth or among the fallen dead leaves. The bird uses its long flexible bill which acts as a sort of probe-cum-tongs to extract its food from the soft earth or pile of fallen dead leaves. Scientific studies of the woodcock's anatomy confirm that the upper mandible provides for movement independently of the lower half, and that the lower end of the bill is arrayed with a number of highly sensitive nerve endings which act as a sort of probing instrument to help it discriminate between edible food and that which is not fit for consumption. The bird is also reputed to have a very keen sense of hearing, and some scientists believe that it can pick up the sound waves of any feeble movement under the ground on which it rests or treads when foraging. Unlike most other birds that have the ears located behind the eyes, the woodcock's ears are located directly below the eyes. Using this acute sense of touch and hearing, the bird is well equipped to ferret its daily morsel of food. *Scolopax rusticola* is also favoured with eyes that are set far back and high on the head, a condition which allows it to see in all directions without having to turn its head.

In general appearance, *Scolopax rusticola* resembles its close relative the jack snipe *Gallinago minima*, but is much heavier, of greater length and more chubby in shape. Five yellowish lateral stripes across the head and four dark brown bands in between extend from the crown down to the base of the nape. The eyes are large and prominent, and encircled by a narrow ring of yellowish hue. The throat, breast and belly are of creamish coloured background overridden with numerous light-brown crescents to create a somewhat barred effect. The back, rump and wing coverts are graced with a blend of dusky white, light and dark brown, and form a cryptic pattern. All the feathers of the remiges are margined and tipped with black or dark brown to create a mottled pattern which aids in camouflaging the woodcock when at rest on the ground. The upper tail coverts are dark brown with a band of dusky white at the tips. The long slender bill has a yellowish tinge which darkens at the tip. The feet, tarsi and ankles are of a faded yellow tinge. The species attain an average length of 36 cm, weigh 325 gms and have a wing-span of 63 cm when full grown.

Some well informed sources claim that the male of the specimens is imbued with a polygamous bent and that during the mating seasons may service several females without actually pairing off, and that the female alone incubates the eggs. Field studies reveal that the woodcock carry their young chicks between the feet and fly off with them to some safer place when sensing danger, one chick at a time being carried in such emergency. When disturbed or startled, the woodcock lifts very quickly with a swishing sound and alternating right and left turns, and flies away to land some distance away.

Scolopax rusticola is a widely distributed resident species in many regions of the Old World located between latitudes 28° and 60° North - a distribution which apparently gave ornithologists' a clue to refer to the species as the 'Eurasian Woodcock'. In our India, the species are known to breed in areas stretching from Kashmir to Arunachal Pradesh, and is a migrant during the winter months when it shifts to Nepal, Assam and some of the hilly regions of our Southern States.

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GREAT HORNBILL STUDY COMMENCES IN SOUTH INDIA. R. KANNAN, *Hornbill Project, Indira Gandhi Wildlife Sanctuary, Top Slip 642 141, via Pollachi, Tamil Nadu*

I have commenced a two-year Ph.D. project on the conservation ecology of the Great Pied Hornbill in the Western Ghats of Southern India. I am affiliated with the Department of Biological Sciences, University of Arkansas, U.S.A. I have established base camp at Top Slip in the Anaimalai Hills.

This is an appeal for information. I want to know the exact distribution of the bird in the Western Ghats, and the status of the species in different areas. Even reports of stray sight records are welcome. My project involves three important areas of investigation: Monitoring of the fruit-resource base for the bird, study of nest-site characters and the current availability of those parameters within the range, and a quantification of its foraging habitat. If you have known the bird to nest in any locality please furnish me with all relevant information (date, exact location, tree involved etc.). Also information about persecution of the bird (especially by tribal folk) will be very important.

The bird is obviously rare and declining in numbers and in range. A project of this sort, involving a rare and nomadic frugivore, can only be successful in doing something concrete for the bird's survival if it encompasses a large area. Hence it is important for me to pool information from a very wide range. Every contributor will be gratefully acknowledged in the dissertation and publications to follow. On behalf of the Great Pied Hornbill, thanks for your help.

ALBINO COMMON KINGFISHER. MOHIT AGGARWAL, B-13, East of Kailash, New Delhi 110 065

On the 5th of this month, I made a short trip to Bharatpur Bird Sanctuary. While I was busy photographing cormorants I came across an albino common kingfisher *Alcedo atthis*. For a moment I was stunned to see this absolutely white bird flying across but after couple of minutes of observation I realised it was an albino common kingfisher. A friend of mine, Mr Vivek Menon, who was along with me at that time also confirmed it was an albino Common kingfisher. It was sighted along the metalled road on the right hand side of the sanctuary, when one goes from the temple towards the Python point.

VISIT OF BIRD ENTHUSIASTS TO DHOLKA, AHMEDABAD. DILHAS JAFFRI, *Tanvir Manzil, Dholka 387 910, Dist Ahmedabad*

This has reference to your editorial which appeared in NLW, 31 (7&8).

You will be interested to know that I am based at Dholka, a town about 45 kms south of Ahmedabad. My home town is situated at the hub of migratory bird activity as all the major water bodies of Gujarat including Nalsarovar, Thol, Narda, Pariaj and Kaneval lakes are in the periphery of just 40 kms around it. This gives me an inspiration to host bird watchers.

I will welcome bird enthusiasts in the group of six persons during winter months (Dec-Mar). The winged winter visitors frequenting the above said lakes are greater and lesser flamingo, greylag and bar headed geese, mallard, pintail, shoveller and many other migratory and resident duck species, demoiselle and common cranes apart from resident sarus and scores of other water fowls.

If the bird watchers so desire, I can also take them to show black bucks at Velavadar national park and Lothal museum housing relics of antiquities.

I can arrange for stay and travel by jeep. The cost per person per day works out to around Rs.250/- including stay, food and jeep travel.

Bird watchers are welcome to have correspondence with me at the address furnished above.

A HUGE FLOCK OF SWALLOWS, SWIFTS AND MARTINS IN YAMUNA NAGAR, HARYANA.
RAJIV SINGH KALSI, Department of Zoology, M.L.N. College, Yamuna nagar 135 001, Haryana

On the evening (17.45 hrs) of 7th September, 1991, while surveying Grey Partridge *Francoelinus pondicerianus* in fields along the edges of the Western Yamuna Canal (30°7'N, 77°18'E; Yamuna Nagar), I came across a huge congregation of swallows, swifts, and martins. From a distance it looked like a big swarm of honey bees. Observing carefully, I identified Swallows *Hirundo rustica*, Wiretailed Swallows *Hirundo smithii*, House Swifts *Apus affinis* and Collared Sand Martins *Riparia riparia*. The flock was spread over a large area over the canal and adjacent fields. Accurate counting was not possible since the birds were flying about very swiftly as is typical of these species. Therefore, I tried to estimate the numbers by 'block method', using the field of view of a 7 x 35 binoculars as a block. I counted 160 blocks with 90 to 100 birds per block for ten blocks, giving an estimated flock size of 14400 to 16000 birds. At 19.00 hrs, the birds started gathering in a large clump of reeds, tall grass and *Typha* on a big island in the middle of canal for roosting and by 20.00 hrs whole of the flock disappeared into the roost. Next day very few birds were left at the roost, which probably means that it was a gathering for migration.

WATERFOWL CENSUS - ADVICE REQUIRED
DR V.K. SHUKLA, Department of Botany, M L K College, Balrampur 271 201, UP

I am a reader of Newsletter for Birdwatchers for many years. Gradually the newsletter is improving, not only in getup, in material also. Eastern Uttar Pradesh is full of Waterbodies marsh lands and especially "terai" region is very rich in avifauna. But not many persons are interested in birds in this region. In fact I have yet to meet an amateur bird watcher belonging to eastern U.P.

Every winter your appeal for waterfowl census lures me to lakes full of birds. Though I have formed quite a comprehensive list of birds found here, I have no proper training to count them and keep proper records. Any advice for me?

I am a lecturer in Botany in a P.G. College and I am inducing my students to be birdwatchers, but they are not too interested as yet.

ON THE FAMED BULBUL OF PERSIAN POETRY.
DR J.C. UTTANGI, 36, Mission Compound, Dharwad 580 001

Recently an ornithologist friend asked me which bird could have been that famed bulbul of Persian Poetry. Was it a bulbul or a nightingale?

I decided to investigate the question, and looked through all my bird books. First of all I referred to the Fauna of British India (F.B.I.) series, and then the Book of Indian Birds (Salim Ali); the Field Guide to the Birds of South East Asia (Ben King Woodcock and Dickinson); and after that the Collins Hand Guide to the Birds of the Indian sub-continent (Woodcock); the Birds of Britain and Europe (Hammond); the Birds of Heath and Woodland (Gooders), the Book on Birds published by LIFE Nature Library; Greizmeck's Vol.9, and a few journals of BNHS, Bombay, and other available periodicals but with no success. A hint, however, was found in the 1981 edition of the Book on Sixty Indian Birds by Dharmakumarsinhji and Lavkumar, where the authors mention (page 73) that the Redvented Bulbul *Pycnonotus cafer*, is in no way related to the famed bulbul of Persian Poetry. As a last resource I turned to the Encyclopedia and Dictionaries. On page 1132 of Kittel's Kannada-English dictionary, against Bulbul it is mentioned - "The so-called Persian (Indian) Nightingale, *Pycnonotus jocosus* which means that the Redwhiskered Bulbul is the so-called Nightingale. The Oxford English Dictionary on page 144, describes the bulbul as - "The Eastern Song thrush, a singer (poetical)". The 20th Century Chambers English Dictionary gives the description as - "Persian Nightingale" really of the thrush family; a sweet singer (Arab). On the other hand, the Basic Everyday Encyclopedia (New York) on page 378 describes Nightingale as "Persian Bulbul of Asia - is a species of Nightingale", a clue which seems very close and it seems fairly reasonable to believe that the famed bulbul of Persian Poetry has poetical relationship with the Nightingale of eastern Asia. The European Nightingale, *Luscinia megarhynchos* and *L.m. africana*, which occur in Iran, Iraq, Syria, Afghanistan and Caucasus, are not found in Indian territory. The true Persian Nightingale is the sub species *L.m. africana* and it could also be the famed bulbul of Persian Poetry which Umar Khayyam refers to in his 'Rubayat'. It is darker and larger in size compared to *L.m. hafizi* which is paler in colour and occurs along the Volga, Sinkiang and North Eastern region of Afghanistan.

On the other hand, the family of Bulbuls covers thrush-sized birds which are very tame and have no fear of man and are kept as cage birds in some places, although they are not real songsters like nightingales or thrush nightingales. They are talkative, loud and lively rather than musical. For their characteristic pik-non-note which they inherit to produce so marvellously that Ornithologists recommended them to be included in a separate family, Pycnonotidae.

If any one has more information on this subject the same may be published for the benefit of readers of the NLBW.



**International Conference on
Wetland and Waterfowl Conservation in South and West Asia,**
Karachi, Pakistan, 14-20 December 1991.



Convened by

International Waterfowl and Wetlands Research Bureau, Asian Wetland Bureau
National Council for the Conservation of Wildlife, Pakistan

Preliminary Report by C. Perennou, Scientific Officer, IWRB and S. Sridhar, Regional Coordinator, AWC

The Karachi conference on Wetland and Waterfowl Conservation in South and West Asia, was a milestone in the movement for conservation of wetlands and waterfowl population.

The theme of the conference was 'Future strategies for conservation of wetlands and waterfowl in South and West Asia'. It provided an unique opportunity for Scientists and Conservationists from all over Asia to discuss with the representatives from IWRB, AWB, Ramsar Convention, Bonn Convention, World Bank and ADB issues relating to future wetland priorities; improvement and conservation of wetlands and migratory species; evaluation of status and threats to waterfowl and wetlands; flyway management strategies wetland management programmes and emphasised the need to integrate all wetland conservation plans.

The Conference was attended by 119 participants from 22 countries. India was well represented with 20 participants led by Mr.S.A. Hussain.

The Conference met in seven main sessions in the morning where in about 50 papers were presented on :

- Regional reports and priority actions,
- Status and priority actions,
- Wetland conservation Issues,
- Management of Wetlands and conservation of Biodiversity,
- National wetland and waterfowl policies and priority actions
- Role of development assistance Agencies in Wetland conservation and conversion,
- International conventions and cooperation.

Evenings were devoted to Workshops on :

- Siberian Crane,
- Ramsar Regional meeting,
- Meeting of Asian Waterfowl Census National coordinators,
- Threatened Waterfowl Species in South and West Asia,
- Weed management in Asian Wetlands,

A number of Posters were displayed at a special poster session.

A mid-conference excursion to Haleji Lake for Case study of Management issues and education approaches was also arranged.

A document "A Status Overview of Asian Wetlands" compiled by D.A. Scott and Colin M. Poole, which was presented at the conference was of special interest. Some of the salient features

concerning Indian Wetlands are given here :-

India's large number of wetlands, diverse wetland flora and fauna and high human population pressure make it a priority country for wetland conservation. There is a great need for a more general overview of the national wetland policy. Publication of an updated version of the existing wetland inventory should stimulate more field work in the less well known areas. These include Logtak Lake and other wetlands in Manipur, the riverine marshes of Upper Assam and Arunachal Pradesh, the wetlands in Manipur, the wetlands of eastern Uttar Pradesh, the Chauras of North Bihar and West Bengal, the Cochin Backwaters, and the wetlands of the Andaman and Nicobar Islands. The network of protected areas should be expanded to include representative examples of all wetlands types in India, and additional sites designated under Ramsar.

Local scientists and conservations are very active and well trained, and there are many government departments, academic institutions and non-governmental organisations involved in wetland research, management and protection. Various cooperative programmes are now being developed to undertake research on wetlands in Jammu & Kashmir, Bihar, Orissa and Madhya Pradesh. The Department of Environment has been gathering data on wetlands for many years as part of its All-India Wetland Survey, and has published preliminary lists of sites. India acceded to the Ramsar Convention in 1981 and designated two of its most spectacular wetlands, Chilka Lake and Keoladeo National Park (Bharatpur), for inclusion in the list.

The inventory of Indian wetlands produced for the Directory of Asian Wetlands is far from comprehensive, being heavily biased towards the well-known sites, most of which are in national parks and wildlife sanctuaries. The annual mid-winter waterfowl counts, initiated in 1987, have been particularly successful in promoting a greater interest in wetlands and waterfowl, and have produced a great deal of new information on Indian wetlands. Public awareness campaigns relating to wetlands have met with considerable success, and there is now a significant middle class element in Indian society with an interest in conservation.

Most Seriously Threatened Wetlands in India :

Dal Lake
Wular Lake
Harike Lake
Jheels in vicinity of Haidergarh
Daharand Sauj (Soj) Jheels
Southern Gulf of Kutch
Gulf of Khambhat
Khabartal

Dipor (Deepar) Bheel
 Logtak Lake
 Salt Lakes Swamp
 The Sunderbans
 Chilka Lake
 Kolleru Lake
 Estuaries of the Karnataka coast
 Kaliveli Tank and Yedayanthittu Estuary
 The Cochin Backwaters
 Wetlands in the Andaman and Nicobar Islands

Wetlands types in most urgent need of attention :-

1. Low protection, high threat

Provinces in which a low proportion of sites are protected and a high proportion are under threat. These are clearly the areas of greatest concern; there is an urgent need for improvement in the level of protection at existing reserves and establishment of further reserves to safeguard wetland types which may well be unique to the region concerned. The following wetlands fall into this category in India.

- (a) Wetlands of the Indus Delta
- (b) Wetlands of the northern Gangetic Plain in Uttar Pradesh, North Bihar and West Bengal
- (c) Coastal lagoons and estuarine systems of the west coast of peninsular India in Karnataka and Kerala

2. Medium to high protection, high threat

Provinces in which a medium to high proportion of sites are protected, but also in which a high proportion are threatened. In most cases, the priority here is in improvement in the protection and management of existing reserves, rather than the creation of new reserves. The following wetlands fall into this category in India.

- (a) Lakes and marshes in the Vale of Kashmir
- (b) Lakes and marshes in Manipur
- (c) The flood plain of the Ganges and Brahmaputra Rivers,
- (d) The Sunderbans and other coastal wetlands at the head of the Bay of Bengal
- (e) Estuaries and lagoons on the east coast of peninsular India

Further details of these wetland provinces including lists of relevant sites are given in the Directory of Asian Wetlands

Waterfowl Counts

For waterfowl counts in India, the symposium reinforced the message that if only the same wetlands are covered year after year, the trend analysis to forecast long term trends is possible and this is vital in order to detect threatened waterfowl species/populations or wetlands. The objectives of AWC can be achieved only if this requirement is fulfilled.

Problems related to waterfowl count can be overcome with improved regional coordination and periodic training course for counters. IWRB and AWB will welcome such programmes and are ready to provide all assistance to the coordinators.

**THREATENED WATERFOWL OF SOUTH & WEST ASIA
 REGIONAL POPULATION ESTIMATE**

() : Not threatened globally, only in the region
 + : Present other regions of the world
 ? : Relies on partial or old data

	South	West	Winters Elsewhere
Spot-Billed Pelican		6000	
Dalmatian Pelican	1000	1500	+
Pygmy Cormorant (African Darter)		10-20,000?	
Indian Darter	2000	100?	+
White-Bellied Heron	100?		+
Lesser Adjutant	1000		+
Greater Adjutant (Black-Necked Stork)	100		+
Lesser White-Fronted Goose	300 ?		+
Bar-Headed Goose	25,000?		+
Red-Breasted Goose		20,000	+
White-Winged Wood Duck		100 ?	+
Marbled Teal	2000	15,000	+
Baer's Pochard	100?		+
Ferruginous Duck	5000	2000?	+
White-Headed Duck	200	4000	+
Black-Necked Crane	300 ?		+
Siberian Crane (Watercock)	10	10	+
Masked Finfoot	500		+
Sociable Plover	100's?		+
Slender-Billed Curlew		10's?	+
Asiatic Dowitcher	50?		+
Spoonbilled Sandpiper	250		+
Nordmann's Greenshank	100		+
White-Eyed Gull		300+	+
Black-Bellied Tern	300		
Pallas Fish-Eagle	200?	?	+
White-Tailed Eagle		10's?	300?+

Note: these estimates are very tentative, and prior to any AWC data analysis.
 C. PERENNOU

From the five year data, 410 important Indian wetlands in ABSOLUTE NEED OF COUNTING have been identified. These wetlands had in average 92% of all wintering waterfowl, although they represent only 25% of those ever counted. Regional coordinators have been assigned the task of consistent coverage of these wetlands.

It was agreed during a meeting of co-ordinators held at Karachi, on 16 December 1991, that as many wetlands as possible should be counted as long as volunteers are available.

For Karnataka 39 wetlands have been identified for consistent coverage in future. The excellent collaboration between Birdwatchers Field Club of Bangalore and the Forest Department over the years was particularly praised and the organisers now look forward to such cooperation between Non-Governmental Organisations and Forest Departments in other Indian states as well.

**Participate in Asian Mid-Winter Waterfowl Census
 10-26 January 1992**