INDIAN BIRDS

Vol. 3 No. 1 January-February 2007

PDF_IB_Main_3.1_2007.pmd 1 5/29/2007, 9:40 PM

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Madras Naturalists' Society: Honorary Secretary, No. 8, Janaki Avenue, Abhirampuram, Chennai 600018, India. Website: www.blackbuck.org. Email: info@blackbuck.org. Publish: Blackbuck.

Institute of Bird Studies & Natural History: Director, Rishi Valley, Chittoor District, India 517352. Email: birds@rishivalley.org. Conduct: Home Study Course in Ornithology.

Oriental Bird Club: P.O. Box 324, Bedford, MK42 0WG, U.K. Website: www.orientalbirdclub.org. Publish: Forktail; OBC Bulletin.

Wetlands International-South Asia: A-25, 2nd Floor, Defence Colony, New Delhi 110024, India. Website: www.wetlands.org

Wildlife Institute of India: Post Bag # 18, Chandrabani, Dehradun 248001, India. Website: www.wii.gov.in.

Wildlife Trust of India: Wildlife Trust of India, A-220, New Friends Colony, New Delhi 110065, India. Website: www.wti.org.in.

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Saving Asia's threatened birds: www.birdlife.net/action/science/species/asia_strategy/index.html
Wetlands International-South Asia: www.wetlands.org/articlemenu.aspx?id=8fb450de-f760-42bb-8337-c9942a41d5fc
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Indian Birds

ISSN 0973-1407

Editor Emeritus
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Editor
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Subscription information
Six issues will be published annually in February, April, June, August, October, and December.

Type	Annual	3-year
Individual	Rs. 200	Rs. 600
Student (Up to 10th)	Rs. 125	Rs. 375
Institution	Rs. 600	Rs. 1,800
Foreign Individual	$20	$60
Foreign Institution	$75	$225

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Editor, Indian Birds
New Ornis Foundation
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NEW ORNIS FOUNDATION

Registration No. 314/2004
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Aims & Objectives

- To publish a newsletter that will provide a platform to birdwatchers for publishing notes and observations primarily on birds of South Asia.
- To promote awareness of bird watching amongst the general public.
- To establish and maintain links/ liaison with other associations or organized bodies in India or abroad whose objectives are in keeping with the objectives of the Trust (i.e. to support amateur birdwatchers with cash / kind for projects in ornithology).

Indian Birds

Vol. 3 No. 1. January–February 2007 Date of publication: 30 May 2007

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An ornithological expedition to the Lakshadweep archipelago: Assessment of threats to pelagic and other birds and recommendations

Satish Pande, Niranjan R. Sant, Satish D. Ranade, Shivkumar N. Pednekar, Premsagar G. Mestry, Sanjay S. Kharat & Vaibhav Deshmukh

Pande, S., Sant, N. R., Ranade, S. D., Pednekar, S. N., Mestry, P. G., Kharat, S. S. & Deshmukh, V. 2007. An ornithological expedition to the Lakshadweep archipelago: Assessment of threats to pelagic and other birds and recommendations. *Indian Birds* 3 (1): 2–12.

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Introduction

Several previous reports have documented the avifauna of Lakshadweep Archipelago: Hume (1876), Alcock (1902), Gadow & Gardiner (1903), Ellis (1924), Betts (1939), Burton (1940), Bourne (1960), Ramuni (1962), Watson et al. (1963), Mathew & Ambedkar (1964), Bailey et al. (1968), Anon. (1970, 1991), Subiah (1978), Ripley (1982), Chapman (1984), Bhaskaran (1985), Livingstone (1987), Ali & Ripley (1989), Bourne (1989), Mohan (1989), Daniels (1992), Kurup & Zacharias (1994), Robertson (1994), and Santharam et al. (1996).

The last ornithological survey of the archipelago was in 1990–1991 (Santharam et al. 1996). The present 2nd Pelagic Birds Survey from 12–16.iii.2006, a joint effort of ELA Foundation, Pune and Ecological Society, Pune together with Indian Coast Guard, was carried out after a lapse of 16 years. The first part of this survey focused on pelagic bird life off the western coast of India, in the Arabian Sea, and was completed in October–November 2005 (Pande 2005). Here we present the findings of the second lap of our survey, which was restricted to the Lakshadweep archipelago. Pitti Island, a part of the Lakshadweep archipelago, is an Important Bird Area (Islam & Rahmani 2004).

Niranjan Sant

Brown Noddy *Anous stolidus*

Methods

Observations were made from ICGS Annie Besant during the inter-island voyages on the Arabian Sea. Motorised 'Geminis' were used for reaching the various islands, reefs or sand flats from the ship. We swam to a few sand flats and reefs when the water around their shores had sharp rocky projections that would damage our inflatable boats. Landing on some islands was extremely difficult due to powerful breakers and the skills of the highly trained crew of ICGS Annie Besant was crucial to a successful touchdown. It is worth documenting here that several previous observers had to abandon their studies due to inability to land on Pitti and other islands.

We visited 13 localities (including 11 islands and sand flats and 2 offshore waters near islands) of the Lakshadweep archipelago. We actually landed on sand flats and islands. Only in case of Agatti and Kavaratti islands, the survey was restricted to the offshore marine waters. Observations were made during the inter-island voyages and also after landing on the various islands, etc., while walking on them. Flocks were counted when they re-settled on the ground, after we had landed. Eggs were physically counted. Species composition was also recorded. Photographic documentation with still and video cameras was done. All observations were made during the daylight hours.

Study area and study period

The various islands, sand flats and reefs of the Lakshadweep archipelago (8º0'–12º30'N 71º–74ºE) which lies from about 220–440 km from the west coast of Kerala, that we visited were: Cherbaniani, Byramgore, Bitra, Pitti, Bangaram, Tinnakara, Parli 1 and Parli 2, Agatti's offshore waters, Suheli Valiyakara, Suheli Pitti, Suheli Cheriyakara and Kavaratti's offshore waters. The northern most point we covered was Cherbaniani Island (12º24'N 71º53'E) and southern most, Suheli Cheiyakara Island 10º02'N 72º17'E. Along with these islands the inter-island waters were also surveyed. Due to a time constraint, we avoided the more populated islands of Lakshadweep, since there was no significant pelagic avian life from these islands in any of the previous reports.

Observations and Results

Eight species of pelagic birds from three families were

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A flock of Brown Noddies *Anous stolidus*

recorded during our survey—one species from the Phaethontidae, one from Stercorariidae and six from Laridae. In addition to these 19 non-pelagic species were also recorded (Table 1). We observed that Lesser Crested Tern *Sterna bengalensis* had the widest distribution, occurring on 13 islands followed by Large Crested Tern *S. bergii*, which was found on eight islands. Sooty Tern *S. fuscata*, Brown Noddy *Anous stolidus*, Whimbrel *Numenius phaeopus* and Common Sandpiper *Actitis hypoleucos* were recorded on 5 islands. Ruddy Turnstone *Arenaria interpres* and Pond Heron *Ardeola grayii* were recorded on four islands. Lesser Sand Plover *Charadrius mongolus* and Grey Heron *Ardea cinerea* were seen on three islands while the other species were seen only on two or one of the islands surveyed.

At least 31 species of pelagic and shore birds are reported from Lakshadweep (Kurup & Zacharias 1994; Robertson 1994). We have not added any new species to this list. Daniels (1992) reported Masked *Sula dactylatra* and Red-footed *S. sula* Booby as resident birds but we did not spot them during our survey.

Our observations on major marine tern species encountered on various islands are presented in Table 2. Sooty Tern was the most abundant species followed by Brown Noddy, Large Crested Tern and Lesser Crested Tern. Percent pairs of the two species, Sooty Tern and Brown Noddy, found breeding at Cherbaniani and Pitti islands are given in Table 3. It was observed that pairs of both these species laid only one egg each.

Relative percent distribution of terns irrespective of species recorded on various islands in Lakshadweep Archipelago has been shown in Fig. 1. Percent occurrence of various terns in Lakshadweep Archipelago and percent terns of each species that were breeding has been shown in Fig. 2.

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A Brown Noddy *Anous stolidus* pair

Breeding colonies were recorded only on two islands, particularly Cherbaniani (Belapani Reef) and Pitti. However, Cherbaniani, Pitti, Suheli Pitti and Byramgore sandflats, all appear to be important breeding and / or roosting sites for birds. The previous nesting islands like Tinnakara and Suheli group of islands are presently not used by any of the marine terns for breeding (Kurup & Zacharias 1994). It is therefore important to protect these three islands in addition to Pitti Island, which is already an IBA but does not have any legal protection status. We have photographed the Grey-backed Tropicbird *Phaethon aethereus*, probably for the first time in Indian marine waters, at Cherbaniani sand flat, though previous observers have reported it earlier.

Threats

Threats to avian and other marine life and marine ecosystem, as perceived by us during our survey in March 2006 are listed below. *Continued on page 8...*

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Large Crested Tern *Sterna bergii*

Table 1. Pelagic and shore birds of the Lakshadweep archipelago

Species	Approx. no.	Islands of occurrence	Earlier records[1]
Pelagic birds			
Procellariidae			
Barau's Petrel *Pterodroma baraui*	-	-	*
Jouanin's Petrel *Bulweria fallax*	-	-	*
Wedge-tailed Shearwater *Puffinus pacificus*	-	-	*
Flesh-footed Shearwater *P. carneipes*	-	-	*
Audubon's Shearwater *P. lherminieri*	-	-	*
Persian Shearwater *P. persicus*	-	-	*
Hydrobatidae			
Wilson's Storm-Petrel *Oceanites oceanicus*	-	-	*
Black-bellied Storm-Petrel *Fregetta tropica*	-	-	*
White-bellied Storm-Petrel *F. grallaria*	-	-	*
Swinhoe's Storm-Petrel *Oceanodroma monorhis*	-	-	*
Phaethontidae			
Grey-backed Tropicbird *Phaethon aethereus*	4	1	*
Sulidae			
Masked Booby *Sula dactylatra*	-	-	*
Red-footed Booby *S. sula*	-	-	*
Brown Booby *S. leucogaster*	-	-	*
Fregatidae			
Great Frigatebird *Fregata minor*	-	-	*
Stercorariidae			
South Polar Skua *Catharacta antarctica*	-	-	*
Parasitic Jaeger *S. parasiticus*	-	-	*
Pomarine Jaeger *Stercorarius longicaudus*	1	13	*
Laridae			

Species	Approx. no.	Islands of occurrence	Earlier records[1]
Lesser Crested Tern *Sterna bengalensis*	2,700+	1 to 13	*
Large Crested Tern *S. bergii*	3,200+	1, 2, 4, 9, 10, 11, 12, 13	*
White-cheeked Tern *S. repressa*	40+	1	*
Bridled Tern *S. anaethetus*	20+	13	*
Sooty Tern *S. fuscata*	15,200+	1, 2, 4, 9, 13	*
Brown Noddy *Anous stolidus*	9,200+	1, 2, 4, 11, 13	*
Non-pelagic birds			
Charadriidae			
Lesser Sand Plover *Charadrius mongolus*	10	1, 3, 4	*
Greater Sand Plover *C. leschenaultii*	1	3	*
Scolopacidae			
Bar-tailed Godwit *Limosa lapponica*	4	6, 8	*
Whimbrel *Numenius phaeopus*	22	4, 5, 6, 7, 8	*
Common Greenshank *Tringa nebularia*	1	6	-
Green Sandpiper *T. ochropus*	4	6	-
Spotted Sandpiper *T. glareola*	1	6	-
Terek Sandpiper *Xenus cinereus*	2	6	-
Common Sandpiper *Actitis hypoleucos*	13	5, 7, 8, 10, 11	-
Ruddy Turnstone *Arenaria interpres*	28	4, 5, 10, 11	*
Dromadidae			
Crab-Plover *Dromas ardeola*	6	1	*
Ardeidae			
Grey Heron *Ardea cinerea*	11	6, 8, 10	-
Indian Pond-Heron *Ardeola grayii*	5	5, 6, 7, 8	-
Pandionidae			
Osprey *Pandion haliaetus*	2	7, 13	-
Laridae			
Little Tern *Sterna albifrons*	10+	13	-
Cuculidae			
Asian Koel *Eudynamys scolopacea*	1	5	-
Apodidae			
Asian Palm Swift *Cypsiurus balasiensis*	Several	3, 4	-
Hirundinidae			
Barn Swallow *Hirundo rustica*	Several	5, 10	-
Zosteropidae			
Oriental White-eye *Zosterops palpebrosus*	Several	5, 10	-

[1] Kurup & Zacharias 1994; Robertson 1994.

Abbreviations

1=Cherbaniani (Belapani Reef); 2=Byramgore (Chereapani Reef); 3=Bitra Par Atoll; 4=Pitti Island; 5=Bangaram Atoll; 6=Tinnakara Island; 7=Parli-1 Atoll; 8=Parli-2 Atoll; 9=Agatti Island's offshore waters; 10=Suheli Valiyakara Atoll; 11=Suheli Pitti Atoll; 12=Suheli Cheriyakara Atoll; 13=Kavaratti Island's offshore waters.

Satish Pande

Brown Noddy *Anous stolidus* incubating

Table 2. Island-wise population and occurrence of terns

Island-wise occurrence of individual bird species, number of eggs and the species-wise distribution of birds in the Lakshadweep archipelago, in March 2006.

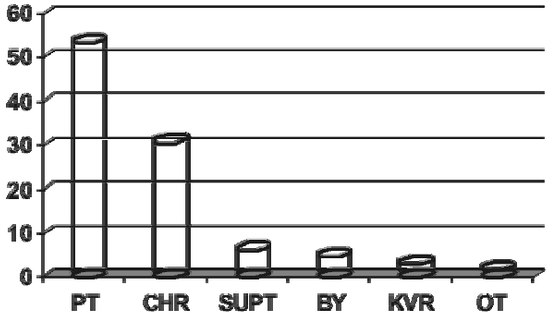
Island	ST	BN	LrCT	LsCT	WCT	BT	Total	Eggs
Cherbaniani	5,000	1,700	1,900	760	40	0	9,400	1,200
% Occurence	-53.20%	-18.10%	-20.20%	-8.10%	-0.40%		-30.70%	
Byramgore	650	250	50	500	0	0	1450	0
% Occurence	-44.80%	-17.20%	-3.50%	-34.50%			-4.70%	
Bitra	0	0	0	4	0	0	4	0
Pitti	9,560	6,600	150	50	0	0	16,360	1,790
% Occurence	-58.40%	-40.40%	-0.90%	-0.30%			-53.40%	
Bangaram	0	0	0	150	0	0	150	0
% Occurence							-0.48%	
Tinnakara	0	0	0	10	0	0	10	0
Parli 1	0	0	0	5	0	0	5	0
Parli 2	0	0	0	2	0	0	2	0
Agatti offshore	4	0	10	150	0	0	164	0
% Occurence	-2.40%		-6.10%	-91.50%			-0.50%	
Suh. Valiyakara	0	0	47	0	0	0	47	0

Island	ST	BN	LrCT	LsCT	WCT	BT	Total	Eggs
Suh. Pitti	0	150	750	1,000	0	0	1,900	0
% Occurence		-7.90%	-39.50%	-52.60%			-6.20%	
Suh. Cheriyakara	0	0	100	100	0	0	200	0
% Occurence							-0.60%	
Kavaratti offshore	84	590	252	10	0	20	956	0
% Occurence	-8.80%	-61.70%	-26.40%	-1.00%		-2.10%	-3.10%	
Total	15,298	9,290	3,259	2,781	40	20	30,648	2,990
% Occurrence	49.90%	30.30%	10.60%	9.00%	0.10%	0.10%	100%	-

Abbreviations

BN = Brown Noddy; BT = Bridled Tern; LrCT = Large Crested Tern; LsCT = Lesser Crested Tern; ST = Sooty Tern; WCT = White-cheeked Tern.

Figure 1. Distribution of terns on various islands in the Lakshadweep archipelago in March 2006 (PT-Pitti; CHR-Cherbaniani; SUPT-Suheli Pitti; BY-Byramgore; KVR-Kavaratti; OT-Other islands).



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Courting Brown Noddies *Anous stolidus*

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Juvenile Large Crested Tern *Sterna bergii*

Figure 2. Occurrence of various terns in the Lakshadweep archipelago and breeding statistics recorded in March 2006. (ST-Sooty Tern; BN-Brown Noddy; LrCT-Large Crested Tern; LsCT-Lesser Crested Tern; WCT-BT-White-cheeked Tern and Bridled Tern. BRD-Breeding; OCC-Occurrence.)

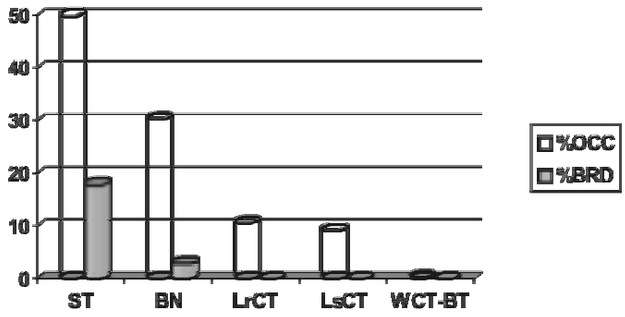

Table 3. Breeding pairs on Cherbaniani and Pitti islands in March 2006

Island	Sooty Tern	Breeding pairs	Brown Noddy	Breeding pairs
Cherbaniani	5, 000	48%	1, 700	0%
Pitti	9, 560	29.30%	6, 600	11.80%
Total	14, 560	35.70%	8, 300	9.40%

1. Pitti and Cherbaniani Islands attract local residents for guano collection. During these visits poaching of eggs and trapping of nesting pelagic birds for eating has been documented by several observers in the past (Kurup & Zacharias 1994). We have also noted heaps of broken eggshells and mounds of feathers confirming that this practice is still prevalent. The entire colony has been earlier ransacked for eggs (Mathew et al. 1991).
2. Guano collection is also rampant as evident by more than one dozen plastic bags filled with guano that we recorded on Cherbaniani (Belapani reef).
3. We noticed some Sooty Terns entangled in the frayed and torn edges of plastic guano collection bags. Those alive were rescued and released.
4. Extensive coconut palm plantations on several islands like Bitra, Parli 1 & 2, Tinnakara, Suheli Veliyakara and Cheriyakara have resulted in their being abandoned as nesting sites by the birds. Nesting was previously documented in Bitra and Suheli group of islands (Mathew & Ambedkar 1964). Growing human population has clearly put a pressure on the available land and increasingly, uninhabited islands are being opened for human activities. These activities are clearly detrimental to the birds. Construction of a tourist hotel at Bangaram has resulted in absence of nesting by pelagic birds at this place.
5. Opening of Suheli Chriyakara to humans has resulted in frequent visits to the adjacent Suheli Pitti Island by people and fishermen and this has driven away nesting pelagic birds from Suheli Pitti as well. Nesting was documented here in the recent past (Mathew & Ambedkar 1964).
6. We noted liberal use of rodenticides like 'Roban' (Zinc compounds) on several islands like Tinnakara, Parli 1

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Mixed colony of Sooty Terns *Sterna fuscata* and Brown Noddies *Anous stolidus*

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Sooty Tern *Sterna fuscata* at nest

& 2 and Suheli Veliyakara. The soil samples in some of the islands have shown alarmingly high levels of Zinc, which is toxic (Bat et al. 1999).

7. Bio-magnification of toxic Zinc is probably already occurring since samples of debris from bird carcasses from Pitti Island, which is devoid of any vegetation and an important breeding ground for pelagic terns, have also revealed higher than permissible levels of Zinc.
8. Alteration of pH of water towards acidic side is seen in a few lagoons. This could be the result of the prolonged practice of dumping 'Mas' or rotting fish and other organic matter on the shore and in the lagoon. The unfavorable pH alteration is detrimental in the long run since the lagoon water tends to concentrate toxic wastes as it is cut off from the open sea by a ring of reefs.
9. Dumping of garbage like plastic, used and leaking batteries, electric glass bulbs, bottles, cigarette cartons, cans, etc., is prevalent on important nesting islands of Pitti and Cherbaniani (Belapani Reef).
10. Recurring oil spills, even in small quantities, from fishermen's boats and tourist transport can cause pollution in the long run.
11. A lack of regular monitoring of the nesting islands by competent authorities of Lakshadweep Archipelago and by Coast Guard has resulted in absence of fear in the minds of fishermen who poach the eggs and birds indiscriminately in spite of Pitti Island being recognized as an Important Bird Area. However no legal protection is accorded to this important island.
12. Stray incidents of poaching of marine fauna by Indian and non-Indian tourists are reported.
13. A lack of knowledge of island and marine ecology and a failure to understand the importance of this fragile ecosystem, the importance of nesting bird colonies on Pitti and Cherbaniani islands, the most important breeding grounds of pelagic birds in Arabian Sea in Indian territory—can be ascribed to administrative apathy.
14. Poaching of eggs of marine turtles is known. Local fishermen also kill marine turtles for oil, which is used for painting boats for rendering them water resistant.
15. Armoring of coasts and cutting of indigenous vegetation has led to a decrease in the availability of sandy beaches for nesting marine turtles. This is causing an irreversible damage to the fragile island biogeography.

Recommendations

1. Cherbaniani (Belapani Reef), Byramgore, Suheli Pitti and Pitti islands should be immediately declared Marine Birds Sanctuaries. They should also be assessed IBAs. A strict penalty should be levied if unauthorized persons are found on these islands, especially during March and November. Cherbaniani is the second most important breeding ground for the pelagic birds of the Lakshadweep archipelago, second only to Pitti Island (Table 2).
2. Regular surveillance and monitoring of bird populations on Cherbaniani and Pitti islands should be undertaken.

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Hermit Crab *Pagurus* sp. predating on egg

3. No habitat modification on these islands should be permitted and their status quo maintained without starting any coconut or other plantations. If such plantations are allowed on Pitti, Cherbaniani, Byramgore and Suheli Pitti islands, the breeding birds on Lakshadweep archipelago are very likey to vanish in the next twenty five years.
4. Suheli Pitti, though devoid of pelagic bird nesting, is a potential breeding ground of these birds. Entry of people to Suheli Pitti should also be strictly prohibited. Resumption of breeding by pelagic birds on this sand bank is very likely to be occurring during the SW monsoon.
5. The Coast Guard should physically patrol Cherbaniani, Byramgore, Pitti and Suheli Pitti islands, rather than simple distant patrolling. Unless the personnel land on these islands in Gemini boats, true status of pelagic birds cannot be evaluated since the larger patrol vessels cannot approach close enough and hence the bird life and other faunal monitoring or exploitation will remain unknown.
6. Use of rodenticides like 'Roban', which contains zinc compounds, should be strictly prohibited in Lakshdweep. There is evidence of high percentage of toxic zinc in soil samples and bio-magnification of this pollutant is already occurring (Mathew et al. 1991). This is definitely a cause for concern. The rodents live on coconut palms and remain in the canopy throughout their life; hence indiscriminate use of rodenticides on ground is of doubtful efficacy. Other measures for rodent control should be tried.
7. Disposal of fish 'Mas' and other vegetative waste like coconut fronds should be correctly carried out in a safe manner such that decomposition of these waste products does not increase the pH of water or produce any unfavorable alterations.
8. Creating public awareness on the importance of Cherbaniani, Byramgore, Pitti and Suheli Pitti islands in Lakshadweep's ecology should be undertaken on a priority basis. Administration should refrain fishermen from visiting these islands and from poaching eggs, killing birds and disposing toxic garbage on them.
9. Officers and crew of the Coast Guard should be involved in a marine ecology orientation workshop wherein the importance of marine ecosystem with respect to marine birds, mammals, fish, reptiles, flora and other fauna is highlighted in a simple manner. The immense role of Coast Guard in the protection, conservation and preservation of our natural but fragile marine wealth should be highlighted, since this area is virtually out of bounds to the common man.

Acknowledgements

We thank Vice Adm. M. P. Awati (Retd.), Director Ecological Society, Pune for inspiring us to undertake the task that was so close to our hearts and for being instrumental in arranging the survey. The survey would not have been possible without his continued interest. We thank Director General Indian Coast Guard, New Delhi; Inspector General A. Rajasekhara, Comdt. Coast Guard Western

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Lesser Crested Terns *Sterna bengalensis*

Niranjan Sant

Sooty Terns *Sterna fuscata*

Region and also the Commander in Chief Western Naval Command and Prakash Gole, Chairman of Ecological Society; for making this expedition possible. We specially thank Comm. S. Paramesh CO ICGS Annie Besant and his competent and helpful staff especially Dy. Comm. Sujeet Dwivedi, Asst. Comm. Varun Upadhyaa and chief diver Officer Mohanti for helping our team in every possible manner. We sincerely thank ELA Foundation, Pune for making the survey a success. We also thank Anil Mahabal of Zoological Survey of India, WRS, Pune, for his suggestions.

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Guano collection at Cherbaniani Island

Niranjan Sant

Juvenile Brown Noddy *Anous stolidus*

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A spray of Ruddy Turnstones *Arenaria interpres*

The Spot-billed Pelicans *Pelecanus philippensis* of Uppalapadu (Guntur district, Andhra Pradesh, India)

Humayun Taher

Taher, H. 2006. The Spot-billed Pelicans *Pelecanus philippensis* of Uppalapadu (Guntur district, Andhra Pradesh, India). *Indian Birds* 3 (1): 13–16.

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Introduction

In the middle of the 1970s, the pelicanry at Kolleru Lake in Andhra Pradesh (A.P.) was reported to have over 3,000 nesting Spot-billed Pelicans *Pelicanus philippensis* (Gee 1960; Guttikar 1979). By the end of the 1970s, disturbed due to the upcoming fish farming industry and other factors, this huge pelicanry was abandoned by the birds (Guttikar 1979).

In the latter part of the 1970s a few pelicans were noted at Vedanthangal Lake in Chengalpattu district of Tamil Nadu (Neginhal 1977). It was presumed that these birds were part of the Kolleru pelicanry (Neginhal 1977). In the early 1980s, a few pelicans were observed attempting to nest on the *Barringtonia* trees in the small lake at Nelapattu in A.P. (Nagulu & Rao 1983). The close proximity of Pulicat Lagoon (20 km from Nelapattu), a potential feeding ground, was a major attraction and the pelicanry at Nelapattu was established and grew. Currently there are over 310 Spot-billed Pelican nests here. (K. Mrutyumjaya Rao, *verbally*.)

But the bulk of Kolleru's pelican population still could not be located, even though there were sporadic reports of pelicans nesting in West Godavari district up to Srikakulam district of A.P. (T. Ramakrishna, *verbally*). No data is available on their numbers or breeding. Some birds may quite possibly have gone to Chilika Lake in Orissa (though no population studies have been done on the breeding pelicans at Chilika). Some others also probably joined the breeding pelicans at Kokkare Bellur in Karnataka (Guttikar 1979). In January 1999, a single adult Spot-billed Pelican was observed at Uppalapadu village tank. In January 2000, 40 pelicans arrived at Uppalapadu and 15 nests were built here. This was the start of the breeding of the Spot-billed Pelicans in Uppalapadu tank (Rao & Kumar 2000).

Uppalapadu tank: a history

Data for this tank is available from 1989–1990 onwards. The tank was initially a heronry for Cattle Egrets *Bubulcus ibis*, Little Cormorants *Phalacrocorax niger*, Asian Openbill-Storks *Anastomus oscitans* and Black-crowned Night-Herons *Nycticorax nycticorax*. These birds nested on *Proscopis juliflora* and *Acacia nilotica* trees in the tank. Other nesting species here were Oriental White Ibis *Threskiornis melanocephalus*, Painted Storks *Mycteria leucocephala* and Glossy Ibis *Plegadis falcinellus*. Between 1989 and 1999 there were no reports of Spot-billed Pelicans, either visiting or breeding at this tank. Yet, in the six years since the pelicans first nested here, Uppalapadu pelicanry has become one of the largest nesting sites of these birds in the state, hosting around 315 nests in 2006 (K. M. Rao, *verbally*.)

The small fresh-water village tank (16°16'26"N 80°21'58"E) in Uppalapadu village is seven kilometers from Guntur town on the Guntur–Tenali road in Guntur district of A.P. The total area of the site is *c*15 ha. The birds nest in a section of the tank that is approximately 2.5 Ha in area, which is actually a part of the original 12 Ha tank. The area has been encroached upon and the villagers have apportioned about 9.5 Ha of the tank for their domestic water usage. The remaining 2.5 Ha is the pelicanry, which is now being protected by the village council and authorities. Uppalapadu is listed as an Important Bird Area (IBA) (Islam & Rahmani 2004).

In 2006, more than 1,500 Spot-billed Pelicans have been reported from Uppalapadu (K. M. Rao, *verbally*.). Other important birds here were over 2,500 Painted Storks and over 5,000 Asian Openbill-Storks. Darters *Anhinga melanogaster* also breed on this tank, as do Oriental White and Glossy ibises. Of these, the Spot-billed Pelican is recorded as 'Vulnerable' and the Oriental White Ibis as 'Near-threatened' (BirdLife International 2001). Both these species nest in Uppalapadu in significant numbers.

Uppalapadu tank has a maximum depth of three meters. The tank is well stocked with fish. It was reported by the forest watchers at Uppalapadu that over 30,000 fish fingerlings had been introduced into the tank. Even so, the number of birds using this tank for nesting cannot expect to feed exclusively from here. The main foraging ground of the pelicans at Uppalapadu is the Prakasam Reservoir on Krishna River (20 km from Uppalapadu). During a visit to this tank in April 2006, by members of the Birdwatchers' Society of Andhra Pradesh (BSAP), it was estimated that the birds took approximately two hours to get to their foraging ground and return with food for nestlings. Both Spot-billed Pelicans and Painted Storks were noted moving in the direction of the foraging grounds of Krishna River. In April 2006, there were over 150 active pelican nests and over 500 active Painted Stork nests at Uppalapadu. Members counted over 600 pelicans here and over 2,500 Painted Storks (Taher 2006).

At Uppalapadu, Spot-billed Pelicans commence nesting from the end of November continuing up to the end of April. Numbers appear to peak during February–March. Table 1 shows the maximum populations of these birds and their nests, from 2000–2006.

Table 1. Maximum numbers of birds and nests at Uppalapadu

	2000	2001	2002	2003	2004	2005	2006
Birds	40	362	240	450	600	950	2000
Nests	15	79	96	190	270	400	315

Problems and concerns

One of the major problems at Uppalapadu, due to the increase in the number of the nesting pelicans, is the over crowding of the area. The pelicans are the largest birds breeding here and their arrival generally coincides with the end of the nesting season of the Asian Openbill-Storks. If the pelicans arrive early, the storks' nesting success is reduced because their young are not yet ready to fly and these birds are displaced by the pelicans. They either fall into the water, or to the ground where they are preyed upon by village dogs and cats. Because of this over crowding, the pelicanry at Uppalapadu is supporting staggered nesting periods. The first birds to nest here are the Asian Openbill-Storks, which start nesting in the month of August. Nesting peaks in September and, by October they are almost through. Oriental White Ibis also nest during this period. Pelicans generally arrive by the middle of October, which is the time when Asian Openbill-Storks leave. From October onwards the pelicans and Painted Storks commence their nesting. The latter's nesting activity peaks in January, while the pelicans' in February. The large number of Black-crowned Night-Herons do not compete with other birds for nesting space at Uppalapadu, since they nest in the lower levels of the trees. Table 2 shows the activity of the principal nesting species at the Uppalapadu pelicanry, during the 2003–2004 season.

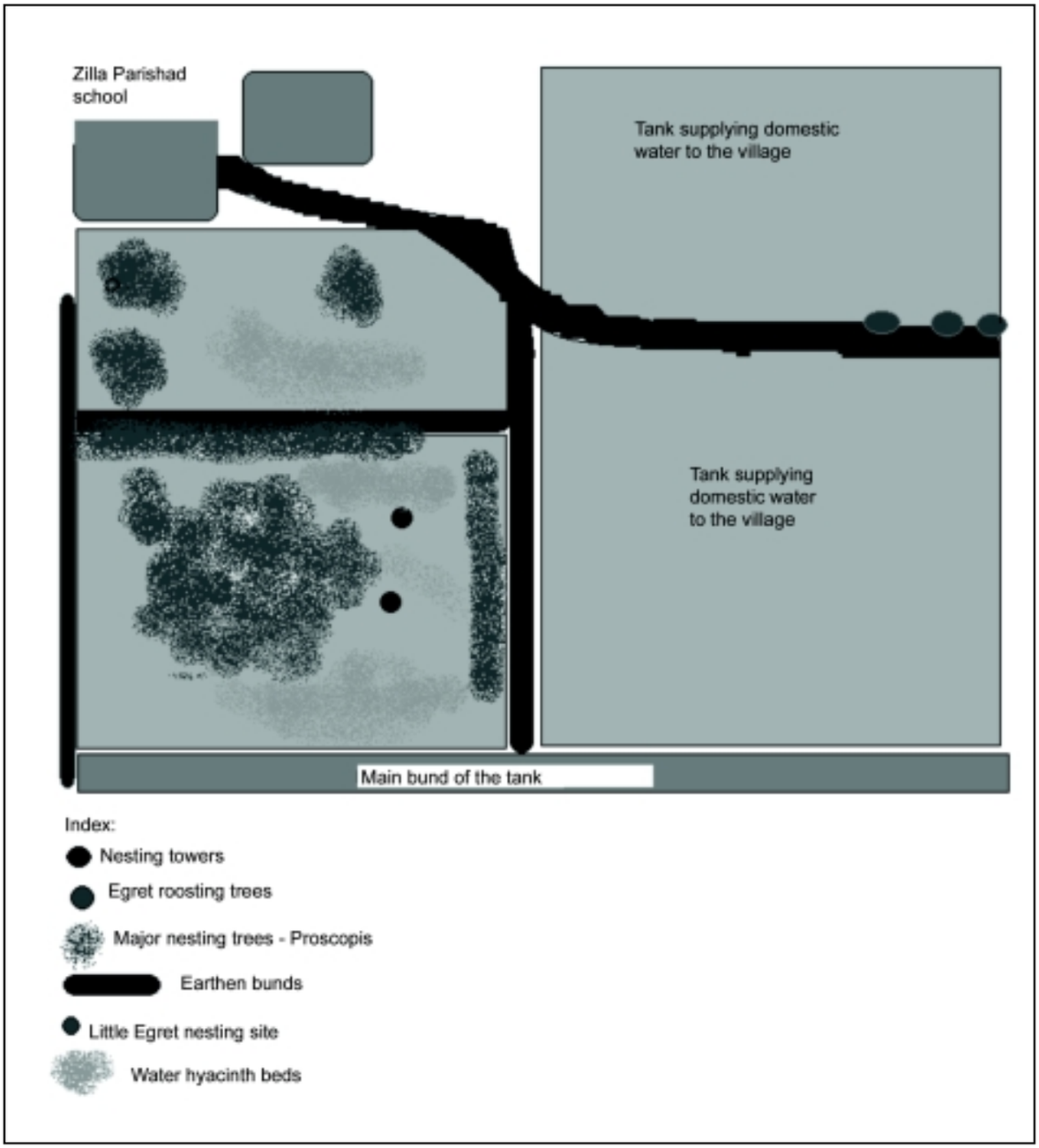
Table 2. Numbers and nests of water birds

Species	Apr-03		May-03		Jun-03		Jul-03		Aug-03		Sep-03		Oct-03		Dec-03		Jan-04	
	No.	Nest	No.	Nest	No.	Nest	No.	Nest	No.	Nest	No.	Nest	No.	Nest	No.	Nest	No.	Nest
Pelicans	450		200		190		19		8		60		140		458	130	600	270
Oriental White Ibis					9		7		3000	700	9000	900	8000		2000		400	100
Painted Stork	700		400		458		200		1						22		1045	400
Asian Openbills					22		450		4500		7000	700	7000		1600		3	
Darter											20	5	4		12	3		
Little Cormorant	70		20		14		30		60		70	2	67		54	4	120	

Another concern at Uppalapadu is domestic water supply. This was the main problem while the sanctuary was being established. Traditionally the tank has been used for the domestic needs of Uppalapadu village. When the birds first started nesting therein, the villagers complained that bird droppings were fouling their water supply. At one point, the village council gave permission to cut the trees that the birds used for nesting. Consequently, several large trees were felled before the council took a fresh initiative towards conservation and stayed the felling. However, by this time several trees that the birds used for their nests were already cut adding to the over crowded conditions at the pelicanry (Rao & Kumar 2000).

Encroachment of the tank is another problem. Originally the tank was spread over 30 acres. However, the northern part of the tank was drained to make room for the Zilla Parishad school building. Furthermore, to prevent birds from polluting their domestic water, villagers constructed an earthen bund to isolate about half of the tank. Trees in this part of the tank were removed to discourage birds from nesting here. This effectively halved the area of the tank available for nesting. Further to this, another 30% of the tank (eastern part) was also isolated for the same purpose (domestic usage). This part too was cleared of trees to discourage nesting. Hence currently, only about 6 acres of the original 30 acres is available for nesting birds. This part now has a good tree cover as the forest department as well as the village panchayat protect it (Fig. 1).

Fig. 1. Location sketch of Uppalapadu



Future

The increase in the number of nesting Spot-billed Pelicans at Uppalapadu has created the problem of over crowding at this tank. Pelicans that arrive late in the season are unable to get adequate nesting space. Even though the birds are gregarious nesters and more than one pair use the same nest platform (K. Mrutyumjaya Rao, *verbally*), there is a limit to the available space and presently the single largest problem here is overcrowding. This year (2006), there were reports of birds nesting at the smaller Edduri tank, about a kilometre away from Uppalapadu tank. BSAP members visited Edduri tank, which is about ten acres in area and is privately owned, hence unprotected. While we were there, we noticed people fishing in this tank and water being drawn through a motorised pump for cultivation. The fishermen brought the catch to the shore and sold it on the spot to the local village people. In spite of these disturbances, we counted 14 Spot-billed Pelican nests and over 20 Painted Stork nests at this lake. Here too nests were constructed on *Proscopis juliflora* on an island in the middle of the lake. Other nesting species here

were Black-crowned Night-Herons, Grey *Ardea cinerea* and Purple *A. purpurea* Herons. We do not know if Asian Openbill-Storks also use this tank because our visit was far beyond their nesting season. We spotted a single Asian Openbill-Stork on this lake but could not see any nesting activity. However, given the crowded conditions of Uppalapadu heronry, it is quite possible that all the breeding species are spreading to the surrounding tanks.

The A.P. Forest Department has taken up this pelicanry as a designated protected area and has introduced watch and ward staff in the area. Furthermore, the village council is also keenly interested in the area and is taking interest in the protection and conservation of the tank and the birds. However, the problem of over crowding and encroachment on this tank remains and urgent measures are needed to enable the pelicanry at Uppalapadu to survive. Otherwise this very successful pelicanry will also disappear, as did the one at Kolleru in the 1970s.

Acknowledgements

Thanks to Mr. Siraj A. Taher for providing inputs and for commenting on the manuscript at various stages. Sincere thanks also to Sri K. Mrutyumjaya Rao for providing much of the data on numbers of nesting birds and the threats and concerns at the Uppalapadu Pelicanry.

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Winter birds of Kakoijana (Proposed) Wildlife Sanctuary, Assam, India

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Introduction

The Kakoijana (Proposed) Wildlife Sanctuary (KPWLS) (26°22'N–20°21'N 90°33'E–90°34'E) is located in the Bongaigaon district of western Assam, India. The area is home to the highly endangered golden langur *Trachypithecus geei* and the sanctuary was proposed in order to protect the population of this primate. Kakoijana falls under the Assam Plains endemic bird area although it has not been listed as an Important Bird Area (IBA) of the state (Islam & Rahmani 2004).

In this paper we discuss the ornithological significance and species diversity of Kakoijana, based on a six-month fieldwork on a project assessing the wintering bird community and non-breeding habitat utilization by the Dicruridae of KPWLS. However, here we discuss the significance of Kakoijana in terms of avifaunal conservation as well as some interesting observations in a degraded forest.

Although some work has been done to document the birds of this region (Arnab Bose *verbally*; Singha & Borah 2001) the lack of a comprehensive checklist is quite evident. Here we present the first detailed systematic account of the avian diversity of KPWLS recorded during a four-month period from early January 2005 to late April 2005.

Study area

Kakoijana covers 1,700.24 ha and falls under the Aie Valley Division, Bongaigaon, Assam (Fig. 1). It was originally managed by *zamindars* (landlords) and was constituted into a Reserved Forest by the Forest Department in 1966. In April 1999 a proposal to upgrade it to a Wildlife Sanctuary was made, largely to protect its golden langur population. This is the key species of KPWLS and all current management inputs are directed towards its conservation.

The terrain of KPWLS is hilly, with the altitude ranging from about 59 m above m.s.l. (near Hapasara beat office) to the highest of 160 m above m.s.l. at the western hilltop. The hills run in all directions with moderate to deep slopes in between. The physiography is intersected by one perennial stream locally known as "Kalikapat", which flows north–south. The soil of the KPWLS is red loamy and favours the growth of important timber yielding trees such as Sal *Shorea robusta* and Teak *Tectona grandis*.

KPWLS comprises mostly of mixed moist deciduous forest (Singha & Borah 2001). These natural forests comprise of deciduous species of trees such as *Shorea, Dalbergia, Caesalpinia, Vatica, Toona, Albizzia,* etc. Scattered bamboo groves comprising *Dendrocalamus, Bambusa,* etc., occur in the hill slopes and along few perennial hollows. Some semi-

evergreen patches composed of *Caryota urens, Calamus, Streblus asper*, etc., appear along the Kalikapat stream, largely due to edaphic conditions. The shrubs that appear in degraded patches include species of *Glycosmis, Cassia, Melastoma, Clerodendrum* and *Lantana*. Besides natural forest, there are large patches of Teak monoculture along the eastern sides of the hills.

Cultivated lands and human habitation are found all around the forest, and the present degraded condition of the forest is primarily because of heavy anthropogenic pressure.

The climate of KPWLS is '*subtropical with pronounced monsoon*' with three distinct seasons namely, winter, summer and monsoon. The annual rainfall ranges from 2,500 mm to 3,500 mm, and the temperature ranges from 13°C in December–January to 32° C in May–June (National Information Center, Bongaigaon).

Methods

We conducted regular weekly surveys following the 'fixed width line transects method' (Javed & Kaul 2002), during the peak wintering period. We studied the bird community in four different habitats, namely: forest edge, evergreen patch along a stream, logged forest patch and, teak monoculture. Four transects of roughly 1 km length were laid, one each in the above mentioned habitats, except that of the stream habitat which was 700 m long. In most community studies, a transect length up to 800 m is adequate (Javed & Kaul 2002). The forest edge separates the two communities of teak monoculture and a wet paddy field. The teak monoculture (<30 cm DBH) was covered intermittently with bushes and herbs varying in height. The evergreen patch along the stream includes tree species of *Garcinia, Syzigium, Ficus, Macaranga, Lea asiatica, Callicarpa arborea* and dense undergrowth of shrubs, saplings, weeds, ferns, some grasses and herbaceous plants. The logged forest was a completely logged patch and had very few large trees. *Litsea* sp., *Bixa orellena* and teak saplings were common as was bamboo.

We studied birds within 20 m of both sides of the transect, to keep uniform width i.e., 40 m in all the transects. Though visibility was good in the case of the logged and edge transects, and to some extent in the monoculture transect, thick vegetation along the stream transect made it difficult to observe birds there.

Besides these four transects, bird observations were also made during different times of the day in various locations of the study area so as to detect those species that might have been missed in the transects. Birds were observed using direct sighting technique with the help of 8x40 binoculars and identified according to a standard field guide (Grimmett et al. 1999). In certain cases birds were identified from their call when sighting was not possible. Classification, common name and scientific names follow Manakadan & Pittie (2001).

Based on the number of sight records, the abundance of a given species was assigned as 'common' (seen daily), 'uncommon' (encountered occasionally, five or less than five times) and, 'rare' (encountered once or twice).

Results & discussion

A total of 117 species belonging to 35 Families and 13 Orders were recorded in Kakoijana (Appendix 1). These included 114 species seen during the study period, and additional three species (Pied Harrier *Circus melanoleucos*, Black-shouldered Kite *Elanus caeruleus*, and Oriental Pied Hornbill *Anthracoceros albirostris*) from earlier records (Singha & Borah 2001; H. Singha).

Of these 52% (61 spp.) are common, 29% (34 spp.) are uncommon and 16% (19 spp.) are rare and three species were sighted by HS. Of these, 67 spp. (57.26%) are resident, 19 (16.23%) are winter visitors and one (0.9%), the Burmese Shrike *Lanius collurioides*, a passage migrant.

There were three species common to all the four transects: Red-vented Bulbul *Pycnonotus cafer*, Jungle Babbler *Turdoides striatus* and Common Tailorbird *Orthotomus sutorius*. Four species were found in three habitats: Grey-backed Shrike *Lanius tephronotus* (stream, edge and logged habitat), Oriental Magpie-Robin *Copsychus saularis* (edge, logged and monoculture), Thick-billed Warbler *Acrocephalus aedon* (stream, edge and monoculture) and Spotted Dove *Streptopelia chinensis* (stream, edge and monoculture).

The critically endangered Indian White-backed Vulture *Gyps bengalensis* was seen only once (31.iii.2005) in a flock of five soaring individuals. Lesser Adjutant Stork *Leptoptilos javanicus*, a vulnerable as well as globally threatened and restricted range species (Islam & Rahmani 2004) was also sighted once (31.iii.2005) in Kakoijana. Two individuals of the species were found foraging at the edge of the reserve near a paddy field.

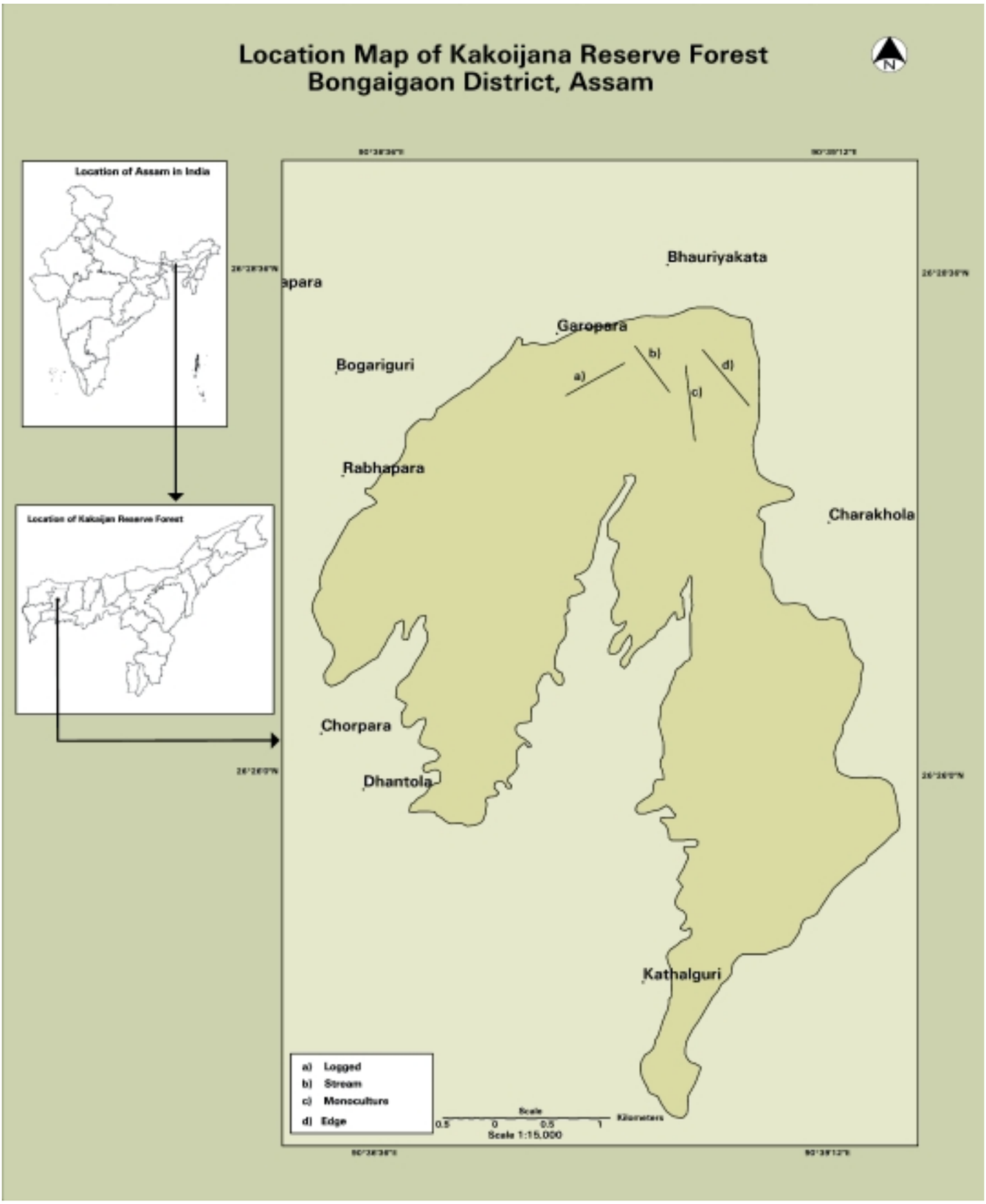
The vulnerable Hodgson's Bushchat *Saxicola insignis* was sighted once (22.i.2005) during the study. We found it perching on *Eupatorium* herb on the "edge transect." We identified the male on the basis of non-breeding plumage having a white throat. We could separate it from the confusingly similar male Common Stonechat *S. torquata* by its white throat and more white on its wing.

We spotted a male White-tailed Stonechat *S. leucura* on 22.i.2005 foraging in some shrubs in the edge transect. It had white inner webs to the tail feathers, which differentiated it from Common Stonechat. Although these three are obligate grassland species, we found them at the edge of the KPWLS. It could be mentioned that River Aie, one of the major tributaries of River Brahmaputra, flows on the eastern side of KPWLS. The distance from the river to the Reserve is about 500 m. On both banks of the river, patches of riverine grassland (*Saccharum munja, S. spontaneum*) occur. The birds might have flown from there for some unknown reasons. According to Choudhury (2000), the Hodgson's Bushchat is a vagrant winter visitor, while the other two are common.

The interesting and uncommon passage migrant, Burmese Shrike *Lanius collurioides* (Choudhury 2000) was sighted on 31.i.2005 in the "edge transect", perched on the leafless branch of a teak tree. It's under parts were completely white, while on top it was deep chestnut. Later we matched the detail of the bird with Ali & Ripley (1987), and confirmed its identification.

Forest Eagle Owl *Bubo nipalensis* was sighted thrice: once on 25.ii.2005 and twice on 28.ii.2005. Despite the three sightings, we presume that this was one bird, as it was seen on all the occasions in the same riparian habitat. As it is a resident of dense forest (Grimmett et al. 1999), its presence signifies the importance of KPWLS.

Fig. 1. Map of the Kakoijana (Proposed) Wildlife Sanctuary showing the locations of the transects.



A Blue-fronted Robin *Cinclidium frontale* was spotted on 7.iii.2005 in the edge habitat, foraging in shrubby undergrowth. Choudhury (2000) does not give its status; however he sighted this species in Nagaland (A. Choudhury *verbally*).

A Common Chiffchaff *Phylloscopus collybita* was sighted on 25.ii.2005 foraging under shrubs. It was observed for about 15–20 minutes.

We saw a Peregrine Falcon *Falco peregrinus* (migratory race *calidus*?) on 30.iii.2005, flying above the stream habitat and then perching on a treetop.

A Longtailed Nightjar *Caprimulgus macrurus* was identified by its "*chaunk-chaunk-chaunk*" call. Of course it was outside the studied transect. Similarly, feral (?) Blue Rock Pigeon *Columba livia* were also sighted outside the transects.

Acknowledgements

We thank Professor Sushil K. Dutta, North Orissa University, Dr Asad R Rahmani, BNHS, Pranjit K Sarma, Aaranyak, Dr Kaushik Deuty, ZSI, Kolkata, Bikram, Dhannanjoy, Parag, Hiranya, Tridip, Suman, Gagan, Kanak and Assam Forest Department.

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Appendix 1. Checklist of birds found in Kakoijana (Proposed) Wildlife Sanctuary during January through April 2005. The species mentioned as residents in the Appendix 1 are recorded after Choudhury (2000), are strictly implied to be resident in Assam and has nothing to do with the low altitude range of KPWLS.

Family & species	Abundance	Status in Assam	Habitat
Phalacrocoracidae			
Little Cormorant *Phalacrocorax niger*	c	R, C	OT
Ardeidae			
Little Heron *Butorides striatus*	un	R, C	S
Indian Pond Heron *Ardeola grayii*	c	R, C	E
Chestnut Bittern *Ixobrychus cinnamomeus*	r	R, C	E
Cattle Egret *Bubulcus ibis*	c	R, C	E
Great Egret *Casmerodius albus*	un	R, C	OT
Intermediate Egret *Mesophoyx intermedia*	c	R, C	E
Little Egret *Egretta garzetta*	c	R, C	E
Ciconiidae			
Asian Open-bill Stork *Anastomus oscitans*	un	R, C	E
Lesser Adjutant Stork *Leptoptilos javanicus*	r	R, C	OT
Accipitridae			
Oriental Honey-Buzzard *Pernis ptilorhynchus*	un	R, L	OT
Black Kite *Milvus migrans*	c	R	OT
Black-shouldered Kite *Elanus caeruleus*	HS	R, U	-
Indian White-backed Vulture *Gyps bengalensis*	r	R, C	OT
Crested Serpent-Eagle *Spilornis cheela*	c	R, C	OT
Pied Harrier *Circus melanoleucos*	HS	M, W, C	-
Black Eagle *Ictinaetus malayensis*	r	R, U	OT
Shikra *Accipiter badius*	c	R, C	E

Family & species	Abundance	Status in Assam	Habitat
Common Buzzard *Buteo buteo*	r	W, U	OT
Falconidae			
Common Kestrel *Falco tinnunculus*	c	W, C	OT
Peregrine Falcon *Falco peregrinus*	r	W	S
Phasianidae			
Red Junglefowl *Gallus gallus*	c	R, C	OT
Charadriidae			
Red-wattled Lapwing *Vanellus indicus*	un	R, C	E
Scolopacidae			
Green Sandpiper *Tringa ochropus*	un	W, C	E
Columbidae			
Blue Rock Pigeon *Columba livia*	c	R, C	OT
Yellow-legged Green Pigeon *Treron phoenicoptera*	c	R, C	OT
Green Imperial-Pigeon *Ducula aenea*	un	R, C	OT
Oriental Turtle-Dove *Streptopelia orientalis*	un	R, C	S
Spotted Dove *Streptopelia chinensis*	c	R, C	S, E, M
Eurasian Collard-Dove *Streptopelia decaocto*	c	R, C	S
Cuculidae			
Asian Koel *Eudynamys scolopacea*	c	R, L, C	OT
Large Green-billed Malkoha *Phaenicophaeus tristis*	un	R, C	S,L
Greater Coucal *Centropus sinensis*	c	R, C	L
Lesser Coucal *Centropus bengalensis*	r	R, C	OT
Tytonidae			
Barn Owl *Tyto alba*	c	R, C	OT
Strigidae			
Asian Barred Owlet *Glaucidium cuculoides*	c	R, L, C	OT
Forest Eagle-Owl *Bubo nipalensis*	un	R, U	OT
Caprimulgidae			
Longtailed Nightjar *Caprimulgus macrurus*	un	R, L, C	OT
Apodidae			
Asian Palm-Swift *Cypsiurus balasiensis*	c	R	OT
House Swift *Apus affinis*	c	R, L, C	OT
Alcedinidae			
Small Blue Kingfisher *Alcedo atthis*	c	R, C	S
White-breasted Kingfisher *Halcyon smyrnensis*	c	R, C	E
Coraciidae			
Indian Roller *Coracias benghalensis*	c	R, L, C	OT
Bucerotidae			
Oriental Pied Hornbill *Anthracoceros albirostris*	HS	R, C	-
Capitonidae			
Coppersmith Barbet *Megalaima haemacephala*	c	R, C	OT
Blue-throated Barbet *Megalaima asiatica*	c	R, C	OT

Family & species	Abundance	Status in Assam	Habitat
Picidae			
Fulvous-breasted Pied Woodpecker *Dendrocopos macei*	un	R, C	OT
Lesser Golden-backed Woodpecker *Dinopium benghalense*	c	R, C	OT
Greater Golden-backed Woodpecker *Chrysocolaptes lucidus*	un	R, C	OT
Hirundinidae			
Red-rumped Swallow *Hirundo daurica*	un	R, W	OT
Motacillidae			
White Wagtail *Motacilla alba*	c	W, C	E
Citrine Wagtail *Motacilla citreola*	c	W, C	E
Grey Wagtail *Motacilla cinerea*	c	W, C	S
Paddyfield Pipit *Anthus rufulus*	c	R, C	E
Oriental Tree Pipit *Anthus hodgsoni*	r	W, C	OT
Campephagidae			
Large Cuckoo-Shrike *Coracina macei*	un	R, C	OT
Large Woodshrike *Tephrodornis gularis*	un	R, C	OT
Common Woodshrike *Tephrodornis pondicerianus*	un	R, C	OT
Pycnonotidae			
Black-crested Bulbul *Pycnonotus melanicterus*	c	R, C	S
Red-vented Bulbul *Pycnonotus cafer*	c	R, C	S, E, L, M
Black Bulbul *Hypsipetes leucocephalus*	un	R, L, C	OT
Irenidae			
Common Iora *Aegithina tiphia*	c	R, C	S
Gold-fronted Chloropsis *Chloropsis aurifrons*	c	R, C	OT
Laniidae			
Brown Shrike *Lanius cristatus*	r	W, C	S
Burmese Shrike *Lanius collurioides*	r	R, L, P, U	E
Rufous-backed Shrike *Lanius schach*	r	W, R, C	E, M
Grey-backed Shrike *Lanius tephronotus*	c	W, C	S, E, L
Muscicapidae			
Blue Whistling-Thrush *Myophonus caeruleus*	c	R, L, C	S, E
Grey-winged Blackbird *Turdus boulboul*	un	R, W, C	OT
Siberian Rubythroat *Luscinia calliope*	r	W, U	S
Oriental Magpie-Robin *Copsychus saularis*	c	R, C	E, L, M
White-tailed Robin *Myiomela leucura*	un	R, W, C	OT
Blue-fronted Robin *Cinclidium frontale*	r	?	E
White-rumped Shama *Copsychus malabaricus*	c	R, C	OT
White-capped Redstart *Chaimarrornis leucocephalus*	c	R, W, C	S
Plumbeous Redstart *Rhyacornis fuliginosus*	c	R, W, C	S
Grey Bushchat *Saxicola ferrea*	r	R, L, C	L
White-tailed Stonechat *Saxicola leucura*	un	R, L, C	E
Common Stonechat *Saxicola torquata*	c	W, R, C	E
Hodgson's Bushchat *Saxicola insignis*	r	W, S	E

Family & species	Abundance	Status in Assam	Habitat
Spot-throated Blabber *Pellorneum albiventre*	un	R , L, C	S
Jungle Babbler *Turdoides striatus*	c	R, C	S, E, L, M
Blyth's Reed Warbler *Acrocephalus dumetorum*	un	W, C	OT
Greenish Leaf-Warbler *Phylloscopus trochiloides*	r	R, W, C	S, L
Eastern Crowned Warbler *Phylloscopus coronatus*	r	W	L
Thick-billed Warbler *Acrocephalus aedon*	un	W	S, E, M
Blyth's Leaf Warbler *Phylloscopus reguloides*	un	W, R	S
White-spectacled Flycatcher-Warbler *Seicercus affinis*	un	R, L	S
Common Tailorbird *Orthotomus sutorius*	c	R, C	S, E, L, M
Red-throated Flycatcher *Ficedula parva*	un	W, C	M
Little Pied Flycatcher *Ficedula westermanni*	un	L, C	OT
Slaty-blue Flycatcher *Ficedula tricolor*	un	R, W, L, C	S
Verditer Flycatcher *Eumyias thalassina*	c	W, C	S
Small Niltava *Niltava macgrigoriae*	un	R, L, C	S
Rufous-belied Niltava *Niltava sundara*	un	R, L, C	OT
Grey-headed Flycatcher *Culicicapa ceylonensis*	c	R, W, C	S
Black-naped Monarch-Flycatcher *Hypothymis azurea*	un	R, L, C	OT
Common Chiffchaff *Phylloscopus collybita*	r	W, ?	OT
Paridae			
Great Tit *Parus major*	c	R, C	OT
Dicaeidae			
Scarlet-backed Flowerpecker *Dicaeum cruentatum*	un	R, C	OT
Nectariniidae			
Crimson Sunbird *Aethopyga siparaja*	c	R, L, C	S, M
Little Spiderhunter *Arachnothera longirostra*	r	R, C	E
Zosteropidae			
Oriental White-eye *Zosterops palpebrosus*	c	R, C	S
Estrildidae			
White-rumped Munia *Lonchura striata*	un	R, C	S
Sturnidae			
Grey-headed Starling *Sturnus malabaricus*	c	R, C	OT
Asian Pied Starling *Sturnus contra*	c	R, C	OT
Common Myna *Acridotheres tristis*	c	R, C	OT
Jungle Myna *Acridotheres fuscus*	c	R, C	OT
Oriolidae			
Black-headed Oriole *Oriolus xanthornus*	c	R, C	E
Dicruridae			
Black Drongo *Dicrurus macrocercus*	c	R, C	S, E
Greater Racket-tailed Drongo *Dicrurus paradiseus*	c	R, C	S
Bronzed Drongo *Dicrurus aeneus*	c	R, C	OT
Spangled Drongo *Dicrurus hottentottus*	c	R, C	OT
Artamidae			

Family & species	Abundance	Status in Assam	Habitat
Ashy Woodswallow *Artamus fuscus*	c	R, C	OT
Corvidae			
House Crow *Corvus splendens*	c	R, C	OT
Jungle Crow *Corvus macrorhynchos*	c	R, C	OT
Indian Treepie *Dendrocitta vagabunda*	c	R, C	E

Abundance:
c=common (daily encounter)
HS=H. Singha
r=rare (encountered once or twice)
un=uncommon (encountered occasionally, five or less than five times)

Status in Assam (Choudhury 2000):
C=Common
L=Local and altitudinal migrant
M=migrant, but some breed here
P=Passage migrant
R=Resident
S=Stray or vagrant
U=Uncommon
W=Winter visitor

Habitat:
E = Edge
L = Logged
M = Monoculture
OT = Outside transects
S = Stream

The Crested Tit-warbler *Leptopoecile elegans* in north-west Arunachal Pradesh. An addition to the Indian avifauna

Harkirat Singh Sangha, Rishad Naoroji & Manoj Sharma

Sangha, H. S., Naoroji, R. & Sharma, M. 2007. The Crested Tit-warbler *Leptopoecile elegans* in north-west Arunachal Pradesh. An addition to the Indian avifauna. *Indian Birds* 3 (1): 23–25.
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The Crested Tit-warbler *Leptopoecile elegans* is a globally Near-threatened species (Collar et al. 1994). It is distributed through northern central China and Tibet from central Gansu and Qinghai (namely Nan Shan and Qinghai Hu region south to southern Gansu), north-western Sichuan to Sungpan, and to central Sikang, China, westwards to the China border. It inhabits coniferous mountain forest and scrub (mostly spruce and also dwarf alpine juniper and birch) from above the tree line to 4,300 m. In winter it descends to mountain valleys in the sub-alpine forest zone between 2,800 and 3,900 m when it forms small flocks and mixes with other species (Baker 1997; MacKinnon & Phillipps 2000).

Several authors have speculated about the species' presence in Arunachal Pradesh (Ali & Ripley 1997; Baker 1997; Kazmierczak 2000; Rasmussen & Anderton 2005). Being resident in the Tsangpo bend area of south-eastern Tibet, Ali & Ripley (1997) presumed that the species could occur south of the bend along the McMahon Line (the international boundary between India and China), where in fact the habitat is tropical (such as at Gelling), and the elevation much lower, at several points, than the species prefers. Two of us (HSS and RN) surveyed the area on two earlier visits: in February 2004 up to Mouling National Park and in December 2005 up to Gelling along the McMahon Line where the Brahmaputra (Siang) River enters India (Naoroji & Sangha 2006). The lower and middle altitudes along the Siang Valley are covered with tropical evergreen forests.

Bum La (4,331 m) and Gasella (*c.* 4,000 m) lie along the McMahon Line. We spent two days, 23.x.2006 and 27.x.2006, birding these desolate areas and were fortunate to record the Crested Tit-warbler *Leptopoecile elegans*—a first for the Indian Subcontinent.

It was 2°C in the sun at 14:15 hrs on 23.x.2006, and bird activity was low on the track going towards Gasella from Tawang. While we were checking the dwarf rhododendrons, the dominant vegetation in the snow covered area, a conspicuous bird was spotted atop a rhododendron. The bird was barely 3 m from HSS and MS and both of them got clear views of the bird for approximately 10-15 seconds when it flew to another rhododendron some distance away.

Recovering quickly from his initial excitement HSS confirmed that it was a male Crested Tit-warbler, the species being strongly dimorphic. Having studied the illustrations and distribution of the species in Vaurie (1972), Meyer de

Schauensee (1984), Baker (1997) and MacKinnon & Phillipps (2000), HSS had strongly felt that it could occur in the high altitude areas of Arunachal Pradesh and had included it in his "potential Arunachal Pradesh list" even during the December 2005 visit with RN, so the identification of this bird was quite straightforward. Moreover, the male's distinctive combination of well marked bright colours – chestnut nape and head, whitish crown with prominent crest and blue mantle, back and tail, unlikely to be confused with any other bird, rendered the tit-warbler distinctive in the field.

Given its distribution in China its discovery was not entirely unexpected near Gasella. The warbler was sighted at most 3–4 km south of the McMahon Line at 3,955 m. The site above the tree line was dominated by dense dwarf rhododendron.

The Crested Tit-warbler is essentially a Palearctic species (Beaman 1994) and is not typical of the Indo-Malayan (Oriental) avifauna (Inskipp et al. 1996). The expected area of occurrence in Rasmussen & Anderton (2005) is north-eastern Arunachal Pradesh (presumably based on Ali & Ripley 1997 and Ripley 1982). Baker (1997) and Kazmierczak (2000) presumed it to occur in northern Arunachal Pradesh. It is interesting to note that it has not been mentioned in Grimmett et al. (1998).

Although our sighting constitutes the first record for India, the Crested Tit-warbler's status and distribution within the country remain hazy. Small numbers may be a resident species in suitable habitats and previously overlooked due to the relative inaccessibility of the region. The areas along the McMahon Line in Arunachal Pradesh are among the most remote, a logistical nightmare, and hence least explored. Based on our sighting in extreme north-western Arunachal Pradesh it can be presumed that it occurs on the McMahon Line wherever suitable habitat exists. Contrary to common perception, the altitude and habitat vary greatly along the McMahon Line.

Acknowledgements

Chief of the Army Staff General J. J. Singh, PVSM, AVSM, VSM, ADC for his continued interest and assistance to the project; Major Gen. R. P. S. Malhan, YSM, SM, Additional Director General Staff Duties for logistical support at Tawang; Lt. Gen R.K. Chhabra. VSM, General Officer Commanding for organizing logistics from Tezpur; Colonel Prakash Tewari, Director, Policy (Ecology) Environment and Ecology Cell organised permissions and infrastructure support and Arun Kumar Roy logistics from Guwahati. We thank our survey staff Mehboob Alam Hussain, Tsering Nurboo and Rigzin Gyasto.

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Harkirat S. Sangha

Gasella track with dwarf rhododendrons (foreground) where Crested Tit-warbler *Leptopoecile elegans* was seen

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Nocturnal foraging by Painted Storks *Mycteria leucocephala* at Pulicat Lake, India

V. Kannan & R. Manakadan

Kannan, V. & Manakadan, R. 2007. Nocturnal foraging by Painted Storks *Mycteria leucocephala* (Pennant, 1769) at Pulicat Lake, Andhra Pradesh, India. *Indian Birds* 3 (1): 25–26.

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Nocturnal species of birds are comparatively fewer than diurnal species. The assumption that night feeding occurs predominantly among nocturnal species may be due, in part, to the difficulty in making observations in darkness. However, many diurnal species have been documented to forage at night. This is attributed, in temperate latitutes, to high-energy requirements under severe winter conditions and shortened daylight periods (Engelmoer et al. 1984; McNeil & Rodråguez 1996).

Among waterbirds, activities in minimal light conditions have been reported in several shorebirds (Robert et al. 1989; Staine & Burger 1994; Colwell 1996). Nocturnal feeding by diurnal, large waterbirds is known for a few species including Night Heron *Nycticorax* spp. (Watmough 1978), Great Blue Heron *Ardea herodias* (Willard 1975; Bayer 1978; Pratt 1980; Black & Collopy 1982; Powell 1987), Black-necked Stork *Ephippiorhynohus asiaticus* (Whitting & Guinea 1999), White Spoonbill *Platalea leucorodia* (Aguilera 1990) and Wood Stork *Mycteria Americana* (del Hoyo et. al. 1992). In this note, we report nocturnal feeding activity in another species of Ciconiid, the Painted Stork *Mycteria leucocephala*, observed in Pulicat Lake (13º24'–13º47'N 80º03'–80º18'E), situated in the Nellore and Tiruvallur districts of Andhra Pradesh and Tamil Nadu, India.

These observations were quite accidental and hence no systematic methods could be used. However, one of us (VK) visited the site for four nights, but refrained from counting as the birds became disturbed and flew about agitatedly over the feeding site due to the sound of his motorbike and its headlamp.

In July 2005, the seasonal south-west monsoon rains caused inflows into Pulicat Lake after a severe dry summer spell. This resulted in water flowing through several culverts on the roads cutting into the lake from the mainland and between islands. The water current and cover of the structure resulted in congregations of fish around culverts, making these favoured sites for fishermen. One such site was along the Atakanitippa–Venadu Island road. The presence of fishermen during the day was a source of frequent disturbance for picivorous birds such as the Painted Stork. Except for occasional foraging, when fishermen were absent, the storks largely rested / roosted during the day, in nearby abandoned crop fields adjacent to Pulicat Lake, along with Spot-billed Pelicans *Pelecanus philippensis* and Eurasian Spoonbills *Platalea leucorodia.*

The storks were observed to come back for feeding after 19:00 hrs when human disturbance along the culverts was minimal. Between 27–30.vii.2005, we continued our observations at the site at different times from 19:00 hrs–23:00 hrs, and observed night feeding by storks with the aid of the motorbike's headlight. Due to lack of night vision optical equipment, we could not clearly assess their number, but a day count of 852 birds was recorded at a nearby roost. The storks were observed feeding in large numbers along with a few Grey Herons *Ardea cinerea*, but pelicans and spoonbills were not recorded as they were roosting.

The storks could have resorted to feeding at night to take advantage of increased availability and activity of prey and lack of human disturbance at night. Influence of human

activity on feeding Sanderlings *Calidris alba* showed decreased foraging during day time and increased nocturnal foraging (Burger & Gochfeld 1991). However, the studies on American White Ibis *Eudocimus ruberruber*, a diurnal feeder, showed potentially inferior nocturnal visual capabilities (Rojas et. al. 1997). Painted Storks use both visual and tactile techniques for foraging (Kushlan 1978) and would be able to feed at night. There is a need to investigate nocturnal foraging in Indian waterbirds to assess the reasons and the benefits accrued by the birds under different foraging situations.

Fishermen indicated that they have seen pelicans feeding near the Rayadurg sea mouth and in the shallow water flats in the Pulicat Lake during full moon nights. Although no prior reports of nocturnal foraging have been reported in the Spot-billed Pelican, this is reported in the American White Pelican *Pelecanus erythrorhynchos* (McMohan & Evans 1992).

Acknowledgements

We thank the Ministry of Environment & Forests, Government of India for funding the 'Waterbirds of Pulicat Lake Project' and the Andhra Pradesh Forest Department for giving permission to work in the area and for their cooperation. We thank S. Subramanya and K. S. Gopi Sundar for their comments and suggestions. We express our deep sense of gratitude to Asad Rahmani and J. C. Daniel for their encouragement.

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Participation by Black Baza *Aviceda leuphotes* in mixed-species bird flocks in rainforests of the Anamalai hills, Western Ghats, India

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Sridhar, H. 2007. Participation by Black Baza *Aviceda leuphotes* in mixed-species bird flocks in rainforests of the Anamalai hills, Western Ghats, India. *Indian Birds* 3 (1): 26–28.

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Mixed-species bird flocks are found in tropical and temperate forest habitats. Birds are thought to participate in mixed-species flocks either to improve their foraging efficiency or to gain protection from predators (reviewed in Morse 1977; Terborgh 1990). Mixed-species flocks in South and South-east Asian tropical forests are usually dominated by members of bird families such as Dicruridae (drongos), Campephagidae (minivets), Sylviidae (warblers), Timaliidae (babblers), and Muscicapidae (flycatchers) (Laman 1992; Lee et. al. 2005; Sridhar 2005).

Here, we report participation by Black Baza *Aviceda leuphotes*, a raptor of the family Accipitridae, in mixed-species bird flocks in a rainforest fragment in the Anamalai hills, Western Ghats, India. So far, there have been no published reports of raptors participating in mixed-species flocks of insectivorous birds from any part of the world, although many raptor species including Black Baza are known to aggregate in large single-species and multi-species flocks during migration (DeCandido et al. 2004; Kerlinger 1989).

The Black Baza is a relatively small raptor found in evergreen forests of the Western Ghats, north-east India and in the Andaman group of islands within India. It is usually solitarily or found in small, possibly family, groups (Ali & Ripley 1983). Black Bazas feed mainly on lizards, frogs and insects and occasionally on bats and birds (Ali & Ripley 1983). To feed on insects they perch high in the canopy and make aerial sorties to catch prey on the wing or sally-glean them from the foliage (Ali & Ripley 1983).

Observations of Black Bazas participating in mixed-species bird flocks were made during a study, which looked at the effects of rainforest fragmentation on mixed-species bird flocks in the Valparai region adjoining the Indira Gandhi Wildlife Sanctuary (10°12'N–10°35'N 76°49'E–77°24'E). Plantations of tea, coffee and eucalyptus largely cover this region, interspersed among which are 35 rainforest fragments, ranging in area from less than one ha to over 100 ha (Mudappa & Raman in press). Black Baza was observed participating in flocks on two occasions, in a relatively less-disturbed private rainforest fragment called Pannimade (88 ha; 1,030 m above m.s.l.) in the Valparai region.

11.ii.2005 (Time: 10:10 hrs; Weather: clear, sunny): A mixed-species bird flock of 22 species and over 65 individuals was encountered at 09:40 hrs. The flock was dispersed over a fairly large area (50 m x 70 m), was very vocal but remained at the same location. At 10:10 hrs, an adult Black Baza flew and perched in the canopy of a tree (> 25 m) within the flock boundary and called two or three times. The call was like a squeal as described in Ali & Ripley (1983). Within a few seconds of the Black Baza appearing, two Greater Racket-tailed Drongos *Dicrurus paradiseus* flew and perched right next to the Black Baza and started alarm calling. This continued for less than a minute after which the drongos returned to their foraging. The Black Baza then started to make short flights in the canopy and changed its perch often. It finally succeeded in catching what looked a large orthopteran and proceeded to feed on it. Except for the initial alarm calls by the drongos, none of the birds interacted with or reacted to the presence of the Black Baza in the flock, over the next 20 minutes for which the flock was observed. During this time, the Black Baza was present with the flock and seemed to actively participate in it.

25.ii.2005 (Time: 09:50 hrs. Weather: clear, sunny): A mixed-species flock of 25 species and over 60 individuals was encountered at 9:50 hrs. A single Black Baza was already present within the flock boundary when the flock was encountered. The location of this flock was not very far (< 200 m) from where the earlier flock with Black Baza was located so it is likely that it was the same individual. On this occasion however, none of the other birds alarm called in response to the Black Baza's presence during the time when the flock was being observed. This flock was also more active than the earlier one and moved a distance of at least 100 m during observation. The Black Baza also moved along with the flock, staying in the canopy and making short flights within and between canopies of different trees. No successful prey captures by it were recorded on this occasion.

Discussion

This is probably the first report of a raptor participating in mixed-species bird flocks. This is all the more interesting because, one of the main hypotheses put forward to explain why birds participate in such flocks is for better protection from predators such as raptors. Usually when a raptor flies into or close to a flock, a lot of alarm calling followed by mobbing of the raptor by flock participants takes place. Birds such as drongos and babblers fly and perch right next to the raptor and continuously alarm call, probably letting the raptor know that it has been spotted. In the case of the Black Baza however, this kind of a response was seen only for a few seconds on one occasion by just one species. Therefore, it seemed like members of the flock didn't mind the presence of the Black Baza close to them. This could be because the Black Baza does not really pose a threat to flock participants, since its main prey items are probably lizards, frogs and insects. The Black Baza, by associating with the flocks, probably gained feeding advantages by preying on the insects that were flushed by the flock's activity. Raptors have been reported to associate with primates in South America to gain similar benefits (Fontaine 1980; Boinski & Scott 1988; Zhang & Wang 2000). For e.g., Double-toothed Kites *Harpagus bidentatus* on Barro Colorado Island, Panama follow white-faced capuchin monkeys *Cebus capucinus* and feed on insects flushed by the capuchin's activity (Fontaine 1980). The observations reported here lend support to the hypothesis that birds participate in mixed-species flocks to improve their foraging efficiency since Black Baza is unlikely to have any predators.

Acknowledgements

I thank Wildlife Institute of India, Tamil Nadu Forest Department and managements of Hindustan Lever, Parry Agro, Tata, and Woodbriar estates for permissions and logistic support; Krishnan, T.R. Shankar Raman, Divya Mudappa, M. Anandakumar and Vena Kapoor for help and company during fieldwork, and K. Sankar for supervising the project. This work was supported by a grant from Ministry of Environment and Forests, Government of India.

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Recent records of wintering White *Ciconia ciconia* and Black *C. nigra* storks and flocking behaviour of White-necked Storks *C. episcopus* in Maharashtra and Karnataka states, India

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European White Storks *Ciconia ciconia* and Black Storks *Ciconia nigra* are regular winter migrants to India, and are widespread in the country, usually occurring in low densities in their winter habitat (Ali & Ripley 1968). There are few sites with regular annual observations of numbers of these species in their wintering grounds (Pande et al. 2003). Resident White-necked Storks *Ciconia episcopus* are usually seen as single birds or in pairs (Ali & Ripley 1968) similar to the habits of European White Storks, while Black Storks are seen mostly in flocks of varying sizes. Flocks of White-necked Storks in India are known to occur but there is little published information on this aspect (Santharam 1996; Sundar 2006). We carried out counts of these three species at some sites in Pune and Satara districts of Maharashtra, and Belgaum district of Karnataka in the winter of 2005–2006. Generally these storks occur in low densities on particular water bodies and hence their surveillance is important.

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Flock of White-necked Storks *Ciconia episcopus* with solitary European White Stork *C. ciconia*

Methods

All sites, except Dhebewadi, were visited twice every month from October 2005 to the end of May 2006. Dhebewadi was visited only on one occasion. In addition to these sites several other water bodies were also visited but storks were not seen there. The water bodies without the storks were both seasonal and perennial but were regularly frequented by people and were adjacent to villages, while water bodies where storks were seen were about 3 to 4 km from villages and were secluded. Additionally, Hidkal reservoir in Karnataka is a sensitive area due to the location of a dam, and entry is restricted. Our visits to the various sites were a part of an ongoing monitoring for waterbirds specifically to look for wintering storks in view of our past experience (Pande et al. 2003).

We used the non-parametric Kruskal-Wallis test to establish the difference in flock sizes of White-necked Storks observed by us from October to December versus those from January to March, in the study areas for Maharashtra and Karnataka, and for both combined.

Plumage characteristics were used to distinguish adult and juvenile Black Storks. Adult Black Storks are glossy-black with a white lower-belly and breast conspicuous in flight, coral-red beak and legs, and with red periorbital skin. Juvenile Black Storks have an overall brownish plumage with grey-green beak, legs and periorbital skin (Ali & Ripley 1968). Plumage characteristics are inadequate to

separate young and adult in European White Storks and White-necked Storks.

Study area

Counts of all three focal storks were maintained at five sites, four in Pune and one in Karnataka (Table 1). All flocks of White-necked Storks during the visit, even those out of the focal sites, were maintained separately. These flocks were grouped by state (Maharashtra and Karnataka) and the largest flock seen each fortnight was documented. All sites except Dhebewadi are small to moderate irrigation reservoirs. Dive and Naygaon are about 200 x 200 m in size respectively while Pangara is about 300 x 300 m in extent. All are perennial except Dive, which dries up by late March. The altitudes for these sites ranges from 644–850 m. All sites are surrounded by cropland with bajra, jowar, maize, sunflower, gram, peas, ground-nut and interspersed with groves of guava, custard apple and figs. At Naygaon a new poultry complex has mushroomed on the bank and the waste is drained into the reservoir causing both pollution and a threat of disease to birds using the tank. Naygaon and Hidkal Reservoirs are regular wintering sites for Black and European White Storks. We have documented their occurrence at these sites from 1997 (Pande et al. 2003). During winter (October–February) the temperature is between 5º–25ºC and in early summer (March onwards) between 15º–32ºC. During our fieldwork, mornings were foggy and chilly in winter, and pleasant and clear in early summer. Counts at reservoirs were conducted by walking around each site and scanning through binoculars; 100 coverage of the sites was achieved during each survey. About six hours were spent at each site.

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European White Stork *C. ciconia*

Results

The numbers of Black and European White storks recorded at the sites are summarized in Table 1. Black Storks were more numerous than Eurasian White Storks at all sites, when both were seen. Just one site had only Eurasian White Storks (Dhebewadi). Hidkal had only Black Storks. We recorded three European White and 56 Black Storks. Juveniles comprised 25% of all Black Storks seen, indicating a healthy recruitment rate (Table 1). Flocks of 4–24 White-necked Storks were seen in Maharashtra and 60–80 at Ballari Nulla near Hidkal, with either European White or Black Storks. Flock sizes of White-necked Storks are given in Figure 1. At Dive and Naygaon these congregations were largest in early summer when other seasonal water bodies dried up. In Maharashtra, we noted congregations of up to 24 White-necked Storks till mid-March, after which they were not seen. The Ballari Nulla starts drying from end of December and then a marshy area is created in this region. Up to 80 White-necked Storks with a few Asian Open-bill Storks *Anastomus oscitans*, and sometimes Black Storks, congregate at this site until the site dries up in January. However flocks of up to 36 White-necked Storks were seen at Hidkal until mid-March. Flock sizes of White-necked Storks varied significantly between winter and summer in both Maharashtra (Kruskall-Wallis $\div 2 = 8.4$, $P = 0.004$) and Karnataka (Kruskall-Wallis $\div 2 = 4.3$, $P = 0.03$). The largest flocks were seen in summer in both states (Maharasthra: mean ± SD = 19.5 ± 3.4; Karnataka: mean ± SD = 36.3 ± 22.4), rather than in winter (Maharasthra: mean ± SD = 8.2 ± 3.6; Karnataka: mean ± SD = 13.7 ± 10.5).

When Black and European White Storks were seen together, they did not intermingle and foraged separately. However, White-necked Storks intermingled freely with Black

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Flock of Black Storks *Ciconia nigra*

or European White Storks with no apparent aggression while foraging or soaring.

We recorded the storks resting and feeding on the banks of the reservoirs. Black Storks and White-necked Storks foraged frogs, crabs and mollusks, while European White Storks fed on locusts and other insects. Marshy river banks and drying shallow ponds were primary foraging areas for these species. In these areas aquatic animals are exposed and presumably more accessible. The Black Storks were last seen on 5.v.2006. Departure date for European White Storks was 13.iii.2006. One European White Stork that was found exhausted at Dhebewadi, died after six days in spite of medical treatment.

Discussion

The wintering South Asian population of the Eurasian White Stork is unknown while this number for Black Storks is estimated to be *c.* 7,500 birds (Wetlands International 2006). The annual counts collated from the mid-winter waterfowl census in India from 1997–2001, for the two species, are as follows: Eurasian White Stork: 0, 25, 32, 0, 41; Black Stork are 5, 74, 146, 1, 145 for years 1997, 1998, 1999, 2000 and 2001 respectively (Li & Mundkur 2004). Their census figures from our earlier observations (Pande et al. 2003) as well as from this study are given in Table 2. Numbers in southern India, however, are exceedingly low for both species, and numbers of at least the Black Storks are relatively high. In particular, Naygaon and Hidkal are excellent sites for these species, and require attention in terms of closer monitoring and improvement of habitat. At two other sites namely Veer, Pune and Garade Dam, Pune both within 10 km of Naygaon we had recorded Black Storks in 1997, 2001, 2002 and 2003 but we did not see any in 2005–2006. In earlier counts, we estimated recruitment to be 11.7% from Amravati, Maharashtra (Pande et al. 2003), which is much lower than the 25% recorded during this study. This further strengthens the importance of the study sites for this species. It will be worth documenting recruitment of this species in other locations in the country to see if they vary. The nominate race of the White-necked Stork that are found in India is estimated to number over 200,000 birds (Wetlands International 2006). Counts from our intensive study cannot be directly compared with the more extensive mid-winter waterfowl census, but show the need for more stringent counting techniques to be able to use the counts for evaluating the population size of waterbird species. Regional, more regular censuses carried out repeatedly in the same sites provide data that can be confidently used to indicate inter-annual differences in numbers and recruitment rates.

Seasonal differences in flock sizes of White-necked Storks could be a result of the birds concentrating in the summers in the water bodies that continue to have some water. Similar observations have been made at Vazhani Reservoir and Periyar Tiger Reserve, both in Kerala by Santharam (1996) who reports flock sizes of 10–50 birds in early summe. Local migration in this species is recorded (Ali 1996), and varying densities in the same area between seasons are also reported (Sundar 2006). Also, Sundar (2006) reports on observations of 223 "flocks" of this species, the mean flock size of which was 2.5, with less than 40 observations constituting of flocks of 5–10 birds, and less than five observations of flocks larger than that. But the largest flocks in this study were seen in winter. This was likely due to younger birds getting together after the breeding season, and due to an excellent irrigation system in the study area (Etawah-Mainpuri districts, Uttar Pradesh; Sundar 2006) that prevented completely drying up of wetlands during the dry season. Seasonal patterns in flocking appear to vary between areas in the country and are worthy of detailed investigation. However, some of the flocks of White-necked Storks reported here are clearly larger than earlier records. We feel that early summer may be a better season to count resident water birds in the few perennial water bodies that remain in the landscape, and at selected seasonal water bodies that start drying at this time.

The threat to Naygaon Reservoir from the poultry complex is serious, especially in the scenario of recent bird flu epidemic amongst poultry in India. Dive is a privately owned water

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Mixed flock of White-necked *Ciconia episcopus* and Black *C. nigra* storks

body in scrubland with no immediate threat of human disturbance. Pangare is a public irrigation reservoir with surrounding cropland where pesticides and rodenticides are used indiscriminately, but farmers are tolerant of migratory birds. Hidkal is well protected and faces no threat as of now.

Acknowledgements

Anil Mahabal (Joint Director, Zoological Survey of India, Western Regional Station, Akurdi, Pune) made valuable suggestions on an early draft of the manuscript. We thank Sunil Limaye, DFO, Forest Department, Satara, for assistance. Pramod Pawashe and Nivedita Pande assisted in field visits. We thank K. S. Gopi Sundar for the valuable comments that improved an earlier version of this manuscript.

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Table 1. Recent records of *Ciconia ciconia* and *C. nigra* in Maharashtra and Karnataka states, during 2005–2006

Place	Date	Coordinates	*C. ciconia*	*C. nigra* (adult, juvenile)
Dhebewadi, Satara, Maharashtra	2.x.2005	17º14'27''N 73º57'30''E	1	0, 0
Dive, Pune, Maharashtra	1.i. 2006 15.i. 2006 13.iii. 2006	18º24'95''N 74º0'E	1	0, 0 8, 0 8, 4
Naygaon, Pune, Maharashtra	21.i. 2006	18º8'N 74º12'E	0	8, 4
Pangare, Pune, Maharashtra	12.ii. 2006	18º14'60''N 73º03'90''E	1	10, 8
Hidkal, Belgaum, Karnataka	18.iii. 2006 05.v. 2006	16º09' N 71º38' E	0	3, 2 5, 0

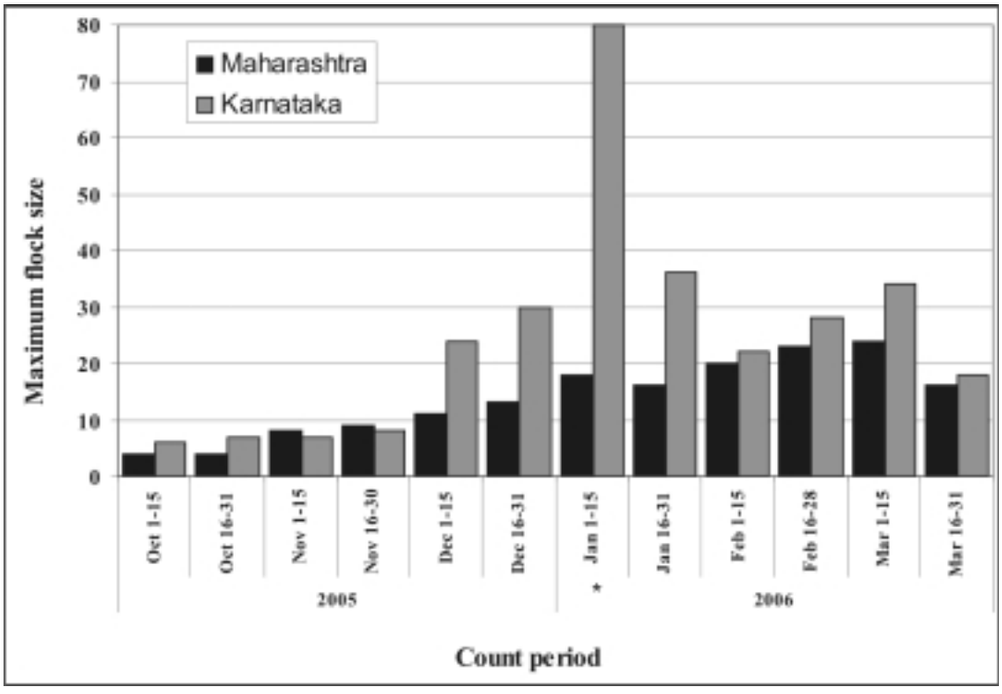

Figure 1. Flocks of White-necked Storks *Ciconia episcopus* observed in Maharashtra and Karnataka (2005–2006). * Indicates period when water bodies frequented by White-necked Storks began drying and turning into a shallow marshy area.

Table 2. Counts of two stork species made during the annual mid-winter waterfowl census (1997–2001) compared with counts made during our previous study (1997–2004) and this study (2005–2006)

Year	AWC Counts (Li & Mundkur 2004)		Counts from Pande *et al*. 2003 (8 sites)		Counts from this study (5 sites)	
	White Stork	Black Stork	White Stork	Black Stork	White Stork	Black Stork
1997	0	05	0	07	—	—
1998	25	74	0	02	—	—
1999	32	146	0	06	—	—
2000	0	01	0	03	—	—
2001	41	145	0	05	—	—
2002	—	—	0	12	—	—
2003	—	—	0	13	—	—
2004	—	—	0	06	—	—
2005	—	—	—	—	1	0
2006	—	—	—	—	2	56

Sighting of Sarus Crane *Grus antigone* near Telineelapuram, Srikakulam district, Andhra Pradesh

K. Mrutyumjaya Rao

Rao, K. M. 2007. Sighting of Sarus Crane *Grus antigone* near Telineelapuram, Srikakulam district, Andhra Pradesh. *Indian Birds* 3 (1): 32.
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Telineelapuram (Srikakulam district, Andhra Pradesh, India) is a small village, 5 km from Tekkali town and 3 km from Naupada railway station, on the Visakhapatnam–Howrah railway line. The large heronry of Grey Pelicans *Pelecanus philippinus* and Painted Storks *Mycteria leucocephala* at the village has made it an Important Bird Area (Islam & Rahmani 2004). Birds arrive at the village during September / October and build nests on the trees in the village. Since two years about 3,000 Open-billed Storks *Anastomus oscitans* have been visiting the village pond, Patha Cheruvu.

For the last three years I have been hearing the call of a Sarus Crane *Grus antigone* but was unable to see the bird. Finally on 23.i.2006 I saw the bird in the paddies near Telineelapuram, while birding with K. Ramana and Viswesara Rao, a local resident and, temporary watchman of the sanctuary. Villagers reported that the bird roamed the paddies here and the Naupada swamps. They also informed me that a pair of Sarus was regularly seen four years ago but since the last two years only one bird was being seen. According to the villagers, the lone bird was still around in the third week of September 2006.

These sightings are significant in that recent status surveys of Sarus Cranes in India do not include Andhra Pradesh within the species' range of distribution (BirdLife International 2001; Sundar et al. 2000). Villagers' observations indicate that even though the Sarus Cranes are in very low density here, breeding does not seem to be occurring, and mortality seems to have occurred with no information on the manner of one crane's death. Their observations also suggest that the cranes are resident and not seasonal visitors. The distribution of Sarus Cranes in India is largely contiguous, but disjunct populations, like this sighting in Andhra Pradesh, are known to occur in Chandrapur, (Maharashtra), Pong Dam (Himachal Pradesh), and Khatua wetlands (Jammu & Kashmir) (Sundar & Choudhury 2003).

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[Editors' note: Mr Rao's letter, posted on 25.ix.2006 reached us on 2.iii.2007!]

The sky scan

Lavkumar Khachar

Khachar, L. 2007. The sky scan. *Indian Birds* 3 (1): 33–34.
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How do we go about helping vultures to recover so that they once again provide the aerial cover they did just a couple of decades ago? Getting the vultures back from the brink of total extinction is not something individuals can do effectively because these birds cannot be given refuge in one's backyard; the collective force of society is needed for such conservation action. Awareness and concern are of course important, but beyond this the individual, howsoever committed, cannot but develop a sense of helplessness. And yet, it is the individual that has to be at the core of all meaningful effort. Towards this end some individuals in Gujarat have made a remarkable effort—even if an organization or the government takes up action—it is they who will always have to remain involved, if for no other reason that to ensure that action is appropriate and has society emotionally involved.

The remaining vulture populations need continuous monitoring. Individuals flying foul of kite strings and sustaining injury need succor. This is taking place in several of the cities, and I know of persons, who have nursed injured eagles and hawks till they are able to fly but, a damaged wing cannot always be set right, and the bird cannot fly well; what happens then? There are all sorts of government regulations prohibiting individuals keeping raptors, including vultures, in captivity. The handicapped bird should be taken to a nearby zoo or handed over to a registered organization. Publicizing such 'receiving' centers would help. I would like to see scientifically managed captive breeding projects developed at such centers.

In Gujarat there are many *panjrapols* sheltering old and unwanted cattle. These are run by charitable organizations with very strong financial backing. It seems possible to involve them in the effort to conserve vultures by attaching a captive breeding facility to each. Actually, any such proposal would be welcomed. I have been approached by the Ahmedabad Urban Development Authority (AUDA) to help do just this. I understand funding would not be a problem! Can our Vulture Group follow up? The UK-based Royal Society for the Preservation of Birds (RSPB) and the Bombay Natural History Society (BNHS) have initiated a similar project in Haryana outside Chandigarh, so we have a model to follow. Even as the formalities are being worked out, it should be possible to start impressing on these *panjrapols* to ensure that no detrimental medications are permitted in their medical units and, that the carcasses of cattle are left out in disposal sites surrounded by high walls to keep out dogs. Also, large trees within their complexes need strict preservation and new trees need to be planted which, in time, would grow large for the remaining birds to alight on and possibly start nesting on. No captive breeding program can be considered complete unless there are possibilities of the birds being rehabilitated.

The urgency for concerted action is great. Quick and effective steps have to be initiated and there is no room for complacency. The main stumbling block would seem to be well-intentioned conservation laws involving animals on Schedule Lists and vultures are high on these, thanks to the urging of conservationists like myself. It would be a tragedy if nothing were done to loosen the negative grip of conservation regulations, which were set up in response to public concerns.

While there has been some concern expressed about the disappearance of vultures from our skies, surprisingly no great dismay has been articulated for the near total extinction of several eagles and falcons that were a delight to behold during my childhood days. Each winter, the late Dharmakumarsinhji would be a visitor and I still recall the exciting mornings with him as he flew his falcons and hawks after francolin and hare in the wonderfully managed grasslands around Jasdan. During those outings, his falconers, apprehending the arrival of some eagle overhead, threw continual skyward glances. These large raptors were known to wrest prey captured by the falcons! Winter was a grand season for observing several species each of falcons, buzzards, hawks, and harriers. During the cool of the mornings, most of these otherwise great fliers would be perched on telegraph poles or some exposed situation atop a tall tree or a rock outcrop waiting for thermals to start. Only the harriers would be hunting as they went past gliding low over the ground taking advantage of the cool ground breezes. Vultures were seldom given a second glance.

I have been trying to explain why we had not shown concern for the decline of all the fascinating birds that were in such demand for falconry, the sport of kings. I do not recollect there having been a single seminar to highlight the decline of these several, fascinating birds. One of the explanations would be the fact that they never assembled in huge numbers, and a majority of them were winter visitors. Those that did breed with us did so in the cool months when they were largely overlooked among the larger numbers of migrants. It was only the "elite" falconers who did express any concern in passing since in any case, the sport of falconry, like *shikar*, was becoming infra dig in polite society; sportsmen who were the driving force behind conservation action were progressively sidelined. Falconry, the aristocratic sport that had been raised to a high art, quickly disappeared. The great furor resulting from some Arab sheikhs visiting India for falconry was more on account of their targets being bustards. I for one, in all honesty, considered our two resident falcons safe since a Laggar *Falco jugger* pair came regularly every autumn to breed on the Hingol Gadh balcony and India's leading raptor photographer, Rishad Naoroji, had only a few years earlier, two pairs of Red-headed Merlin *F. chicquera* under observation close by. There also was apparently plenty of prey in the form

of pigeons, parakeets and small passerine birds. During the cool months, visiting Peregrines *F. peregrinus* were regularly seen. It was the repeated failure of the Hingol Gadh falcons to turn up that set me wondering whether all indeed was well.

Falcons tend to be traditional in using nests that are invariably wrested from other birds like crows. The Laggars prefer tall, more exposed locations and most of the old trees have gone, and surprisingly, crows that they generally supplant, have themselves been greatly reduced. Breeding successes seem to have become more spaced out with fewer pairs successfully raising young. With a declining population, it is reasonable to surmise that the Hingol Gadh pair is no longer alive and that there has not been any replacement. As for the Red-headed Merlin, it may be surmised that success with raising young has not been sufficient to maintain a healthy population. We need to institute a Raptor Watch as has been done for Sarus *Grus antigone* and vultures.

Recreating the aerial displays

I must repeat that no captive rearing project can be considered a conservation effort unless the end results have the birds repopulating their former habitats. The initiatives taken by the Vulture Group of the Bird Conservation Society, Gujarat (BCSG) need to evolve a strong working relationship with the various *panjrapols* in Gujarat and the Wildlife Wing of the Gujarat State Forest Department to draw up a strategy that goes well beyond the immediate present. Groves and avenues of banyan, tamarind and such large trees should be planted so that, by the time the beleaguered vulture populations show signs of revival, there are numerous nest sites ready for them to take over. In any case, these gracious trees have been part of our countryside and their loss is felt. I would strongly recommend the development of a blueprint for a massive tree planting drive involving the large, indigenous trees with action commencing June 2007 at the start of the rainy season.

Falcons and possibly several of our resident eagles take over nests of other birds and I am of the firm belief that with the destruction of trees in the countryside, not only were the traditional nesting sites lost, but also newer locations became less available. For fiercely territorial birds, which breeding raptors are, great pressure, detrimental to successful nesting, must have resulted from the lack of nesting sites. It needs no debate to affirm that with the decline in numbers of small birds and reptiles, the home range of each nesting pair would have expanded. Might not the time it takes to have large trees reach full stature prove too late to rehabilitate the existing pairs of falcons? There have been reports of crows nesting on the electricity grid pylons, suggesting the possibility of placing nest platforms over the entire grid inducing, at least Laggars to take advantage! Here is a conservation effort cutting across various departments of government and involving amateurs.

Can falcons and eagles be bred in captivity? There have been successful projects in Europe and America and there is no reason why we cannot take on similar programmes in India. I see no difficulty in finding funding provided the wildlife laws are rationalized. The question remains, "Who will bell the cat?" Surely there is no harm in initiating a discussion? With this note, I throw the gauntlet to the Chief Wildlife Wardens of Gujarat and other states.

As I was mulling over the problem, I received the first *Newsletter* of the BCSG Vulture Group. Among the several difficulties vultures are facing, the most immediate would seem to be of feeding on carcasses at *panjrapols*. Men flaying the dead animals through the day are followed by packs of stray dogs that over after they have finished with the task prevent the birds from feeding. Flaying should be carried out in sheds and the skinned carcasses disposed off in open enclosures protected by (I repeat) high walls that would keep stray dogs out. The high wall would serve an additional purpose of providing a safe place for the vultures to spend the night on after feeding.

A vigorous vulture rehabilitation program would help in making it easier to start support programmes for the other raptors. The bonus would be more and more shady avenues and groves cutting out the brilliant sunshine, which drenches the land uninterrupted for at least eight month of each year.

Recoveries from the *Newsletter for Birdwatchers* (1968)—16

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Futehally, Z. 2007. Recoveries from the *Newsletter for Birdwatchers* (1968)—16. *Indian Birds* 3 (1): 34–36.
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In *Indian Birds* of Nov / Dec 2006 I had commented on some of the articles in the 1968 volume of the *NLBW*. I find that there are two articles in the same volume, one by my daughter Shama and one by myself, referring to the birds of our garden and its immediate surroundings, which are of historical interest. The area referred to covers no more than two square miles, but it was, naturally speaking, a very productive-cum-beautiful area of considerable conservation importance. Every square yard of this land is now covered with high rise buildings and there is no sign of the birds referred to either in the garden or beyond. On the west parallel to Juhu beach was a thick mass of mangroves a continuation of the chain of this valuable vegetation stretching from the centre of Bombay unbroken for several miles to the North. Some of these mangroves are still in existence, and over them a war is being fought between conservationists and developers. It is strange that the Municipality of Bombay has still not recognised the invaluable role of these unique aquatic plants in saving our coastline from steady erosion and from damage by the occasional fury of the oceans. None of the birds referred to in these two articles are uncommon or threatened, but it is unusual to see such an assembly of both arboreal, desert and water birds so close at hand

Birdwatching in Andheri—*Zafar Futehally*

This morning (7.1.1968) the Whitespotted Fantail Flycatcher *Rhipidura albogularis* was singing beautifully in our garden. The nine-note song is so well articulated, every note can be heard clearly and from a long distance. I watched one bird closely for a while, the white supercilium, the spotted breast, the smoky brown feathers, and the vivacity of this creature, which makes it irresistible. Quite near the ground on an Alamanda bush it did a few somersaults, in the process devouring some mosquitoes that were hovering around. While it was singing I noticed a vigorous movement of the breast and the whole body quivered with the effort that went into producing the notes. No wonder the result is so rich and satisfying.

In contrast to the vivacious flycatchers there were the Coppersmiths, Crimsonbreasted Barbets *Megalaima haemacephala*, on the top of the Casuarina trees. Against a pale blue sky their crimson patch on the crown and the broad line on the throat stood out beautifully, and the pale pink legs acted as a good foil to the brilliance of its other parts. I have seen these birds nesting on a pipal in the busiest part of Bombay above the din of traffic and in the most unbearable surroundings of cement and steel. There is a hope therefore that in spite of all the building activity going on, on three sides of the garden, the species will continue to nest and breed here. Salim Ali describes their colour as grass green while Whistler calls it olivaceous; in any case words are powerless to describe the elegance of their coloration seen in the proper setting. Neither author refers to the conspicuous bristles that emanate from the base of the bill. I have been under the impression that bristles are useful to insect-catching birds, and therefore cannot understand this feature in a primarily frugivorous creature…[A few lines are missing here, from the editor's copy, referring to Shikras and rock doves.]

Clement Francis

White-browed Bulbul *Pycnonotus luteolus*

A Grey Wagtail *Motacilla caspica* is always with us in the winter and one enjoys the sight of its fast undulating flight accompanied by a merry *ta-tit ta-tit*. There is never more than one in our garden at a time, which probably means that the sort of food on which it lives is not plentiful. The White wagtail *Motacilla alba* is never with us, though this morning, a quarter of a mile away on the flats behind Juhu beach, I saw several of the species. The books say that *caspica* is found throughout the Indian Union in winter, while *alba* is found in the *greater part* of the country. Certainly, in winter, it is difficult to go to any place in India where the Grey Wagtail is not present.

Recently I have been concerned about the fate of the bulbuls in the neighbourhood. Until a few years ago the Red-whiskered *Pycnonotus jocosus* and the White-browed *Pycnonotus luteolus* as well as the Red-vented Bulbul *Pycnonotus cafer* were all seen easily and often in the garden. Now only *cafer* seems to exist at all, and I hope our small garden will provide space enough for it. This morning for the first time I noticed what a clear white terminal band this bird has on the underside of its tail, which goes to show how easily various feathers and colours on the birds' bodies can escape our notice. Even this morning I only noticed the band because the bird was high up on a palmyra and the white was the only colour really apparent from underneath. These birds often nest in our garden but I think they are finding it increasingly difficult to do so because of harassment by crows. Some years ago a nest was built on our Shivan tree *Gmelina arborea*, but a Black Drongo *Dicrurus macrocercus* happened to have built on the same tree and stood guard most admirably for its defenseless companion. The Black Drongo, which I saw in the garden today, seemed to have very ashy undersides and I wondered if it could be *Dicrurus leucophaeus*. I was not near enough to see the white dot on the cheek, which would have confirmed that it was a Black Drongo. I heard the Magpie Robin *Copsychus saularis* and the harsh *chek-chek* of Blyth's Reed Warbler *Acrocephalus dumetorum*. There were many Green Bee-eaters *Merops orientalis* in the opposite meadows, which are still, though for a short time, un-built on.

It occurred to me however that I was more interested in nothing down the Latin names of these birds than in actually watching them, so I promptly put up my binoculars and kept them fixed on the bee-eaters for a long time, and now several hours later I still enjoy the scene in retrospect; particularly the memory of one bird returning repeatedly to the same spot on the barbed wire fencing after its sallies after winged prey. With the Bee-eaters were a group of completely sandy brown munias, and these were Spotted Munias *Lonchura punctulata* in non-breeding plumage. Their sibilant whistling assisted identification. In the same area there were a few White-throated Munias *Lonchura malabarica* easily identified by the white throats and undersides.

Some distance away from the house in small creek near Juhu there was a large group of Common Swallows *Hirundo rustica* hawking insects above the water. Probing in the squelch with rapidity and in the manner of pneumatic drills was a flock of Little Stint *Calidris minuta*. Their black legs and the absence of any white on the wing indicated that they were not the Temminck's Stints, which occasionally associate

with them. A solitary Pond Heron *Ardeola grayii* came up and established itself aloofly on a patch of mud where it could feed undisturbed. A Pariah Kite *Milvus migrans* resting on a pylon called its usual shrill cry *cheel*, from which it gets its Indian name. So in the brief space of an hour I had seen over thirty species in this apparently uninteresting area. There must be, of course, many other species here as well, and I will pursue them on another Sunday.

Birdwatchers' Field Club outing—*Shama Futehally*

On Sunday 19th February, the Club met, not as it usually does at Tulsi, but at Andheri: breakfast at our house, and then a walk through the 'meadows' behind the house to Juhu. Although the area is being rapidly built up, on this trip we saw enough that was new and interesting to make it a memorable walk.

First, Rosy Pastors: two or three of them feeding off a blossoming silk cotton tree. We got a very good view of these, they did not fly off for a long time. Then there were the wagtails, a couple of white wagtails, and some Eastern Grey. There were plenty of European swallows. On the side of the road we were following, I saw one or two Tree Pipits, merging beautifully with the background, and a group of five or six Ring Plovers was startled into flight. There were many flocks of ordinary sparrows but one of them proved to consist in part of Brown Munias as well, established on barbed wire fences, taking off frequently to indulge in a short circular flight, returning to the identical spot again and again. Another discovery was one rather unusual bird, the Desert Wheatear. As far as I remember, this was perched on a stone wall and then on a boulder. There were two of them, some distance from each other. A thrilling new species, and if we had seen nothing else, they would have made the day.

Another lovely bird we saw was the Collared Bush Chat on a fence, one single male with a bright rose-orange breast, black head and back and white patches on the neck. We had a long and excellent view of this bird rummaging among the dust for food.

Later we settled round a creek with a few small islets, reputed to be covered over completely with migrant birds sometimes; but now had only a few stray Sandpipers, one Spotted; on Little Egret, and a couple of Common Kingfishers. Then we walked along beside the creek on a dirt track, thick mangrove vegetation at the side and there were Blyth's Reed Warblers by the dozen in the bushes. Incidentally, there was a train of camel-wallahs coming along and I had a jerky ride along the road. Once we were arrested by a loud and harsh *chuk-chuk* from the mangrove, punctuated by scuffling and the sound of creaking twigs. Dr. Salim Ali identified this as a Large Reed Warbler, uncommon in the area. But the bird, did not respond to our various eager claps and hisses, and remained hidden.

That makes about fifteen inspiring species, a revealing total for this otherwise dull and stony stretch of ground.

A flight down memory lane—2: Photographing birds in the Nineteen-forties

Lavkumar Khachar

Khachar, L. 2007. A flight down memory lane—2: Photographing birds in the Nineteen-forties. *Indian Birds* 3 (1): 36–39.
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Some months ago, one of my former pupils handed me a laptop and said, "You write so much, perhaps this will help". It took me some time to learn how to operate the machine and here too another former pupil came to my aide. Heading a large education consortium, he had computer instructors who would come over after school and guide me through the basics. Fortunately I had taught myself typing years ago and so, once I learnt how to open the systems, I took to the marvelous invention like a duckling would to water. It was just a matter of time before I got onto the Internet and what a revelation it was! At every stage, Aasheesh helped me tide over difficulties by long-range tutoring from Hyderabad.

It was through *Indian Birds* that I discovered websites and bird groups on the Internet and very tentatively opened the one carrying photographs by the Delhi group. Since, during my student days I had been a very active and rather precocious young member of the Delhi Bird Watchers' Society, I asked to be taken on the group. I hoped to go out bird watching should I have a layover at Delhi during my seasonal spring and autumn migration between Gujarat and Himachal Pradesh. I never expected to see the daily flow of messages into my mailbox. It was a delight to realize how many young people were going out bird watching and taking photographs. Some of the pictures were excellent. Suddenly, there was a personal message for me from among the crowd.

Rajesh Shah, a youngster I had encouraged in Ahmedabad was posting some delightful photographs and suggested I join the group in Bangalore where he had shifted. From Bangalore there came an added deluge of messages and an invitation to join the Tamil group. Each time I open the computer now, there is mail awaiting me that would be worthy of some up and coming executive! With so many people active, I wonder why we cannot vie with the RSPB of Britain with its million-odd members. But here I digress. Seeing this deluge of photographs on almost a daily basis, I could not but recollect my own young days when the scenario was so very different.

My very first attempt at bird photography was with a Kodak box camera. It was in March 1945, or possibly 1946, I had been reading the then leading bird photographer, Erik

Hosking's books and I decided to try my hand at what seemed a delightful pastime. I had noted a pair of Indian Robins *Saxicoloides fulicata* continually flying to and fro to a roadside stump, the cock frequently perching, as Indian Robin males do, on top of the stump. The hen, I saw, was carrying straws to the base of the stump where I found a neat cup of rootlets being lined by the grass. I stood the camera tripod—in those far off days tripods were quite shaky, spidery-legged contraptions—some eight feet from the stump. There was no way I could photograph the nest and decided to snap the cock bird as he came and postured atop the stump. My camera could not focus close up at distances less than eight feet and so, when the birds showed no concern for the spindly contraption, I moved it to that distance; *measuring the distance by a tape*! The viewfinder was no help in confirming whether the focus was right, and in any case, in fixed focus cameras of the day there was no adjusting the focus which was fixed between the nearest and infinity.

Clement Francis

Male Small Minivet *Pericrocotus cinnamomeus*

The birds had shown no undue nervousness at my moving about in the vicinity, nor had they been concerned about the tripod. It was when I placed the camera on top that there was a little agitation, but its presence made the male come more frequently to perch on the stump and 'swear' at the camera—all to my advantage. It was then that I realized I had a problem on my hands; while the camera elicited swearing, the birds just refused to come with me standing so close. How was I to snap the angry bird? Next morning, I took a long string and attached it to the lever. Yes, half a century ago, cameras did not have buttons to release shutters—they had levers. On the first try, the entire contraption toppled over! It can be imagined what a commotion it caused and all the little birds in the vicinity came to have a look at what was troubling the robins. But, when they found no snake of monitor lizard around, they went their different ways and I stood the tripod up, wiped the dust from the lens. This time I widened the spindly legs of the tripod and placed one towards me—the direction of the pull. I got my picture and the robin showed no alarm at the click of the shutter. The problem was that I had to go to advance the film and cock the shutter each time I wished to make another exposure. I was terribly proud of my photographs that showed the bird, a trifle larger than a speck, yet easily recognizable with the tail cocked and the white shoulder patch clearly visible.

At the same time, an artist had been commissioned to make paintings of the Jasdan countryside. He was in Jasdan to take photographs from which to later paint in Bombay (now Mumbai). He was a pleasant young man who, seeing my enthusiasm, showed me his camera. It was one of the folding varieties, which had adjustable speeds and apertures, but the focusing was not linked to the viewfinder. Like my box camera, the distance had to be guessed for closer subjects, but it did have the advantage of being able to extend the focal length and so there was considerable depth of field. For me, all this talk of opening or closing the aperture and the complementary adjusting of the shutter speed was as confusing as the formulae explaining Einstein's concepts of space and light and the curvature of the Universe! To simplify matters, he closed down the aperture and fixed the shutter speed and told me to take the photograph in bright sunlight being sure to measure the distance for closer objects. The next morning my cousin, the late Shivrajkumar Khachar, and I drove off to Hingol Gadh where we knew sandgrouse came to drink in the morning. I lay down a few feet from the water's edge anticipating where the birds would alight before going for their drink; Shivrajkumar then buried me under grass and thorn on our understanding that I would be fully camouflaged from above (the Second World War was fresh in our memories and so we were quite well versed in war strategies) and I was to click the shutter as soon as the bird / s landed. It never quite occurred to either of us that there was a wide open stretch of water front and the birds need not land obligingly where I was focused, and this is precisely what they started doing. There were scores of pairs to my left and to my right. The hard rock began hurting my elbows, which held up the camera and the thorns and grass spikes made their presence felt; the sun was growing hot. Just as most of the birds lifted, a pair of late comers landed right in front of me, I clicked. On developing the film, we were thrilled that the shot was perfect! Even the glint in the eye of each startled bird was sharp.

Subsequently I acquired a Rolliecord and fabricated a cloth hide, which I often smothered in grass and brushwood to beguile the birds, and spent hours sitting over incubating birds, and birds feeding their fledglings. With pocket money I bought light meters and yellow filters, and of course books on photography. Late Dharmakumarsinhji used to visit us regularly at Jasdan and seeing our boyish enthusiasm, presented us, Shivrajkumar and me, a teak hide! It had openings on every side with sliding covers and a roof that

opened like the hatch of a tank's turret. In fact, it looked like a small replica of a "pillbox" and was coloured khaki similar to the clothing shikaris of the times were expected to wear. It certainly stood out like a sore thumb when it was placed in open spaces where many of the ground nesting birds preferred to site their nests, but I had learnt well from what I had read and the hide, initially placed far away, was slowly brought forward till at times I was barely three feet from my subject—the ideal distance for my camera to give me a large image of the bird. To photograph birds nesting in shrubs and trees, I now started constructing a scaffold and placing a canvas hide on top. The teak one was too heavy to lift.

The "pillbox" was first used on River *Sterna aurantia* and Black-bellied *S. acuticauda* Terns nesting on a small island in Jasdan Lake. The photographs were outstanding in clarity and when I attempted near life size enlargements, I began understanding film grain and speed. On the same island was a pair of Little Ringed Plovers *Charadrius dubius* with eggs and I spent several of the most delightful days of my life observing these attractive little birds. Rapidly, my photo album began to grow: Red-wattled *Vanellus indicus* and Yellow-wattled *V. malabaricus* Lapwings, Stone-Curlew *Burhinus oedicnemus*, and Great Stone-Plover *Esacus recurvirostris*. Shivrajkumar and I had a very interesting experience with a Yellow-wattled Lapwing, which a farmer, ploughing his field, had drawn our attention to. Having noticed the incubating bird, he steered his bullocks so as not to trample the sitting bird and in turn, the bird had accepted him and his animals as part of the surroundings! So confiding was the bird that we could stroke her and even very gently pass fingers under her to lift her up! But, as soon as her feet left the ground, she would get alarmed and flutter away a couple of feet and then rush back to settle onto the eggs. I attached a macro lens to the camera and took photographs from a few inches—just her head filling the entire screen. We then placed the hide, planning to take photographs of the parents changing incubation duty and, later seeing the eggs hatch. But as soon as I got in and my companion left, the bird, so extremely confiding, left the eggs and would not return. As soon as my companion came back to release me from the "pillbox" (it was impossible to get in and out of the sturdy hide without outside assistance), the bird immediately returned and settled on her eggs!

From December 1945 to 1953 photography had to be done during vacations since I was at school and later university. However the vacations conveniently coincided with the breeding season of a large majority of our birds: June and July and a fortnight's break in September / October. Colour film appeared in the market in the 1950s and I started taking photographs of the many brightly coloured birds found in our family forest of Motisari of Hingol Gadh, spending hours photographing Small *Pericrocotus cinnamomeus* and White-bellied *P. erythropygius* Minivets, Marshall's Ioras *Aegithina nigrolutea*, Yellow-eyed Babblers *Chrysomma sinense*, Redvented Bulbuls *Pycnonotus cafer* and Rufous-backed Shrikes *Lanius schach*.

Shivrajkumar and I were blissfully unaware that we were extremely fortunate and privileged in getting such opportunities for photographing birds in the Subcontinent. Others of our age and equally privileged spent their time shooting. It never occurred to either one of us to write detailed accounts of our experiences even after two of my write-ups on the birdwatching trek into Garhwal and Tibet in1954 had been accepted for the *Journal of the Bombay Natural History Society*. In January 1956 Dharmakumarsinhji was appointed the first Chief Wildlife Warden of Maharashtra. During his tour of the state, he visited the Oyster Rock lighthouse off Karwar on the Arabian Sea coast north of Goa. Here he, the keen sportsman with an eye for raptors, noticed that a pair of White-bellied Seas-Eagles *Haliaeetus leucogaster* had newly hatched eaglets on a stack, out at sea, to the west of the lighthouse island. He press ganged me into going and even loaned me a camera with a telephoto lens. The photographs and the account of my experience with the grand eagles were also published in the *Journal*. Fortunately too, some of my photographs were published in *Sixty Indian birds*, a book Dharmakumarsinhji and I co-authored. Unfortunately, the rest of the black and white photographs faded and the colour slides discoloured. Thanks to sheer negligence, I do not possess any of the negatives. A most wonderful period of my life is but a memory.

Clement Francis

Female Indian Robin with nesting material *Saxicoloides fulicata*

Time is an unkind master. It throws up opportunities, if taken we are richer, but if neglected, the opportunity lapses. In my case, I could not

continue my passion for photography as a hobby because of the accelerating cost of films, their processing and printing. Also, camera equipment became prohibitively expensive unless one made photography an occupation. More and more people started using long focal length lenses and rightly too since the traditional method of putting up hides in forest country became increasingly difficult considering all the hassles of getting official permissions. Retaining field staff to locate nests and construct hides became a thing of the feudal past. As a conservationist, I soon felt that photographing birds at nests added to the danger of their nests getting attention of predators being drawn to them thus adding to the already many odds stacked against them. It is years now that I have followed a bird carrying food for its fledglings.

When the first digital cameras appeared, silver pieces, small enough to be slipped into the breast pocket and demanding nothing more of the user than pressing the button, I considered them more as playthings and decided they were not worth spending money on. Even when more sophisticated cameras, with interchangeable lenses, came on the market, I was not convinced they were as good as the traditional film cameras. It is only when I see the photographs pouring into my computer that I realize that digital technology has brought about a revolution for amateurs to start taking a delight in the beauty of birds. The high quality of some of the photographs proves that despite their sophistication, digital cameras need the photographer to develop high expertise, the aesthetics of an artist and the sensitivity of a naturalist. Costly equipment does not necessarily produce outstanding photographs. Like the shotgun of the early half of the last century, digital cameras of today are encouraging young people to go out into the countryside and in becoming, hopefully, members of the conservation lobby.

Correspondence

Farmer saves Red-wattled Lapwing *Vanellus indicus*

There are many farmers who are instinctively, nature and bird lovers, but do not get known to bird-watchers or media. During their day-to-day activity of farming they observe nature, especially birds, keenly, giving their own interpretations to animal or bird behaviour. Some also contribute to conservation in their own ways.

Lal Chand Saini, a 28 year young farmer, of Maniawas, Jaipur (Rajasthan, India) is one such striking example. Love for nature seems to be in his genes, as his father, Sri Mool Chand Saini, too is a great nature lover and very keen observer. On 24.vii.2006 Lal Chand noticed two eggs of Red-wattled Lapwing *Vanellus indicus* on one of the many heaps (‘*dheris*’) of farmyard manure he had placed for the next crop. On 25.vii.2006 a third egg was also laid by the lapwing, which was a permanent resident of his farm, where nobody disturbed or harassed the pair. On 27.vii.2006, before he started ploughing his field with a tractor, he cautiously transferred the eggs, along with 10 cm topsoil into a broken earthen pot, and replaced the pot at the same location after ploughing. The birds raised a hue and cry, and dive-bombed at him during the process, but began incubating the eggs eventually. They were never disturbed even when he or his family members passed close by.

In the early hours of 19.viii.2006, the first chick hatched. The second hatched at about 09:45 hrs. The third chick hatched on 20.viii.2006 at about 08:15 hrs and by 11:00 hrs all three chicks had left the modified nest, following their parents, into the cover of the cabbage crop. The incubation period lasted for 25 days from the laying of all three eggs. All the three chicks are now almost full grown, safe in their cryptic plumage.

Lal Chand Saini’s concern for the birds’ safety ensured that the breeding pair was successful. I am sure many farmers contribute in many ways towards conservation every year. This can be further enhanced by concerted efforts by bird-watcher groups, NGOs and government agencies, by spreading awareness for various species, especially the endangered ones, among them.

– Ram Gopal Soni
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22.x.2006

Attracting birds using decoys and traditional knowledge

In the Winter 2003 issue (Vol. 74 No. 1) of the *Journal of Field Ornithology*, I came across a paper that talks of using decoys as a research tool for attracting wading birds. The authors, Gaea E. Crozier and Dale E. Gawlik, performed experiments using three kinds of decoys. They found that decoys that were three-dimensional attracted more birds. Also, that white coloured decoys attracted more birds with white plumage than dark-coloured birds. White plumage is often associated with social foraging and these birds (in white) often feed in groups using other wading birds to locate high quality foraging patches over a spatial area. This becomes essential due to the dynamic nature of wetland ecosystems where spatial changes in food resources can occur rapidly.

Reading this paper, memories of some observations made on bird trappers using some of these techniques flashed into my mind. In the late 1970's and 1980's, when I actively watched birds in the vicinity of Chennai, I had come across several instances of bird trapping and poaching especially of wading birds in the wetlands. Perhaps this is now greatly reduced due to the fact that many wetlands have been reclaimed and built upon.

Once in October 1982, we witnessed birds being trapped in the vicinity of the Buckingham Canal, near Thoraipakkam. A net with a frame was spread out near the marshy banks of the canal. Near it, rather crudely made clay models of wading birds, with some white strips of cloth on them, were placed in the water. A few live birds—two Wood Sandpipers *Tringa glareola*, a Curlew Sandpiper *Calidris ferruginea* and a Little Stint *C. minuta* were also kept tied to small twigs amongst the models. The trapper and his assistant were sitting some 20 m from the trap and were imitating birdcalls. A long wire attached to the net was used to pull the net shut and trap birds underneath it. Even as we watched the trapping process from a distance, we saw a Brahminy Kite *Haliastur indus* making off with the Little Stint kept as a live decoy!

On another day, in December 1982, we observed a bird trapper at work at Sholinganallur. His *modus operandi* was similar to the one earlier described. This trapper had stuck some white-coloured feathers and also several trapped waders in 6–7 bamboo baskets and had tied a few blinded waders to small twigs under the net. When he saw birds in flight, the trapper would draw their attention to the decoys by imitating birdcalls with remarkable accuracy, using a whistle. His imitation of Red-wattled Lapwings *Vanellus indicus* was outstanding! When the birds landed near his decoys, he lost no time in pulling the rope and bringing down the net a full 180º to trap the unfortunate ones. Even as we were watching we saw five birds getting trapped. Much later I witnessed these techniques employed by professional trappers from Point Calimere, employed by the Bombay Natural History Society, for their bird-ringing activities.

I also had the opportunity once, at Adyar Estuary, to see a hunter attracting the attention of gulls and terns by tossing dead terns into the air. This attracted several other curious terns that in turn (no pun intended!) became easy targets.

It appears that the art of attracting birds using decoys (live as well as dummies) and through the usage of white colour (in the form of white cloth strips or feathers or even dead birds) and calls is well known to our local shikaries and bird trappers, who must have carefully observed and studied the behaviour of birds. In some ways, I feel sad that much of this traditional knowledge is being slowly lost even before it is adequately documented and studied by researchers.

– V. Santharam
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Editorial

Indian Birds enters its third year. From this year we will produce all-colour issues. The transformation will be gradual and I request all of you to send in your assessment of the changes. We are interested in what is liked and what is not about every aspect of *Indian Birds*.

Along with the above, I have to make another announcement. We have increased our subscription rates from this year. With the improvement in all-round quality you will appreciate this. Here I would like to present a small statistic. At approximately 240 colour pages a year, you will be paying just about 0.83 paise / 8.3 cents per page at the increased rates! Indeed, I have heard whispers in the corridors that the increase is paltry. That it is, for we will need additional air under our wings to keep us buoyant. Readers harbouring the divine gene of generosity should contact me at editor@indianbirds.in for details.

The third announcement gives me great joy. Ramana Athreya wins the 2006 Shama Futehally award of Rs 5,000/- for his paper on the discovery of the gorgeous Bugun Liocichla *Liocichla bugunorum* in Arunachal Pradesh, published in the July–August 2006 (vol. 2 no. 4) issue of *Indian Birds*. Several people have since seen the bird and published tantalizing pictures of it on the Internet.

While micro conservation efforts, like those of Lal Chand Saini (correspondence section of this issue) are extremely heartening, Bishwarup Raha of Nashik was shocked at the number of birds wantonly killed by bored village boys in rural areas of the country, with the stone-pelting '*gulol*' or catapult—a lethal weapon in the hands of those not knowing better. While Raha has embarked on a massive catapult confiscation drive in his area, and the related issues of counseling and education, here is a genuine problem that needs to be tackled at the grassroots level. We in India have no clue to the toll that the rural catapult and the urbanized cat take of passerine birds. Many see the House Crow *Corvus splendens* as another marauder of small birds' nests and nestlings, its urban populations burgeoning, no doubt, on the ample rubbish discarded by us.

Indian Birds is a labour of love and a sincere effort is made to publish issues on schedule—there are times however, when this does not happen. I would like to take this opportunity to thank our readers for their patience and our contributors for their support and forbearance.

An index for the second volume of *Indian Birds* is enclosed with this issue.

– Aasheesh Pittie

Back Cover photograph by Clement Francis
Painted Stork *Mycteria leucocephala*

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