Valmiki Tiger Reserve
Cattle Egrets in Sri Lanka
White-browed Crake

Indian BIRDS

Vol. 11 No. 3

Indian BIRDS | Vol. 11 No. 3

Indian BIRDS

www.indianbirds.in Vol. 11 No. 3

Date of Publication: 11 April 2016

ISSN 0973-1407

New Ornis Foundation

Registration No. 314/2004

Founder Trustees
Zafar Futehally (1920–2013)
Aasheesh Pittie, V. Santharam

Trustees
Aasheesh Pittie, V. Santharam, Rishad Naoroji,
Taej Mundkur, S. Subramanya,
Suhel Quader, Praveen J.

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 birdwatching 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).

Subscription Information

Type	Annual	3-year
Individual	Rs. 300	Rs. 900
Institution	Rs. 800	Rs. 2,400
Foreign Individual	$30	$90
Foreign Institution	$85	$225

Please make payments favouring
New Ornis Foundation
For online payment:
http://www.indianbirds.in/subscription-india/

Send subscriptions to:
New Ornis Foundation, 2nd Flr, BBR Forum, Rd. No. 2,
Banjara Hills, Hyderabad 500034, India.

CONTENTS

Front Cover: Orange Bullfinches *Pyrrhula aurantiaca*

Polychromous colour pencils | 21 x 29.7 cm | January 2016

Artist: Tatiana Petrova

Back Cover: Coppersmith Barbet *Psilopogon haemacephalus*

Photographer: Kallol Mukherjee

Bird observations from Valmiki Tiger Reserve, Bihar

Anwaruddin Choudhury

Choudhury, A. U., 2016. Bird observations from Valmiki Tiger Reserve, Bihar. *Indian BIRDS* 11 (3): 57–63.
Anwaruddin Choudhury, Secretary to the Government of Assam, House No. 7, Islampur Road, Near Gate No. 1 of Nehru Stadium, Guwahati 781007, Assam, India. E-mail: acbadru56@gmail.com
Manuscript received on 23 November 2015.

Abstract

Valmiki Tiger Reserve, in Bihar, is a relatively poorly known bird area. Observations from a recent visit (16 October to 06 November 2015) are documented here. Noteworthy records include some globally threatened, and near-threatened species such as Lesser Adjutant *Leptoptilos javanica*, Swamp Francolin *Francolinus gularis*, Oriental Darter *Anhinga melanogaster*, and River Lapwing *Vanellus duvauceli*. There were records of White-backed *Gyps bengalensis* and Slender-billed Vultures *G. tenuirostris*, and Sarus Crane *Grus antigone*. Historical records of the Bengal Florican *Houbaropsis bengalensis*, from the general area, also exist. A large roost of migratory Amur Falcons *Falco amurensis* was also discovered just outside the reserve. Several species could have been reported as new for Valmiki Tiger Reserve, but lack of published materials has made it difficult to identify these. Altogether 246 species of birds were listed in this work although there could be more than 300 species. Most of the summer visitors, such as cuckoos, and winter visitors, such as ducks, and waders, could not be observed owing to the time of visit. Details of some important observations are presented. Conservation issues are discussed briefly, and recommendations are made for the protection of habitats, and birds.

The Valmiki Tiger Reserve (27.33°N, 84.16°E; henceforth VTR) (Fig. 1) in Bihar, India, is poorly covered in ornithological works. It lies at the edge of the Himalaya global biodiversity hotspot (Mittermeier *et al.* 2004). It is in West Champaran District, and to its north is the Chitwan National Park of Nepal. Together, these contiguous tracts of protected areas (including Parsa Wildlife Reserve of Nepal) form a large wilderness area that is home to a variety of wildlife. Being at the edge of the Himalaya, the physiography of VTR comprises low hills with small valley plains along the rivers. The hills are part of sub-Himalayan ranges, i.e., the eastward extension of the Siwalik Range (its eastern end), known here as Churia Hills. The highest point is 874 m asl in Someshwar on the Nepal border. The lowest elevations are in the riverbeds near Madanpur (less than 140 m asl). Gandak, and Pandai are the main rivers, into which innumerable streams, and rivulets merge.

VTR extends over an area of 898.9 km² (589.8 km² being the core area, and 309.1 km² the buffer zone). It has a tropical 'monsoon' type of climate, with a hot wet summer, and a cool dry winter (annual precipitation 900–1300 mm; annual temperature 06°C–40°C). The main vegetation types are tropical moist deciduous with small patches of semi-evergreen forests, and grasslands.

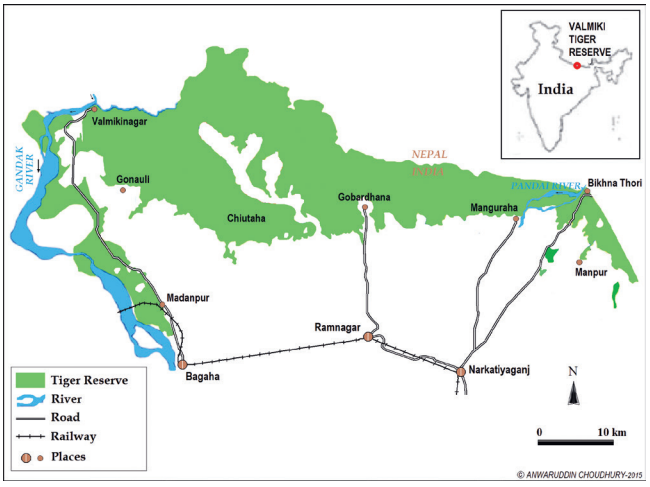

Fig. 1. Map of Valmiki Tiger Reserve. © Anwaruddin Choudhury–2015.

Owing to its relative remoteness, and also its past history of insurgency, very few ornithological studies have been carried out in VTR. In fact, there is no checklist or paper on its ornithology in any scientific journal or well-known magazines. Some information on a few species is found in synoptic reports on other species, or on the tiger reserve such as Javed & Rahmani (1991), Director (ed. 1998), Sinha (2012), and Anon. (undated). It is listed as an Important Bird & Biodiversity Area by Islam & Rahmani (2004).

The reserve has a rich diversity of birdlife, evident from the list in the Appendix: 246 species including a few from published sources, which included two Critically Endangered, four Vulnerable, and five Near Threatened birds. The information added from published sources were those that were considered reliable and authentic (i.e., within known range, identification not difficult or proper description given).

Methodology

I made direct observations using 10x40 binoculars, noted the calls of some species, and interviewed forest staff, villagers, and other knowledgeable persons (mainly researchers and conservation workers). Observations were made on foot, along existing paths and roads, from vehicles along roads and tracks, and from a raft. I made 15 field trips from 16 October to 06 November 2015 during which at least 198 species of birds were recorded. My surveys included parts of all the forest ranges of VTR: Manguraha, Gobardhana, Raghia, Chiutaha, Harnatar (only its fringes), Gonauli, Valmikinagar, and Madanpur.

Significant records

I provide below details of the more interesting, and significant records, including regional rarities, and Threatened, and Near Threatened species that I observed. Records of Galliformes, and large raptors (Accipitridae) are included, given the high hunting pressures on these species in the past, and even today

(outside the protected area). The Red List status follows BirdLife International (2015), which is also followed by IUCN (2015). An annotated list of all the birds recorded can be found in the Appendix.

Large Cormorant *Phalacrocorax carbo* A flock of five birds was seen on a small islet in the Gandak River on 04 November 2015 near Valmikinagar.

Oriental Darter *Anhinga melanogaster* (Near-threatened) A single bird was seen in flight near the Gandak River on 04 November 2015 near Valmikinagar.

Asian Openbill *Anastomus oscitans* About 15–16 seen in flight above the Madanpur Range grasslands (south of the railway track), in the evening of 05 November 2015. More than 20 birds were seen on 06 November 2015, also in the Madanpur Range, but north of the railway track in a waterlogged area.

Lesser Adjutant *Leptoptilos javanicus* (Vulnerable) One bird perched on top of a simul *Bombax ceiba* tree on 05 November 2015 near Lakhia *nullah* in Madanpur Range (south of the railway track).

Swamp Francolin *Francolinus gularis* (Vulnerable) This is a grassland specialist occurring in tall wet savanna grassland. Several coveys were seen, and heard in the grassland area of Madanpur Range (south of the railway track) on 05–06 November 2015. A lone bird was seen when it took a short flight, and then three others were seen feeding on 05 November 2015. On 06 November 2015, two coveys, of three birds each, were seen, one in the same general area, while the other near Lakhia *nullah.* Calls were also heard from three different sites of the same grassland. Forest staff reported that it also occurred in the grassland north of the railway track **[82]**.

Photos: Anwaruddin Choudhury

82. Swamp Francolin.

Kalij Pheasant *Lophura leucomelanos* Two males, and two females of the nominate subspecies were seen on 03 November 2015 near the watchtower, located within three kilometers of Gonauli forest rest house. Four more (one male, two females, one unsexed) were seen towards Valmiki Ashram (Nepal), but just inside Indian Territory on 04 November 2015.

Red Junglefowl *Gallus gallus* Several sightings in all the ranges of the reserve: lone birds, as well as twos, threes, and up to eight to nine birds together.

Black-winged Kite *Elanus caeruleus* Single birds seen on several occasions just outside the reserve, and in the Madanpur Range (south of the railway track; on 06 November 2015). Two birds were seen, once, at Rampurwa, outside the reserve on 18 October 2015.

Oriental Honey Buzzard *Pernis ptilorhynchus* A bird was seen perched in a leafless tree within two kilometers of Gonauli forest rest house on 03 November 2015 **[83]**.

83. Oriental Honey Buzzard.

[Himalayan Buzzard *Buteo refectus*] One was seen in the Manguraha Range on 18 October 2015. It flew low through a patch of deciduous forest, and then repeatedly perched in trees, allowing good views. In flight, its pale creamy-buff throat, cheeks, and underparts with a brown belly/thigh-patch, were clearly visible. There was heavy dark streaking on its breast, and prominent dark carpal patches on the underwings. The upperparts appeared brownish, with white edges to feathers. The tail was paler grey. The bird was in all probability a Himalayan Buzzard *Buteo refectus*. The taxonomy of *Buteo buteo* was debated for quite some time (Kruckenhauser *et al.* 2004) but now there is much concurrence in treating the Himalayan birds as *B. refectus*. However, status of Himalayan, and Steppe Buzzards *B. b. vulpinus* in peninsular India is unclear (Grimmett *et al.* 2011). The buzzard observed in VTR looked like a *refectus* but is treated here as tentative. It appeared noticeably smaller than Upland Buzzard *B. hemilasius*. It was distinguished from Long-legged Buzzard *B. rufinus* by its smaller size, and the lack of any rufous on the underwing, lower breast, and belly **[84]**.

84. Himalayan/Steppe Buzzard *Buteo refectus* / *B. buteo vulpinus*

Amur Falcon *Falco amurensis* Five to six birds were seen flying over the Pandai River in the Manguraha Range on 31 October 2015. As I watched them, they flew, one after another, towards the south-west. Enroute Gonauli on 02 November 2015, around 10000 birds were seen roosting in shrubs, and on power lines in the cultivated fields of Bholapur–Kharhat. The site is about three to four kilometers from the boundary of VTR. A few birds flew

towards the reserve but most roosted there at night. Such large gatherings, and a roost of this magnitude are perhaps unreported from Bihar (Naoroji 2007) **[85]**.

85. Roosting Amur Falcons.

Peregrine Falcon *Falco peregrinus* [race *peregrinator*, or *calidus*] A single bird was observed in a tree on the banks of the Gandak River, at the edge of hills, on 04 November 2015. The streakings (not barred as in adults) on its under parts indicated that it probably was an immature *F. p. peregrinator*. It had darker brownish-grey (not slaty, like adults) upper parts, feathers edged rufous (darker than immatures of typical subspecies). Its black moustachial stripe was conspicuous. Greyish-brown tail had buff or pale tips. Its chin and throat were whitish. These characteristics indicate that it could have been a juvenile / immature of either of the subspecies. Naoroji (2007) also mentioned that there are significant individual variations among the juveniles of these two races **[86]**.

Photos: Anwaruddin Choudhury

86. Peregrine Falcon, *F. p. peregrinator.*

Osprey *Pandion haliaetus* A single bird was seen and photographed in a tree on the banks of the Gandak River on 04 November 2015.

Grey-headed Lapwing *Vanellus cinereus* I saw a few birds (calls of many birds were heard; at least two to three flew up, when identified, and then again settled down) in the grassy bed of the Mashan River in Chiutaha Range on 25 October 2015. Enroute Gonauli several birds (not counted) were also seen, in the fields outside the reserve on 02 November 2015.

River Lapwing *V. duvaucelii* (Near-threatened) Two birds were seen near a stream at Bikhna Thori on the India–Nepal border on 16 October 2015; two more on the Mashan River in Chiutaha Range on 25 October 2015; and 12 on the bank of a stream of the Pandai River in Manguraha Range on 31 October 2015.

Spotted Redshank *Tringa erythropus* I observed two birds on the Mashan River in Chiutaha Range on 25 October 2015. They were resting, and then flew to the other bank. It is apparently a local rarity as is evident from the map in Grimmett *et al.* (2011) **[87]**.

87. Spotted Redshank.

Stint *Calidris* species. Two birds were seen on the sandy banks of the Mashan River in Chiutaha Range on 25 October 2015. The presence of a white supercilium, and greenish-yellow legs pointed towards Long-toed Stints *C. subminuta*. However, their stance was not visible, as they were resting, and the legs were not fully visible. Hence, there remains a doubt about their identity, vis-à-vis Temmink's Stint *C. temmincki.*

Vernal Hanging Parrot *Loriculus vernalis* Apparently uncommon. I heard its call just once, and saw one bird, in flight, near the watchtower close to the Gonauli forest rest house, on 03 November 2015.

Alexandrine Parakeet *Psittacula eupatria* (Near-threatened) Uncommon in the reserve; heard its call only once (more than one bird) in the Manguraha Range on 18 October 2015.

Plum-headed Parakeet *Psittacula cyanocephala* I observed several noisy flocks in the Chiutaha Range on 25 October 2015. Birds were also observed in the Raghia, Gobardhana, Manguraha, and Gonauli ranges.

Red-breasted Parakeet *Psittacula alexandri* (Near Threatened) Rarer than the preceding species. I heard it twice, and once saw a few from a flock, fly through foliage, in the Manguraha Range on 18 October 2015, and in the Gobardhana Range 29 October 2015.

Indian Nightjar *Caprimulgus asiaticus* Single birds observed twice on the road, before they flew away, in the Raghia Range on 27 October 2015.

Savanna Nightjar *C. affinis* I observed a single bird on the road, from where it took off several times showing its colour patterns, in the Gobardhana Range on 29 October 2015.

Dollarbird *Eurystomus orientalis* Two birds were observed in a small grassy opening by the side of the Paknaha *nullah* in the

Raghia Range on 23 October 2015. The range map in Grimmett *et al.* (2011) indicates that this is the second record for Bihar, and may be the first published for Valmiki.

Indian Grey Hornbill ***Ocyceros birostris*** At least four birds were seen in the Madanpur Range (south of the railway track) in trees in tall grassland area on 05 November2015.

Oriental Pied Hornbill ***Anthracoceros albirostris*** Four birds seen near the Madanpur Forest Rest House on 05 November2015. Calls heard in the Raghia (near Paknaha *nullah*), and Manguraha Ranges on 21 October 2015, and 31 October 2015 respectively.

Chestnut-capped Babbler ***Timalia pileata*** Two groups were observed in the tall grassland of Madanpur Range (south of the railway track) on 06 November2015. They were located following their call **[88]**.

88. Chestnut-capped Babbler.

Rufous-rumped Grassbird ***Graminicola bengalensis*** (Near Threatened) A single bird, carrying food, was seen twice in the grassland near Lakhia *nullah* of the Madanpur Range (south of the railway track) on 06 November 2015. Its larger size than Ashy Prinia *Prinia socialis* (which were nearby), black streaks on its upper parts, and whitish under parts were conspicuous. Its wings, mantle, and flanks were rufous, while the tail was blackish. Due to the grass, I could not see the white tips of its tail. It is always very rare in its range (Birdlife International 2015). Even in Assam's Manas National Park, an important habitat of this species, its sightings are few and far between (Choudhury 2006). Although recorded in nearby Chitwan National Park, Nepal (Baral *et al.* 2007), this could be the first record for VTR.

Puff-throated Babbler ***Pellorneum ruficeps*** A single bird was photographed near a stream in the Raghia Range on 21 October 2015. It was located following its call. Perhaps a few more birds were present, as foliage movement indicated. Although it is a common bird in its range, for Bihar it is a rare species (see map in Grimmett *et al.* 2011) **[89]**.

Photos: Anwaruddin Choudhury

89. Puff-throated Babbler.

Scaly Thrush ***Zoothera dauma*** A lone bird was observed beside the forest road, whence it flew to a dark *nullah* in the Raghia Range on 21 October 2015.

Orange-headed Thrush ***Zoothera citrina*** A bird was seen bathing in a small pool of rainwater on the forest road in the Gobardhana Range on 27 October 2015. It was already past dusk, and the bird flew away when our vehicle approached too close. The range map in Grimmett *et al.* (2011) indicates that it is a rarity in Bihar.

Black-backed Forktail ***Enicurus immaculatus*** A single bird was seen near a stream, about two-and-a-half, to three kilometers from the Gonauli forest rest house on 03 November 2015. It is a local rarity for Bihar, with very restricted habitat.

Plumbeous Redstart ***Rhyacornis fuliginosa*** A single male was seen flying, and then, settling on a pier of Gandak Barrage on 04 November 2015 at Valmikinagar. It is also a local rarity for Bihar with very restricted habitat.

Jungle Prinia ***Prinia sylvatica*** At least two birds were seen in grass in the Madanpur Range (south of the railway track) on 06 November 2015. I photographed one. Its grey-brown upperparts, buffy-whitish under parts, lack of rufous edges to tertials, and greyish-white lores and supercilium were pointers. Although there is a possibility of confusing it with the Plain Prinia *P. inornata*, these features in the bird that was photographed are generally absent in the latter. Although not a rare species in its range, it's sighting was significant as there are no records from most of Bihar, although there are records from east (northern Bengal), and west (Uttar Pradesh) (see maps in: Kazmierczak 2000; Grimmett *et al.* 2011). It is apparently a first for VTR.

Plain Prinia ***Prinia inornata*** At least three were seen, as singles, in the grassland of the Madanpur Range (south of the railway track) on 06 November 2015. In contrast to the Jungle Prinia *P. sylvatica,* its supercilium extended well beyond its eye, its tertials had prominent rufous edges and rufous-brown upper parts.

Discussion

The paucity of historical ornithological fieldwork in VTR as well as insurgency in the recent past, and the absence of even an authentic checklist, mean that trends in its avifauna are hard to discern. A list in a report by the Zoological Survey India (henceforth ZSI) (Director 1998) did not include many of the commoner species, raising doubts on its robustness. It had to be carefully gleaned, as it even listed the White-cheeked Barbet *Megalaima viridis*, the Western Ghats species, from VTR! The paper also tries to visually identify races of pipits, which is always questionable. Samir Sinha (verbally, 04 November 2015) also felt that the short list in the ZSI publication lacked many of the common species which are seen almost every day all over the reserve.

There are past records of the Bengal Florican *Houbaropsis bengalensis* from undivided Champaran District (Mukherjee 1986), most likely from around the grasslands along the Gandak River, and of the White-throated Bushchat *Saxicola insignis* from Raxaul (a female specimen is in British Museum of Natural History), which was collected in 1937 (BirdLife International 2001a,b). The latter site is located towards south-east of VTR.

From the adjacent Chitwan National Park in Nepal, there are recent records of Grey-crowned Prinia (Gurung 1983; Wheeldon 1995; Baral 2000), Jerdon's Babbler (Baral & Eames 1991), and Slender-billed babbler (Inskipp & Inskipp 1980; Baral 1996c).

Although 246 species have been listed here, it is possible that more than 300 exist there, in view of its location at the foot of the Himalaya, with some hill forest, grasslands along the Gandak River, and small areas of forest on the plains. Further surveys will no doubt add many more species. There is the possibility of many more waders, and ducks being sighted, during passage, along the Gandak, and Pandai Rivers.

The main threats to the reserve are biotic pressures from the fringe villagers, which include firewood collection, grazing of domestic stock in the grassland, presence of all-weather road, and railway inside the reserve (especially in the Madanpur Range), and fragmentation of the Madanpur Range, and parts of Valmikinagar Range from other areas. The construction of a railway, without bridges, on two perennial rivulets, namely Rohua *nullah*, and Kotrahiya *nullah*, and the subsequent construction of a wall along the railway line has resulted in waterlogging in excellent grassland north of the railway in Madanpur Range.

Demolition of the wall near the railway track, two bridges on the track, as well as alongside the highway for natural drainage, which will also act as an underpass for wildlife (hence, should be at least 250 m wide), detailed bird surveys, environmental awareness programmes in the fringe villages, and development of eco-tourism that involves local villagers, are highly recommended.

Acknowledgements

I would like to thank the following for their support during my visit: Subodh Kumar (PO, Gaunaha block), Zubair Khan (driver), Bacchu Khalifa, and Sanjay Jumar (both PSOs), Range Officers (Ajay Sinha, Anand Kumar, Binod Kumar Sarma, Mahesh Prasad, Mohd. Afsar, and Vijay Shankar Choubey), Forest staff (Shiv Shankar Prasad Singh, Santosh Kumar Sarma, Bireswar Majhi, Ramesh Mahato, Brajesh Mahato, Dhruv Narain Ram, Naresh Paswan, Anil Thapa, Birender Diswa, Prem Guru, Seshnath Hajra, Kamlesh Yadav, Chulhai Sarma, Hiramon Ram, Uma Pal, Raju Yadav, Mahadeo Mahato, Nagender Shah, Chandrakanta Mahato, and Santosh Kumar), boatmen (Rajkumar, and Ramjash Sahni), Arvind Mishra, Surender Kumar, and Quamuddin Khan. Special thanks to K. N. Bhar of Election Commission of India, and Samir Sinha of WTI.

References

Anon. (undated). *Birds in Bihar*. Vol. 1. Deptt. of Environment & Forest, Govt. of Bihar, Patna. 117 pp.

Ali, S., & Ripley, S. D., 1987. *Compact handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka.* 2nd ed. Delhi: Oxford University Press. Pp. i–xlii, 1 l., 1–737, 52 ll.

Baral, H. S., 1996. Grassland birds of Nepal. *Bird Conservation Nepal Newsletter* 4&5 (4&1): 4.

Baral, H. S., 2000. Community structure and habitat associations of lowland grassland Birds in Nepal. PhD thesis, University of Amsterdam.

Baral, H. S., & Eames, J. C., 1991. Jerdon's Babbler *Moupinia altirostris*: a new species for Nepal. *Forktail* 6 (April): 85–87.

Baral, H. S., Wattel, J., Brewin, P., & Ormerod, S. J., 2007. Status, distribution, ecology and behaviour of Rufous-rumped Grass-warbler *Graminicola bengalensis* Jerdon with reference to Nepal. *Journal of the Bombay Natural History Society* 103 (1): 44–48 (2006).

BirdLife International. 2001a. *Threatened birds of Asia: The BirdLife International Red Data Book. Part A.* 1st ed. Cambridge, UK: BirdLife International. Vol. 1 of 2 vols. Pp. i–xxx, 1–1516.

BirdLife International. 2001b. *Threatened birds of Asia: The BirdLife International Red Data Book. Part B.* 1st ed. Cambridge, UK: BirdLife International. Vol. 2 of 2 vols. Pp. 4 ll., 1517–3038.

BirdLife International. 2015. Threatened birds. Website URL: http://www.birdlife.org/. [Accessed on various dates in October–November 2015.]

Choudhury, A., 2006. *Birds of Manas National Park*. 1st ed. Guwahati, India: Gibbon Books & The Rhino Foundation for Nature in NE India. Pp. 1–80+4.

Director., ed., 1998. *Fauna of Conservation Areas No.10: Fauna of Valmiki Tiger Reserve*. Zoological Survey of India, Calcutta.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent*. 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Gurung, K. K., 1983. *Heart of the Jungle*. 1st ed. London & Kathmandu: André Deutsch & Tiger Tops Pvt Ltd. Pp. i–x, 1–197.

Inskipp, T. P., & Inskipp, C., 1980. Notes on birds recorded in Nepal, April–May 1980. Unpublished.

Islam, Z.-u., & Rahmani, A. R., 2004. *Important Bird Areas in India. Priority sites for conservation*. 1st ed. Mumbai: Indian Bird Conservation Network: Bombay Natural History Society and BirdLife International (UK). Pp. i–xviii, 1–1133.

IUCN. 2015. IUCN Red List of threatened species. Website URL: http://www.iucnredlist.org/. [Accessed on various dates in October–November 2015.]

Javed, S., & Rahmani, A. R., 1991. Swamp Francolin in the north Indian terai. *WPA News* 34: 15–18.

Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives*. 1st ed. New Delhi: Om Book Service. Pp. 1–352.

Kruckenhauser, L., Haring, E., Pinsker, W., Reising, M. J., Winkler, H., Wink, M., & Gamauf, A., 2004. Genetic versus morphological differentiation of Old World buzzards (genus *Buteo*, Accipitridae). *Zoologica Scripta* 33: 197–211.

Mittermeier, R. A., Gil, P. R., Hoffmann, M., Pilgrim, J., Brooks, T., Mittermeier, C. G., Lamoreux, J., & Da Fonseca, G. A. B., 2004. *Hotspots revisited: Earth's biologically richest and most endangered terrestrial ecoregions*. USA: Cemex Books on Nature.

Mukherjee, A. K., 1986. The ecology and conservaton of the Bengal Florican *Eupodotis bengalensis. In: Wildlife wealth of India (resources and management)*. Majupuria, T. C., (ed.). Bangkok: Tecpress Services: Pp. 305–308.

Naoroji, R., 2007. *Birds of prey of the Indian Subcontinent*. 1st ed. New Delhi: Om Books International. Pp. 1–692.

Sinha, S., 2012. Valmiki: the story of Bihar's forgotten tigers. *Cheetal* 50 (2): 1–13.

Wheeldon, A., 1995. A naturetrek to lowland Nepal, 29 January–11 February 1995. Unpublished birdwatching report.

Appendix

Annotated list of birds recorded in Valmiki Tiger Reserve, during this study, with inputs from Sinha (2012), and Director (1998). Status based upon Ali & Ripley (1987).

Species	Status
Lesser Whistling Duck *Dendrocygna javanica*	R
Common Merganser *Mergus merganser*	W
Ruddy Shelduck *Tadorna ferruginea*	W
Gadwall *Mareca strepera*	W
Indian Peafowl *Pavo cristatus*	R
Common Quail *Coturnix coturnix*	R (?)
Black Francolin *Francolinus francolinus*	R*
Grey Francolin *Francolinus pondicerianus*	R*
Swamp Francolin *Francolinus gularis*	VU/R
Red Junglefowl *Gallus gallus*	R

Species	Status
Kalij Pheasant *Lophura leucomelanos*	R
Little Grebe *Tachybaptus ruficollis*	R
Rock Pigeon *Columba livia*	R
Yellow-legged Green Pigeon *Treron phoenicopterus*	R*
Oriental Turtle Dove *Streptopelia orientalis*	R
Spotted Dove *Streptopelia chinensis*	R
Red Collared Dove *Streptopelia tranquebarica*	R
Eurasian Collared Dove *Streptopelia decaocto*	R
Emerald Dove *Chalcophaps indica*	R
Grey Nightjar *Caprimulgus indicus*	R, L*

Species	Status
Indian Nightjar *Caprimulgus asiaticus*	R, L
Savanna Nightjar *Caprimulgus affinis*	R, L
Crested Treeswift *Hemiprocne coronata*	R
Asian Palm Swift *Cypsiurus balasiensis*	R
Indian/Nepal House Swift *Apus affinis/nipalensis*	R
Greater Coucal *Centropus sinensis*	R
Lesser Coucal *Centropus bengalensis*	R
Sirkeer Malkoha *Taccocua leschenaultii*	R*
Green-billed Malkoha *Phaenicophaeus tristis*	R
Pied Cuckoo *Clamator jacobinus*	M*
Asian Koel *Eudynamys scolopacea*	R
Common Hawk Cuckoo *Hierococcyx varius*	R
Indian Cuckoo *Cuculus micropterus*	M*
White-breasted Waterhen *Amaurornis phoenicurus*	R
Purple Swamphen *Porphyrio porphyrio*	R
Common Moorhen *Gallinula chloropus*	R
Common Coot *Fulica atra*	W
Sarus Crane *Grus antigone*	VU/O ±
Lesser Adjutant *Leptoptilos javanicus*	VU/R
Asian Openbill *Anastomus oscitans*	R
Black Stork *Ciconia nigra*	W**
Cinnamon *Bittern Ixobrychus cinnamomeus*	R
Black *Bittern Ixobrychus flavicollis*	R
Black-crowned Night Heron *Nycticorax nycticorax*	R
Striated Heron *Butorides striatus*	R
Indian Pond Heron *Ardeola grayii*	R
Cattle Egret *Bubulcus ibis*	R
Grey Heron *Ardea cinerea*	R
Purple Heron *Ardea purpurea*	R
Great Egret *Ardea alba*	R
Intermediate Egret *Ardea intermedia*	R
Little Egret *Egretta garzetta*	R
Little Cormorant *Microcarbo niger*	R
Great Cormorant *Phalacrocorax carbo*	W
Oriental Darter *Anhinga melanogaster*	NT/R
Eurasian Thick-knee *Burhinus oedicnemus*	R
Little Ringed Plover *Charadrius dubius*	R, W
Northern Lapwing *Vanellus vanellus*	W
River Lapwing *Vanellus duvauceli*	NT/R
Yellow-wattled Lapwing *Vanellus malabaricus*	R*
Grey-headed lapwing *Vanellus cinereus*	W
Red-wattled Lapwing *Vanellus indicus*	R
Pheasant-tailed Jacana *Hydrophasianus chirurgus*	R*
Bronze-winged Jacana *Metopidius indicus*	R
Temminck's Stint *Calidris temminckii*	W
[Long-toed Stint *Calidris subminuta*]	W
Common Snipe *Gallinago gallinago*	W
Common Sandpiper *Actitis hypoleucos*	W
Green Sandpiper *Tringa ochropus*	W
Spotted Redshank *Tringa erythropus*	W, P
Common Greenshank *Tringa nebularia*	W
Wood Sandpiper *Tringa glareola*	W
Small Buttonquail *Turnix sylvatica*	R*
Barred Buttonquail *Turnix suscitator*	R
Little Pratincole *Glareola lactea*	R
River Tern *Sterna aurantia*	R
Osprey *Pandion haliaetus*	W
Black-winged Kite *Elanus caeruleus*	R
Oriental Honey Buzzard *Pernis ptilorhyncus*	R
Crested Serpent Eagle *Spilornis cheela*	R

Species	Status
Short-toed Snake Eagle *Circaetus gallucus*	R*
Red-headed Vulture *Sarcogyps calvus*	CR/R*
Himalayan Vulture *Gyps himalayensis*	NT/W**
White-rumped Vulture *Gyps bengalensis*	CR/L**
Slender-billed Vulture *Gyps tenuirostris*	CR/L ±±
Changeable Hawk Eagle *Nisaetus cirrhatus*	R ±±
Booted Eagle *Hieraaetus pennatus*	W*
Western Marsh Harrier *Circus aeruginosus*	W*
Eurasian Sparrowhawk *Accipiter nisus*	R
Shikra *Accipiter badius*	R
Brahminy Kite *Haliastur indus*	L*
Black Kite *Milvus migrans*	R
[Himalayan Buzzard *Buteo refectus*]	W
Brown Hawk Owl *Ninox scutulata*	R
Asian Barred Owlet *Glaucidium cuculoides*	R
Jungle Owlet *Glaucidium radiatum*	R
Spotted Owlet *Athene brama*	R
Collared Scops Owl *Otus bakkamoena*	R*
Brown Fish Owl *Ketupa zeylonensis*	R*
Oriental Pied Hornbill *Anthracoceros albirostris*	R
Indian Grey Hornbill *Ocyceros birostris*	R
Common Hoopoe *Upupa epops*	R
Northern Wryneck *Jynx torquilla*	W, P*
Lesser Golden-backed Woodpecker *Dinopium benghalense*	R
Streak-throated Woodpecker *Picus xanthopygaeus*	R
Grey-headed Woodpecker *P. canus*	R
Great Slaty Woodpecker *Mulleripicus pulverulentus*	VU/R ±
Fulvous-breasted Woodpecker *Dendrocopos macei*	R
Yellow-crowned Woodpecker *D. mahrattensis*	R
Brown-headed Barbet *Psilopogon zeylanicus*	R*
Blue-throated Barbet *P. asiatica*	R
Coppersmith Barbet *P. haemacephala*	R
Green Bee-eater *Merops orientalis*	R
Chestnut-headed Bee-eater *M. leschenaulti*	R
Blue-tailed Bee-eater *M. philippinus*	M
Indian Roller *Coracias benghalensis*	R
Dollarbird *Eurystomus orientalis*	R
Common Kingfisher *Alcedo atthis*	R
Crested Kingfisher *Megaceryle lugubris*	R
Pied Kingfisher *Ceryle rudis*	R
Stork-billed Kingfisher *Pelargopsis capensis*	R
White-throated Kingfisher *Halcyon smyrnensis*	R
Collared Falconet *Microhierax caerulescens*	R±
Common Kestrel *Falco tinnunculus*	W
Amur Falcon *Falco amurensis*	P
Laggar Falcon *Falco juggar*	NT/R*
Peregrine Falcon *Falco peregrinus* [ssp. *peregrinator/calidus*]	W, R
Plum-headed Parakeet *Psittacula cyanocephala*	R
Red-breasted Parakeet *Psittacula alexandri*	NT/R
Alexandrine Parakeet *Psittacula eupatria*	NT/R
Rose-ringed Parakeet *Psittacula krameri*	R
Vernal Hanging *Parrot Loriculus vernalis*	R
Indian Pitta *Pitta brachyura*	M
Small Minivet *Pericrocotus cinnamomeus*	R
Scarlet Minivet *Pericrocotus flammeus*	R
Large Cuckooshrike *Coracina javensis*	R
Black-headed Cuckooshrike *Lalage melanoptera*	M
Indian Golden Oriole *Oriolus kundoo*	R, M
Black-hooded Oriole *Oriolus xanthornus*	R
Ashy Woodswallow *Artamus fuscus*	R

Species	Status
Common Woodshrike *Tephrodornis pondicerianus*	R
Common Iora *Aegithina tiphia*	R
Black Drongo *Dicrurus macrocercus*	R
Ashy Drongo *Dicrurus leucophaeus*	R, W
White-bellied Drongo *Dicrurus caerulescens*	R*
Bronzed Drongo *Dicrurus aeneus*	R
Hair-crested Drongo *Dicrurus hottentottus*	R
Greater Racket-tailed Drongo *Dicrurus paradiseus*	R
White-browed Fantail *Rhipidura aureola*	R
Brown Shrike *Lanius cristatus*	W
Bay-backed Shrike *Lanius vittatus*	R, L*
Long-tailed Shrike *Lanius schach*	W
Grey-backed Shrike *Lanius tephronotus*	W
Grey Shrike *Lanius excubitor*	R*
Rufous Treepie *Dendrocitta vagabunda*	R
Red-billed Blue Magpie *Urocissa erythrorhyncha*	R*
House Crow *Corvus splendens*	R
Large-billed Crow *Corvus macrorhynchos*	R
Black-naped Monarch *Hypothymis azurea*	R
Indian Paradise Flycatcher *Terpsiphone paradisi*	M*
Thick-billed Flowerpecker *Dicaeum agile*	R
Pale-billed Flowerpecker *Dicaeum erythrorhynchos*	R
Little Spiderhunter *Arachnothera longirostra*	R*
Purple Sunbird *Cinnyris asiaticus*	R
Crimson Sunbird *Aethopyga siparaja*	R
Golden-fronted Leafbird *Chloropsis aurifrons*	R
Black-breasted Weaver *Ploceus benghalensis*	R
Streaked Weaver *Ploceus manyar*	R
Baya Weaver *Ploceus philippinus*	R
Red Munia *Amandava amandava*	R
Indian Silverbill *Euodice malabarica*	R
Scaly-breasted Munia *Lonchura punctulata*	R
Black-headed Munia *Lonchura malacca*	R
House Sparrow *Passer domesticus*	R
Yellow-throated Sparrow *Gymnoris xanthocollis*	R
Olive-backed Pipit *Anthus hodgsoni*	W
Paddyfield Pipit *Anthus rufulus*	R
Western Yellow Wagtail *Motacilla flava*	W
Grey Wagtail *Motacilla cinerea*	W
Citrine Wagtail *Motacilla citreola*	W
White Wagtail *Motacilla alba*	W
Grey-headed Canary Flycatcher *Culicicapa ceylonensis*	W
Grey Tit *Parus major*	R
Ashy-crowned Sparrow Lark *Eremopterix griseus*	R*
Bengal Bush Lark *Mirafra assamica*	R
Indian Bush Lark *Mirafra erythroptera*	R*
Oriental Skylark *Alauda gulgula*	R
Zitting Cisticola *Cisticola juncidis*	R
Grey-breasted Prinia *Prinia hodgsonii*	R
Jungle Prinia *Prinia sylvatica*	R
Ashy Prinia *Prinia socialis*	R
Plain Prinia *Prinia inornata*	R
Common Tailorbird *Orthotomus sutorius*	R

Species	Status
Striated Grassbird *Megalurus palustris*	R
Red-rumped Swallow *Hirundo daurica*	W
Wire-tailed Swallow *Hirundo smithii*	M ±±
Barn Swallow *Hirundo rustica*	R, W
Plain Martin *Riparia paludicola*	R, L
Black Bulbul *Hypsipetes leucocephalus*	W
Black-crested Bulbul *Pycnonotus melanicterus*	R*
Red-whiskered Bulbul *Pycnonotus jocosus*	R
Himalayan Bulbul *Pycnonotus leucogenis*	R
Red-vented Bulbul *Pycnonotus cafer*	R
Yellow-browed Warbler *Abrornis inornata*	W
Dusky Warbler *Phylloscopus fuscatus*	W
Tickell's Leaf Warbler *Phylloscopus affinis*	W
Greenish Leaf Warbler *Seicercus trochiloides*	W
Aberrant Bush Warbler *Horornis flavolivacea*	W, L
Yellow-eyed Babbler *Chrysomma sinense*	R
Oriental White-eye *Zosterops palpebrosus*	R
Chestnut-capped Babbler *Timalia pileata*	R
Puff-throated Babbler *Pellorneum ruficeps*	R
Rufous-rumped Grass Babbler *Graminicola bengalensis*	NT/R
Striated Babbler *Turdoides earlei*	R
Common Babbler *Turdoides caudata*	R*
Jungle Babbler *Turdoides striata*	R
Chestnut-bellied Nuthatch *Sitta cinnamoventris*	R
Indian Nuthatch *Sitta cinnamoventris castanea*	R
Asian Pied Starling *Gracupica contra*	R
Brahminy Starling *Sturnia pagodarum*	R
Chestnut-tailed Starling *Sturnia malabarica*	R
Common Myna *Acridotheres tristis*	R
Bank Myna *Acridotheres ginginianus*	R
Jungle Myna *Acridotheres fuscus*	R
Hill Myna *Gracula religiosa*	R
Indian Robin *Saxicoloides fulicatus*	R
Oriental Magpie Robin *Copsychus saularis*	R
White-rumped Shama *Kittacincla malabaricus*	R
Pale-chinned Blue Flycatcher *Cyornis poliogenys*	R
Verditer Flycatcher *Eumyias thalassinus*	W*
Black-backed Forktail *Enicurus immaculatus*	R
Blue Whistling Thrush *Myophonus caeruleus*	R
Siberian Rubythroat *Calliope calliope*	W*
Red-breasted Flycatcher *Ficedula parva*	W
Little Pied Flycatcher *Ficedula westermanni*	W
Plumbeous Water Redstart *Rhyacornis fuliginosa*	R
White-capped Water Redstart *Chaimarrornis leucocephalus*	R*
Black Redstart *Phoenicurus ochruros*	W*
Blue Rock Thrush *Monticola solitarius*	W
Common Stonechat *Saxicola torquatus*	W
Pied Bushchat *Saxicola caprata*	M
Grey Bushchat *Saxicola ferrea*	W
Scaly Thrush *Zoothera dauma*	W
Orange-headed Thrush *Geokichla citrina*	M, R(?)
Black-throated Thrush *Turdus atrogularis*	W
Brown Rock Chat *Oenanthe fusca*	R*

Abbreviations, legend, and note.

Status: R= resident; W= winter visitor; L= Local movement; M= migrant including summer visitor; P=passage migrant.

Legend: * Director, ed., (1998); ** Sinha (2012); ± Samir Sinha, verbally, 04 November 2015; ±± photo by Samir Sinha in *Birds of Bihar* (Anon., undated).

NB: Director, ed., (1998) included the White-cheeked Barbet *Megalaima viridis* but its range is far away in the Western Ghats, and and it is unlikely to occur in the Valmiki Tiger Reserve. Moreover, the following out-of-range-species were also included, in the same work, without sufficient supporting evidence, and hence, are not included here: Green Imperial Pigeon *Ducula aenea*, Singing Bush Lark *Mirafra cantillans* (listed as *M. javanicus*), Rufous-tailed Lark *Ammomanes phoenicura*, Dusky Crag Martin *Ptyonoprogne concolor*, and Spotted Creeper *Salpornis spilonotus*. The records of Mountain Scops Owl *Otus spilocephalus*, and Rosy Starling *Pastor roseus*, although recorded from not very distant areas, are not included in this list, as relevant details are not published. Both Tawny Pipit *Anthus campestris*, and Long-billed Pipit *Anthus similis* were also listed with sub-specific identification: considering the difficulty in identifying these species, they are intentionally excluded from the list.

Habitat preference by drongos (Dicruridae): a study conducted during non-breeding season in Kakoijana (Proposed) Wildlife Sanctuary, Assam, India

Naba K. Nath, Jyoti P. Das, Hilloljyoti Singha & Hemanta K. Sahu

Nath, N. K., Das, J. P., Singha, H., & Sahu, H. K., 2016. Habitat preference by drongos (Dicruridae): a study conducted during non-breeding season in Kakoijana (proposed) Wildlife Sanctuary, Assam, India. *Indian BIRDS* 10 (6): 64–68.

Naba K. Nath, State Resource Centre Dispur, H/N 31, Faguna Rabha Path, Jatia, Kahilipara Road, Dispur, Guwahati-781006, Assam, India. E-mail: *nabanath@gmail.com* [Corresponding author.]

Jyoti P. Das, Aaranyak, 50, Samanwoy Path, Survey, Beltola, Guwahati 781028, Assam, India. E-mail: *jyoti@aaranyak.org*

Hilloljyoti Singha, Centre for Biodiversity and Natural Resources Conservation, Department of Ecology & Environmental Science, Assam University, Silchar 788011, Assam, India. E-mail: *hilloljyoti.singha@gmail.com*

Hemanta K. Sahu, Zoology Department, North Orissa University, Takatpur, Baripada 757003, Orissa, India. E-mail: *hks_nou@yahoo.com*

Manuscript received on 28 January 2014.

Abstract

In 2004–2005 we conducted a study on the habitat preferences of four species of drongos (Family Dicruridae): Black Drongo (BLD), Bronzed Drongo (BRD), Hair-crested (Spangled) Drongo (SD), and Greater Racket-tailed Drongo (GRTD), in Kakoijana (proposed) Wildlife Sanctuary (KWLS) in Assam, India. This was to understand the preferences of habitat usage amongst congeneric species. Data were collected through direct observation in five different forest habitats: evergreen, edge, logged, monoculture, and mixed–moist deciduous. In each habitat a natural trail was followed to observe the birds, once in a week and thrice a day using 8X40 binoculars. Data on microhabitat, activity first sighted, and association with other bird species were also collected. We found that in degraded habitat conditions, different congeneric species preferred particular habitats. In the same landscape, different species of drongos used different habitats, which was highly significant. GRTD preferred teak monoculture, BLD preferred edge, while both, SD and BRD, preferred mixed–moist deciduous habitat. Preference of microhabitat was also highly significant. Due to microhabitat conditions, a particular species of drongo preferred a particular habitat. GRTD and BRD used trees with 60–90% leaf cover, and chose leafy branches for perching, while BLD's and SD's preferences was the opposite; they perched in the upper canopy of tall trees, rather than on tree saplings, shrubs, or the ground. However, while foraging, they occasionally used middle, and lower canopy. In the pre-selected habitats, activities like perching, calling, foraging, flying, and preening were found to differ for different species of drongos. All the four species of drongos were associated with other bird species. Interestingly, BLD and BRD seem to have avoided each other as inferred from the negative associations that they showed, perhaps due to niche overlap.

Introduction

Animals select resources that are best able to satisfy their nutritional requirements (Manly *et al*. 1993). Since resources are usually not distributed evenly in the environment, it is reasonable to assume that animals prefer some habitats to others (Osborn 2005). A preferred habitat is the one in which an animal is found proportionally more frequently, out of all those available to it (Petrides 1975). Variation in habitat may help explain why a species is present, or abundant, at one location, and absent, or scarce, at another (Javed & Kaul 2003). Birds are known to actively select their habitat on the basis of proximate factors such as features of the landscape, terrain, substrate, vegetative structure, or arrangement of the vegetation (Wiens 1969). Differential habitat selection is one of the principal relationships, which permits species to co-exist (Rosenzweig 1981).

The present study, on the habitat preferences of four species of drongos (Dicruridae), was conducted in the Kakoijana (Proposed) Wildlife Sanctuary (hereinafter, KWLS) in Assam, India. We wanted to understand how congeneric species prefer habitats for their different activities, and thereby separate themselves in different habitats. Of the seven species of drongos found in north-eastern India (Grimmett *et al*. 1999), including Assam (Choudhury 2000), four that are commonly sighted in KWLS (Das *et al*. 2007), were considered in this study: These are Black- *Dicrurus macrocercus* (hereinafter, BLD), Bronzed- *D. aeneus* (hereinafter, BRD), Spangled- *D. hottentottus* (hereinafter, SD), and Greater Racket-tailed Drongo *D. paradiseus* (hereinafter, GRTD).

Study area

KWLS (26.33º–20.35ºN, 90.55º–90.57ºE) is situated on the banks of Aie River 15 km east of Bongaigaon town, headquarters of the eponymous district (Fig. 1). Vegetation in KWLS comprises mixed moist deciduous forest (Singha & Borah 2001), which includes *Tectona grandis* plantations, natural *Shorea robusta* patches, scattered bamboo groves, and saplings of miscellaneous tree species. Two national highways—NH31C in the north, and NH31 on the south—border KWLS. It faces tremendous human pressure as more than 21 revenue villages, chiefly dependent on agriculture, surround it. The climate is 'subtropical with pronounced monsoon' with three distinct seasons: winter, summer, and monsoon (Borthakur 1986). The annual rainfall ranges from 2500 to 3500 mm, and the temperature ranges from 13ºC in December–January to 32ºC in May–June (National Information Center, Bongaigaon). The general topography of the region is undulating and hilly. The hills run in a western direction and have moderate slopes. Several streams intersect the physiography, but most of them have dried out, probably due to excessive extraction of timber; except the *Kalikapat* stream that flows through the forest and drains into paddy fields.

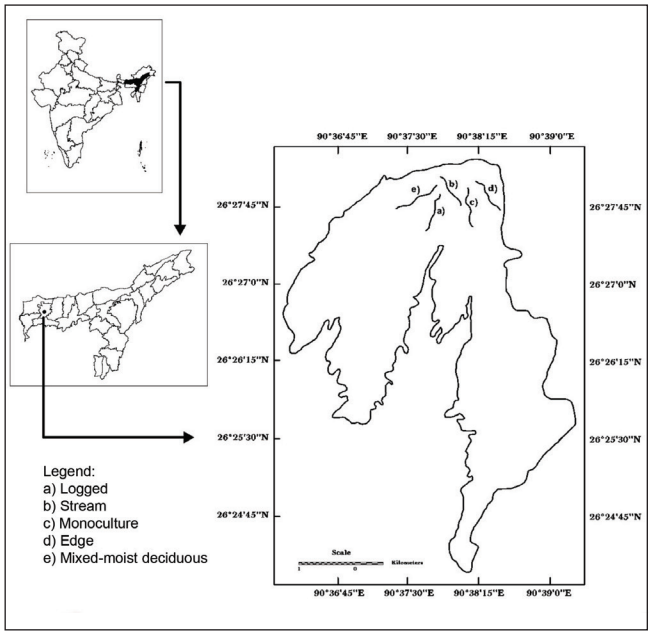

Fig. 1. Map of the study area in the Kakoijana (Proposed) Wildlife Sanctuary in Assam, India

Methodology

Fieldwork commenced in mid-December 2004. Data collection began from January to March 2005. The habitat preferences of different species of drongos were investigated through direct observations in different habitats. Five different habitats were selected, namely, riparian evergreen, edge (between monoculture plantations and paddy field), logged (completely degraded forest), monoculture (teak plantation), and mixed moist deciduous forest (hereinafter, MMD). In each selected habitat a natural trail was followed to observe the drongos. Each trail was surveyed once in a week, and three times a day: in the morning, at noon, and in the evening. The drongos were studied within the same habitat patch, on each side of the trail with the help of a pair of 8x40 binoculars, and identified with the help of Grimmett *et al*. (1999). When the first drongo (the focal bird) was spotted, its activity was recorded, as first sighted. Five kinds of activities were categorised: perching, calling, foraging, flying, and preening. If the focal drongo was visible in the locality for more than five minutes, the next data collection continued after each five-minute interval. The first activity observed in the beginning of each bout was recorded. Simultaneously, the microhabitat around the focal bird, and its association with other bird species, including other drongos, were recorded. The microhabitat study included recording the use of substratum for perching (whether a tree or others: tree-sapling, shrub, or ground); part of canopy used (i.e., upper-, middle-, or lower- canopy, in the case of trees); status of perching branch (whether leafy, or leafless, in the case of trees); and leaf cover of the perching tree. For estimation of leaf cover, four different categories were considered: A = 1–30% cover, B = 30–60%, C = 60–90%, and D = no cover. However, all the observations were based on visual records. In case of SD, which is predominantly a nectar feeder, its association with flowering trees was also noted. To study the association of drongos amongst congenerics, and with other bird species, we recorded the number of individuals of different birds within a three-meter radius of the focal drongo. Statistical analyses were followed as per Fowler & Cohen (1986), and the association index was calculated following Southwood (1978): $I_{ai} = 2\ [(F/A + B) - 0.5]$, where F = number of individuals of A and B in samples where both species are present, and A and B = total of individuals of A and B in all samples. The range of association is from −1 (no association) to +1 (full association).

Results

Habitat preference

Due to heavy biotic pressures, KWLS is being severely degraded. In this degraded habitat, different species of drongos preferred specific habitats. The habitat preference shown by them was highly significant. GRTD preferred teak monoculture habitat ($\chi^2_3 = 9.5$, $P < 0.05$) among the five habitats studied. BLD preferred edge habitat ($\chi^2_3 = 34.88$, $P < 0.01$), while both, SD ($\chi^2_3 = 13.32$, $P < 0.01$), and BRD ($\chi^2_3 = 14.04$, $P < 0.01$) preferred mixed-moist deciduous habitat. We did not find any drongos in logged habitat.

Activities

Drongos performed different activities in different habitats (Fig. 2). GRTD vocalized, and flew oftener in evergreen habitat; foraged, and perched more in mixed-moist deciduous habitat; and seemed to preen only in monoculture habitat. BLD was found calling, perching, and flying more in monoculture habitat, while foraging and preening only in the edge habitat. SD foraged more in the edge habitat, while calling, perching, and flying only in the mixed-moist deciduous habitat. Foraging by BRD was recorded highest in mixed-moist deciduous forest, preening only in edge habitats, while calling, perching, and flying were seen more in evergreen habitat.

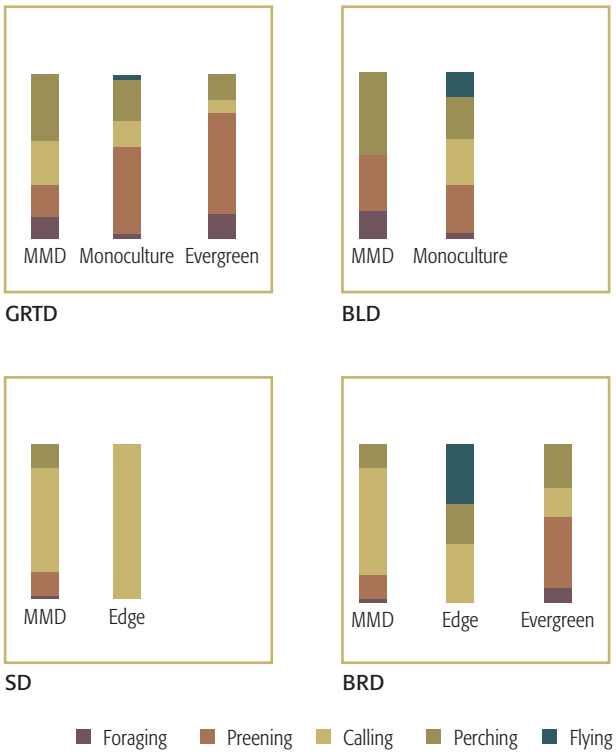

Fig. 2. Different activities of Greater Racket–Tailed Drongo (GRTD), Black Drongo (BLD), Spangled Drongo (SD) and Bronzed Drongo (BRD) observed in different habitats in Kakoijana (Proposed) Wildlife Sanctuary during December 2004–March 2005.

Microhabitat preference

Leaf cover of the perching tree

The difference in leaf cover of the perching tree, used by different species of drongos, was found to be highly significant among the four species ($\chi^2_6 = 85.43$, $P < 0.01$). GRTD and BRD used trees having 60–90% leaf cover, while BLD and SD used mostly the leafless trees.

Use of perching branch (leafy or leafless)

There was a significant difference in use of perching branch among the drongos ($\chi^2_3 = 40.31$, $P < 0.01$). GRTD and BRD mostly used the leafy branches, whereas, BLD and SD used leafless branches.

Use of canopy (upper, middle and lower)

All the four species, significantly, preferred the upper canopy for perching ($\chi^2_6 = 49.1$, $P < 0.01$). However, during foraging they were seen using the middle, and lower, canopy occasionally.

Use of substratum for perching {trees or others (tree-sapling, shrub or ground)}

All the four species of drongos significantly used tall trees for perching, preferring them over tree saplings, shrubs, or the ground ($\chi^2_3 = 31.01$, $P < 0.01$).

SD and its relationship with flowering plant species

We recorded four species of flowering trees—*Dalbergia sisoo, Delonix regia, Erythrina indica, and Bombax ceiba*—on which SD fed. Foraging on *B. ceiba* flowers was the highest ($\chi^2_3 = 61.31$, $P < 0.01$).

Species association

GRTD: Six species of birds associated with GRTD (Table 1). The highest positive association was recorded with Jungle Babbler *Turdoides striatus*, while highest negative association with Grey-backed Shrike *Lanius tephronotus*.

BLD: 15 species of birds associated with BLD (Table 2). The highest positive association was recorded with Common Myna *Acridotheres tristis*, while highest negative association with Eurasian Collared Dove *Streptopelia decaocto*.

SD: Ten species of birds associated with SD (Table 3). The highest positive association was recorded with Red–vented Bulbul *Pycnonotus cafer*, while highest negative association with Common Tailorbird *Orthotomus sutorius*.

BRD: Six species of birds associated with BRD (Table 4). The highest positive association was recorded with Red-vented Bulbul, while highest negative association with Fulvous-breasted Woodpecker *Dendrocopos macei*.

Table 1. Association of Greater Racket-Tailed Drongo with other birds showing the values of Sorensen's association index during December 2004–March 2005 in Kakoijana (Proposed) Wildlife Sanctuary.

Association with other species	No. of association sighted	No. of total individuals sighted	Sorensen's association index (I_{ai})
Jungle Babbler *Turdoides striata*	16	103	0.900
Rufous Treepie *Dendrocitta vagabunda*	11	14	0.462
Red-vented Bulbul *Pycnonotus cafer*	7	18	0.143
Blue Whistling Thrush *Myophonus caeruleus*	4	4	-0.429
Eurasian Collard Dove *Streptopelia decaocto*	3	4	-0.571
Grey-backed Shrike *Lanius tephronotus*	2	2	-0.700

Table 2. Association of Black Drongo with other birds showing the values of Sorensen's association index during December 2004–March 2005 in Kakoijana (Proposed) Wildlife Sanctuary.

Association with other species	No. of association sighted	No. of total individuals sighted	Sorensen's association index (I_{ai})
Common Myna *Acridotheres tristis*	13	48	0.908
Spotted Dove *Streptopelia chinensis*	12	34	0.794
Asian Pied Starling *Gracupica contra*	12	66	0.784
Red-vented Bulbul *Pycnonotus cafer*	10	62	0.472
Jungle Myna *Acridotheres fuscus*	6	18	0.200
Indian Pond Heron *Ardeola grayii*	5	20	-0.019
White Wagtail *Motacilla alba*	3	15	-0.175
Blue-Rock Pigeon *Columba Livia*	3	4	-0.326
Cattle Egret *Bubulcus ibis*	3	18	-0.380
Rufous Treepie *Dendrocitta vagabunda*	4	5	-0.402
White-throated Kingfisher *Halcyon smyrnensis*	2	2	-0.620
Bronzed Drongo *Dicrurus aeneus*	1	2	-0.690
Fulvous-breasted Woodpecker *Dendrocopos macei*	1	1	-0.735
Intermediate Egret *Ardea intermedia*	1	3	-0.812
Eurasian Collared Dove *Streptopelia decaocto*	1	2	-0.857

Table 3. Association of Spangled Drongo with other birds showing the values of Sorensen's association index during December 2004–March 2005 in Kakoijana (Proposed) Wildlife Sanctuary.

Association with other species	No. of association sighted	No. of total individuals sighted	Sorensen's association index (I_{ai})
Red-vented Bulbul *Pycnonotus cafer*	12	45	0.717
Grey-winged Blackbird *Turdus boulboul*	11	31	0.641
Jungle Myna *Acridotheres fuscus*	10	31	0.615
Asian Pied Starling *Sturnus contra*	9	33	0.400
Common Myna *Acridotheres tristis*	8	19	0.394
Chestnut-tailed Starling *Sturnia malabarica*	8	27	0.297
Blue-throated Barbet *Megalaima asiatica*	4	4	-0.529
Rufous Treepie *Dendrocitta vagabunda*	3	4	-0.607
Eurasian Collared Dove *Streptopelia decaocto*	3	3	-0.680
Common Tailorbird *Orthotomus sutorius*	2	2	-0.796

Table 4. Association of Bronzed Drongo with other birds showing the values of Sorensen's association index during December 2004–March 2005 in Kakoijana (Proposed) Wildlife Sanctuary.

Association with other species	No. of association sighted	No. of total individuals sighted	Sorensen's association index (I_{ai})
Red-vented Bulbul *Pycnonotus cafer*	9	24	0.460
Spotted Dove *Streptopelia chinensis*	6	17	0.143
Oriental Magpie Robin *Copsychus saularis*	7	9	-0.042
Blue-throated Barbet *Psilopogon asiaticus*	7	7	-0.086
Black Drongo *Dicrurus macrocercus*	1	11	-0.48
Fulvous-breasted Woodpecker *Dendrocopos macei*	2	2	-0.658

Among the drongos, GRTD and SD showed no particular association with other congenerics; however both BLD and BRD seem to have avoided each other as inferred from the negative associations that they showed (see Tables 2 & 4). The focal species BLD had negative association with BRD (-0.690), while the focal species BRD had negative association with BLD (-0.48).

Discussion

Birds select habitats on the basis of "sign stimuli" that convey information about ultimate factors such as food, protection, and nest site availability (Lack 1933, 1949; Svardson 1949; Hilden 1965). Out of five habitats studied, all drongo species were found to avoid logged forest; however, GRTD and BRD were found to frequent three habitats, while BLD and SD frequented two. On the other hand, MMD and edge habitat were used by three species of drongos, while two used monoculture and

evergreen habitats. The preference of habitats could be explained by the availability of their basic requirements in the microhabitats we studied, which are described below.

The preference of monoculture habitat by Greater Racket-tailed Drongo was probably due to presence of tall trees with adequate cover. The selection of trees with good leaf cover and preference of leafy perching branches in the upper canopy also agrees with this. Whistler (1935) also mentioned GRTD inhabits the densest and dampest of the Indian forests. In our study, we noticed GRTD as a shy bird that avoided humans. Though in general, they used upper canopy, during foraging they were seen using the lower and middle canopy of the trees and occasionally came near to the ground. Although, the MMD habitat also seemed suitable for GRTD, human movement was more in this habitat due to presence of a village nearby, and probably for this reason GRTD avoided this habitat. On the other hand, though the evergreen habitat was dense, and provided cover, it lacked tall trees and so was not favored by GRTD.

Bird association in mixed foraging flocks offer improved feeding efficiency and increased protection from predators (Morse 1977). GRTD is often sighted with the mixed flocks of foraging forest birds (Santharam 2005; Nimnuan et al. 2004). Dhanasarnpaiboon & Round (2004) reported the association of GRTD with mixed ground feeding flocks of White-crested Laughingthrush *Garrulax leucolophus*, Long–tailed Broadbill *Psarisomus dalhousiae*, and Silver-breasted Broadbill *Serilophus lunatus*. The tendency of GRTD to associate with Rufous Treepie *Dendrocitta vagabunda*, and other species to form 'mixed hunting parties' is also well known (Neelakantan 1972). We also observed the association of GRTD with Indian Treepie, Jungle Babbler, and other species. GRTD might benefit from such associations, either due to the ease of locating insects flushed by its flockmates, or due to the opportunities for kleptoparasitism (stealing food from flock-mates) (Gill 1995; Hino 1998; King & Rappole 2001; Styring & Ickes 2001). Rahmani (1981) reported the association of GRTD and Common Babbler *Turdoides caudatus* from Aligarh (UP). During associations with Jungle Babbler, we often observed that when the Jungle Babbler was about to capture an insect, the GRTD swooped down in a fly-catching sally, uttering a sharp whistle or screech, and snapped up the prey. There were 16 sightings of GRTD feeding with Jungle Babbler. This suggests a mutually beneficial association between them. The aerially hawking GRTD benefited by capturing insects flushed by babblers; on the other hand, Jungle Babblers may have tolerated GRTD because it provided an increased vigilance against predators (King & Rappole 2001). Even though there was positive association between GRTD and Indian Treepie, their relationship was not as reciprocal as observed between GRTD and Jungle Babbler. On two occasions, we recorded kleptoparasitism of Indian Treepie by GRTD. Other bird species (except Red-vented Bulbul) (Table 1) were found to be negatively associated with GRTD, which probably had no influence on its foraging.

It is quite possible that GRTD pair for life, and they seem to be attached to their territories throughout the year (Neelakantan 1972). During the study period, a GRTD pair was recorded on several occasions in the monoculture habitat defending the area from intruders (e.g., Large Cuckooshrike *Coracina macei* and BLD), which was perhaps their breeding territory.

BLD particularly affects light hill forest (oak, rhododendron, *etc.*), open wooded country, and is often found about cultivation and on the outskirts of habitations (Ali & Ripley 1987). The preference of edge habitat by BLD was probably due to the presence of openness, since this habitat had open cultivated land on one side. BLD mostly preferred upper branches of the trees for perching, preferred bare trees, and was mostly found perched on the leafless branches of trees to get an open, exposed hunting perch, which they find in the edge habitat. Shahabuddin *et al.* (2004) observed that BLD was encouraged by forest degradation. However, the logged habitat also provided open space, but perhaps due to the lack of tall trees BLD did not prefer it.

Although, Ali & Ripley (1987) stated that BLD could be seen singly or in pairs, it was found to be a mixed foraging species. We have recorded BLD in association with 15 other species of birds to form mixed hunting parties (Table 2). However, out of these only five positively associated with BLD. We have also recorded monospecific BLD flocks (10–12 individuals together) on several occasions, mostly perched on the top canopies of the bamboo groves in the edge habitat during drizzling overcast afternoons. Saxena (2005) reported BLD foraging along with Small Bee-eater *Merops orientalis*, Common Myna, Brahminy Starling *Sturnia pagodarum*, House Sparrow *Passer domesticus*, and Red-vented Bulbul. Veena & Lokesha (1993) reported BLD foraging with both, pure, and mixed foraging flocks of Common Myna, and Jungle Myna *A. fuscus*. Mixed foraging of BLD with parakeets, Purple Sunbird *Nectarinia asiatica*, Common Myna, Red-vented Bulbul, and Red-whiskered Bulbul *P. jocosus* was also reported by Patel (2005). However during our study we recorded additional 11 new species, which constituted mixed flocks with BLD (Table 2). Moreover, due to its aggressiveness against crows and raptors, various birds take advantage of its close association. Gilliard (1958) recorded that orioles, and doves, frequently built nests on the same trees as the BLD, and enjoyed safety from crows and hawks. Shukkur & Joseph (1980) reported the nesting of Red-vented Bulbul in the territory of BLD. The bulbuls benefited from BLD's vigorous defense of its territory. As the edge habitat provided vast quantities of insect pests (in the paddy fields) BLD was found to forage exclusively in this habitat.

SD generally affects moist-deciduous, and evergreen forest biotope (Ali & Ripley 1987). Although, we found SD preferred the MMD habitat, its habitat selection was somehow related to the flowering trees present in this habitat, as SD is a predominantly nectar feeding bird (Ali & Ripley 1987). Pittie (1997) points to the need of studying the distribution of SD and its relationship with flowering plants. In MMD habitat we recorded 66.67% (n = 8, seven *B. ceiba* and one *D. sisoo*) flowering trees. The flowering season of *B. ceiba* is January–April, and that of *D. sisoo* is November–February (Hajra & Jain 1978). Hence we saw those trees in full bloom. On the other hand, in the edge habitat there were only 33.33% (n = 4, two *D. regia* and two *E. indica*) flowering trees. The flowering season of *D. regia* is March–July, and of *E. indica*, January–February (Hajra & Jain 1978). Probably due to the greater availability of nectar-bearing flowers in MMD habitat, SD frequented it more, in comparison to the edge habitat.

Though SD preferred no leaf cover, it might be coincidental with the leaf-shedding period of the flowering trees, where they were foraging on flowers.

Like other drongos, SD also joins the mixed foraging parties (passive aggregations of nectarivorous birds). We observed SD associated with ten other bird species (Table 3). However, of these, only six species were found to be positively associated with SD. A very strong competition existed between SD and associated birds. SD was always aggressive towards the associated species during foraging. The moment a SD found any other bird foraging

nearby, or within its foraging vicinity, it immediately chased the bird off and occupied the flower. After sipping nectar from that flower it again chased the nearest foraging bird, and so on. This interspecific competition (outside family) was very common during our study, which, however, was not observed among individuals within the species. Pure flocks of SD (five to six birds) were also noticed on several occasions.

BRD generally prefers broken foothills country, in moist-deciduous, and evergreen forest biotope. It keeps to wooded glades, the edge of forest paths, fire lines and clearings, mixed bamboo jungle, and tea, coffee, and rubber plantations (Ali & Ripley 1987). We found that BRD preferred MMD habitat, which provided sufficient cover, as well as tall trees. BRD always preferred the upper canopy of trees, preferring maximum leaf cover, and perched on the leafy branches. The microhabitat selection of BRD contrasted with what is reported by Ali & Ripley (1987). A possible explanation for this could be the strong interspecific competition observed between BLD and BRD in the study area. On one occasion, we noticed, a flock of 11 BLD chasing a pair of BRD, which, had perhaps accidentally ventured into the edge habitat. BLD and BRD were both negatively associated with each other. Under the same environmental conditions, a positive association may implicit some degree of beneficial interaction, for example, mutualism or complementary resource-partitioning, while a negative association may indicate the detrimental interaction between two species, such as inter-specific competition, or inter-specific interference (Maihaiti & Zhang 2014). Moreover, BLD seemed to strongly occupy, and defend, the entire edge habitat. So, may be due its aggressive behavior, BLD had excluded BRD from the edge habitat.

Although BRD was recorded in association with other birds, it was always seen foraging singly, or in pairs, making aerial sallies to catch insects. This association probably had no influence on foraging of BRD. Instead, the association seemed to be merely a sharing of space, though the benefit to the associated members of being associated with BRD could not be denied.

Our study revealed that in degraded habitat conditions different congeneric species prefer specific habitats. We found that due to microhabitat conditions, a particular species of drongo prefers a particular habitat. Moreover, congeneric drongos live within the same preferred habitat because of niche separation.

Acknowledgement

The study was conducted under a project generously sponsored by *Bombay Natural History Society* (Salim Ali Nature Conservation Fund). We thank Asad R. Rahmani, Director of BNHS for financial support. We greatly appreciate the cooperation of Assam State Forest Department, specially the staff of Hapachara Beat of KWLS. We offer our sincere gratitude to H. P. Panda, Mr. Mrigen Das, Sushil K Dutta, Shrustidhar Rout, Kaushik Deuti, Arnab Bose, Sadashib Nath Sen, and Raju Das for their help and assistance during the study.

References

Ali, S., & Ripley, S. D., 1987. *Compact handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka.* 2nd ed. Delhi: Oxford University Press. Pp. i–xlii, 1 l., 1–737, 52 ll.

Borthakur, M., 1986. Weather and climate of North East India. *The North east Geographer* 18 (1&2): 20–27.

Choudhury, A., 2000. *The birds of Assam.* 1st ed. Guwahati: Gibbon Books & World Wide Fund for Nature-India. Pp. 1–240.

Das, J. P., Nath, N. K., Singha, H., & Sahu, H. K., 2007. Winter birds of Kakoijana (Proposed) Wildlife Sanctuary, Assam, India. *Indian Birds* 3 (1): 16–23.

Dhanasarnpaiboon, S., & Round, P. D., 2004. Foraging of Greater Racket-tailed Drongo (*Dicrurus paradiseus*) and Lesser Racket-tailed Drongo (*D. remifer*) in mixed species bird flocks at Khao Yai National Park. *Natural History Bulletin of the Siam Society* 52: 59–67.

Fowler, J., & Cohen, L., 1986. *Statistics for Ornithologists*. British Trust for Ornithology, Guide No. 22: 74 pp.

Gill, F. B., 1995. *Ornithology*. 2nd ed. W. H. Freeman, San Francisco, CA, USA. Pp. i–xxvii, 1–766.

Gilliard, E. T., 1958. *Living birds of the world*. Chanticleer Press Inc., New York. Pp. 303.

Grimmett, R., Inskipp, C., & Inskipp, T., 1999. *Pocket guide to the birds of the Indian Subcontinent.* New Delhi: Oxford University Press. Pp. 1–384.

Hajra, P. K., & Jain, S. K., 1978. *Botany of Kaziranga & Manas National Park*. Surya international Publications, Dehradun.

Hilden, O., 1965. Habitat selection in birds. *Annales* Zoologici Fennici 2: 53–57.

Hino, T., 1998. Mutualistic and commensal organization of avian mixed species foraging flocks in a forest of western Madagascar. *Journal of Avian Biology*. 29: 17–24.

Javed, S., & Kaul, R., 2003. *Field methods for bird surveys.* 1st ed. New Delhi: Bombay Natural History Society; Department of Wildlife Sciences; Aligarh Muslim University; World Pheasant Association, South Asia Regional Office (SARO).Pp. i–ix, 1–61.

King, D. I., & Rappole, J. H., 2001. Kleptoparasitism of laughingthrushes *Garrulax* by Greater Racket-tailed Drongos *Dicrurus paradiseus* in Myanmar. *Forktail* 17: 121–122.

Lack, D., 1933. Habitat selection in birds. *Journal of Animal Ecology* 2: 239–262.

Lack, D., 1949. The significance of ecological isolation. Pp.299–308. *In* Jepsen, G. L., Simpson, G., & Mayer, F., [ed.] *Genetics, paleontology and evolution*. Princeton Univ. Press, Princeton.

Maihaiti, M., & Zhang, W. J., 2014. A mini review on theories and measures of inter-specific associations. *Selforganizology*, 1(3-4): 206-210.

Manly, B., McDonald, L., & Thomas, D., 1993. *Resource selection by animals, statistical design and analysis for field studies.* Chapman & Hall, London.

Morse, D. H., 1977. Feeding behavior and predator avoidance in heterospecific groups. *Bio Science* 27: 332–339.

Neelakantan, K. K., 1972. On the Southern Racket-tailed Drongo *Dicrurus paradiseus paradiseus* (Linn.). *Journal of the Bombay Natural History Society* 69 (1): 1–9.

Nimnuan, S., Round, P. D., & Gale, G. A., 2004. Structure and composition of mixed species insectivorous bird flocks in Khao Yai National Park. *Natural History Bulletin of the Siam Society* 52 (1): 71–79.

Osborn, F. V., 2005. Habitat selection by bull elephants in central Zimbabwe. *Pachyderm* 39 (July–December): 63–66.

Patel, S., 2005. Adaptations in nesting. *Newsletter for Birdwatchers* 45 (2): 27.

Petrides, G. A., 1975. Principal foods versus preferred foods and their relation to stocking rate and range condition. *Conservation Biology* 7: 161–169.

Pittie, A., 1997. Project: Haircrested Drongo. *Newsletter for Birdwatchers* 37 (3): 48.

Rahmani, A. R., 1981. Large Racket-tailed Drongo and Common Babbler. *Journal of the Bombay Natural History Society* 78 (2): 380.

Rosenzweig, M. L., 1981. A theory of habitat selection. *Ecology* 62 (2): 327–335.

Santharam, V., 2005. Birds seen on a short trip to Peechi, Kerala, India. *Indian Birds* 1 (2): 32–33.

Saxena, R., 2005. Birding in office. *Newsletter for Birdwatchers* 45 (2): 26.

Shahabuddin, G., Verma, A., & Kumar, R., 2004. Birds, forests and conservation: Critical issues in Sariska Tiger Reserve, Rajasthan, India. *Newsletter for Ornithologists* 1 (6): 82–84.

Shukkur, E. A. A., & Joseph, K. J., 1980. Breeding biology of the Black Drongo. *Journal of the Bombay Natural History Society* 75 (Suppl.): 1212–1226.

Singha, H., & Borah, A., 2001. Pilot survey of late winter vegetation in Kakoijana (Proposed) Wildlife Sanctuary, Bongaigaon. Birjhora Mahavidyalaya. Pp. 22.

Southwood, T. R. E., 1978. *Ecological methods* (with particular reference to the study of insect population). The English Language Book Society and Chapman and Hall. Pp. 336.

Styring, A. R., & Ickes, K., 2001. Interaction between the Greater racket-tailed Drongos *Dicrurus paradiseus* and woodpeckers in a lowland Malaysian rainforest. *Forktail* 17: 119–120.

Svardson, G., 1949. Competition and habitat selection in birds. *Oikos* 1: 157–174.

Veena, T., & Lokesha, R., 1993. Association of drongos with myna flocks. Are drongos benefitted? *Journal of Biosciences (Bangalore)* 18 (1): 111–120.

Whistler, H., 1935. *Popular handbook of Indian birds.* 2nd ed. London: Gurney and Jackson. Pp. i–xxviii, 1–513.

Wiens, J. A., 1969. An approach to the study of ecological relationships among grasslanbirds. *Ornithological Monographs* # 8. American Ornithologists' Union, Ithaca, New York. Pp. 93.

Do Cattle Egrets *Bubulcus ibis* in Sri Lanka migrate to breed?

R. L. Jayaratne, I. C.Perera, D. K.Weerakoon, & S. W.Kotagama

Jayaratne, R. L.,Perera, I. C.,Weerakoon, D. K.,& Kotagama, S. W., 2016. Do Cattle Egrets *Bubulcus ibis* in Sri Lanka migrate to breed? *Indian BIRDS* 11 (3): 69–70.

R. L.Jayaratne, Department of Zoology, Faculty of Science, University of Colombo, Sri Lanka. E-mail: *ravindrajayaratne@yahoo.com*[Corresponding author].
I. C.Perera, Department of Zoology, Faculty of Science, University of Colombo, Colombo, Sri Lanka.
D. K.Weerakoon, Department of Zoology, Faculty of Science, University of Colombo, Colombo, Sri Lanka.
S. W.Kotagama, Department of Zoology, Faculty of Science, University of Colombo, Colombo, Sri Lanka.
Manuscript received on 20 January 2016.

The Cattle Egret *Bubulcus ibis* is a common wetland bird in Sri Lanka, and a common member of communal roosting sites of water birds throughout the country. It forages in grasslands, paddy fields, marshes, and garbage dumping sites (Kotagama & Ratnavira 2010). White-coloured Cattle Egrets show a golden buff on their back, neck, and head during the breeding season (Kotagama & Ratnavira 2010).

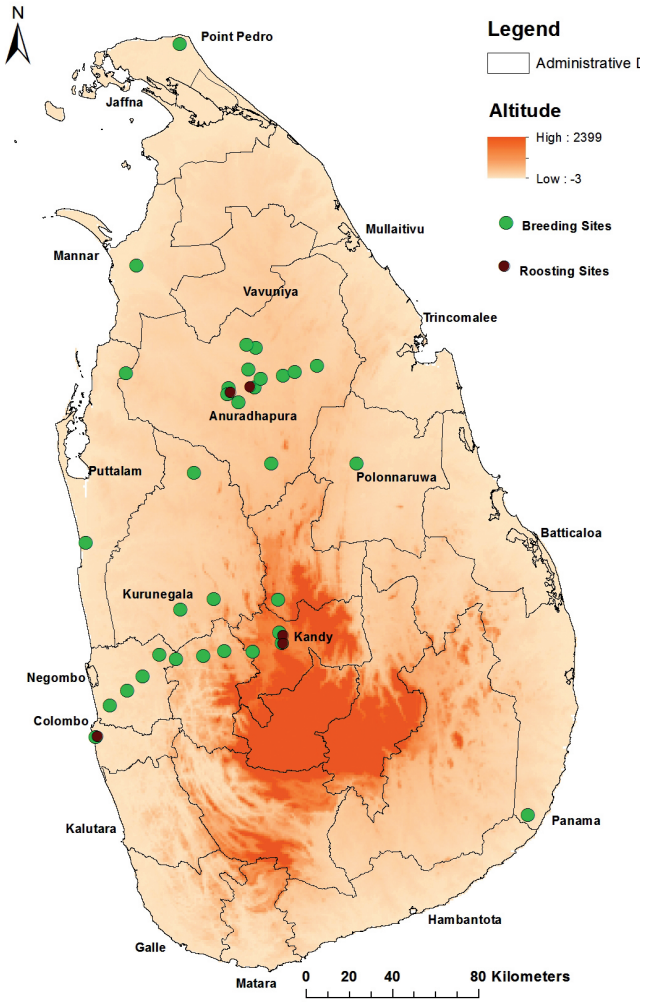

Fig.1. Heronries and roosting sites observed during the study.

Past studies have reported that some populations of Cattle Egrets are migratory, while others are dispersive (Telfair 2006). Cattle Egrets, in the southern plains of Australia, fly to winter areas—ranging from short distances, to more than 2000 km to Tasmania, and New Zealand (Maddock & Geering 1994). According to the studies done in India by Seedikkoya *et al*. (2005), and Kushlan & Hafner (2000), its populations in southern India appear to show local migrations in response to the monsoons. They move northward from Kerala, after June. Further, Rasmussen & Anderton (2005) noted that resident populations of the Cattle Egret, in Sri Lanka, were greatly increased by a winter influx.

Being a widespread species in Sri Lanka, Cattle Egrets should be monitored closely, as migratory Cattle Egrets are sometimes attributed in the spreading of ticks, which may cause human, livestock, and wildlife diseases (Corn *et al*. 1993). Hence, this work was specifically carried out, in Sri Lanka, with two objectives: (a) To find out the monthly variation of the Cattle Egret's population; and, (b) To identify its nesting heronries.

Five roosting sites were selected for this purpose, from three different climatic zones: a Colombo site from the wet zone, sites in Kandy from the montane region, and in Anuradhapura from the dry zone (Fig. 1). Population counts, at selected roosting sites, were carried out from January 2013 to July 2015 by scan sampling. The number of individuals arriving at the roosts, between 1700 and 1830 hrs, were counted twice a month.

Thirty-three heronries, comprising mixed-species, were observed during July–September, every year, from 2013 to 2015, throughout the island, to locate nesting Cattle Egrets (Fig. 1). These are the months when they disappear from their roosting sites for breeding.

The maximum population of Cattle Egrets was recorded during the months of January, and February (Fig. 2). In March, Cattle Egrets began moulting into their breeding plumage, which peaked by the end of May—indicating breeding from June onwards. This is contrary to the observations of Harrison (2011), who report their nesting from December to May.

Cattle Egret populations gradually decreased at roosting sites from March to June—no birds were observed in July, August, and September (Fig. 2). However, small groups of four to five birds in non-breeding plumage were observed in paddies and grasslands during these months. We found that though the number of individuals varies from roosting site to roosting site, from one non-breeding period to another, the total population of Cattle Egrets, excluding the Colombo site, remains relatively stable. We believe this indicates an internal movement of the birds from one roosting site to another.

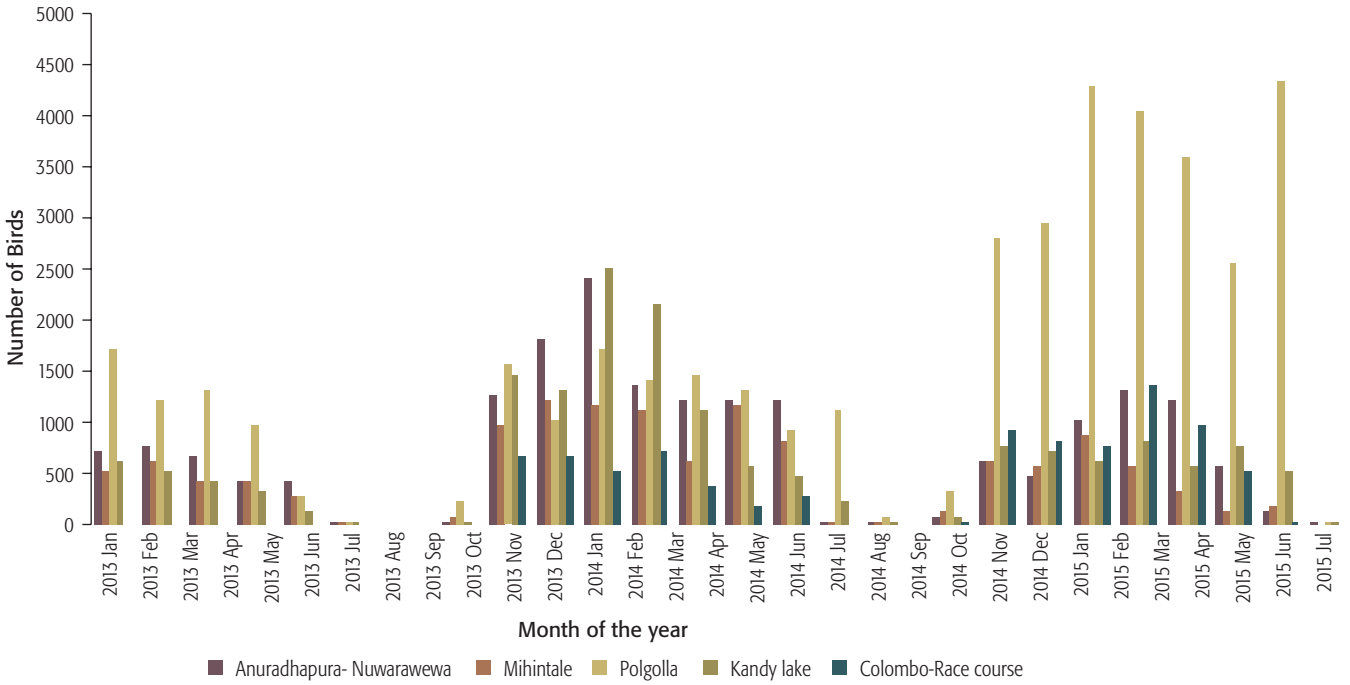

Fig.2. Number of Cattle Egrets recorded from selected roosts between Jan 2013 to July 2015 inbreeding and non-breeding seasons.

Ali & Ripley (1968) in India, and MacCarone and Parsons (1988) in America, have observed that Cattle Egrets nest in mixed colonies along with Cormorants (Phalacrocoracidae), Ibises (Threskiornithidae), and other members of the Ardeidae. However, Arendt & Arendt (1988) in the West Indies, Patankar et al. (2007) in Gujarat, India, Kour & Sahi (2013), in Jammu, India, and Dwevedi *et al.* (2015) in Uttar Pradesh, India have observed mono specific Cattle Egret heronries.

The thirty-three heronries that we observed during July–September comprised a mix of the following species: Little Egret *Egretta garzetta*, Intermediate Egret *Ardea intermedia*, Great Egret *A. alba*, Night Heron *Nycticorax nycticorax*, Purple Heron *A. purpurea*, Indian Pond Heron *Ardeola grayii*, and Grey Heron *A. cinerea*—but no Cattle Egrets, or their nests, were present in them.

Our results strengthen the argument that Cattle Egrets may migrate beyond the boundaries of Sri Lanka to breed. We recommend an expansion of this study to include satellite tracking of Cattle Egrets, to solve this mystery.

Acknowledgements

We are most grateful for financial support through a HETC grant (HETC/CMB/QIGW3). Also thanks to Department of Wild Life and Conservation, Sri Lanka for giving permission to carry out this study, and our sincere thanks to the head, department of Zoology, Faculty of Science, University of Colombo for giving strong support, and advice during the survey. Our special thanks go to Nilantha Kumudu Kumara, and Ranjan Dissanayake, Faculty of Applied Sciences, Rajarata University, Mihintale, Sri Lanka for supporting this study.

References

Ali, S., & Ripley, S. D., 1968. *Handbook of the birds of India and Pakistan together with those of Nepal, Sikkim, Bhutan and Ceylon. Divers to hawks.* 1st ed. Bombay: (Sponsored by the Bombay Natural History Society) Oxford University Press. Vol. 1 of 10 vols. Pp. 2 ll., i–lviii, 1–380, 1 l.

Arendt, W. J., & Arendt, A. I. 1988. Aspects of the breeding biology of the Cattle Egret (*Bubulcus ibis*) in Montserrat, West Indies, and its impact on nest vegetation. *Colonial Waterbirds* 11 (1): 72–84.

Corn, J. L., Barre, N., Thiebot, B., Creekmore, T. E., Garris, G. I., & Nettles, V. F., 1993. Potential role of Cattle Egrets *Bubulcus ibis* (Ciconiformes: Ardeidae), in the dissemination of *Amblyomma variegatum* (Acari: Ixodidae) in the eastern Caribbean. *Journal of Medical Entomology* 30 (6): 1029–1037.

Dwevedi, R., Kumar, A., & Mylswamy, M., 2015. A monospecific colony of Cattle Egret *Bubulcus ibis* in agricultural landscape of central Uttar Pradesh, India. *Indian BIRDS* 10 (6): 149–150.

Geering, D. J., Maddock, M., Cam, G. R., Ireland, C., Halse, S. A., & Pearson, G. B., 1998. Movement patterns of Great, Intermediate and Little Egrets from Australian breeding colonies. *Corella* 22: 37–46.

Harrison, J., 2011. *A field guide to the birds of Sri Lanka.* 2nd ed. Oxford, U.K.: Oxford University Press. Pp. i–xv, 1–208.

Kotagama, S., & Ratnavira, G., 2010. *An illustrated guide to the birds of Sri Lanka.* 1st ed. Colombo: Field Ornithology Group of Sri Lanka, University of Colombo. Pp. I–XX, 1–360.

Kour, D. N., & Sahi, D. N., 2013. Aspects of breeding biology of Cattle Egret, *Bubulcus ibis coromandus* (Boddaert) in Jammu, India. *International Journal of Environmental Sciences* 3 (5): 154–156.

Kushlan, J. A., & Hafner, H., 2000. *Heron Conservation.* Reprint ed. London: Academic Press. Pp. i–xvi, 1–480.

MacCarone, A. D., & Parsons, K. C., 1988. Differences in flight patterns among nesting ibises and egrets. *Colonial Waterbirds* 11: 67–71.

Maddock, M., 1990. Cattle egret: south to Tasmania and New Zealand for the winter. *Notornis* 37 (1): 1–23.

McAllan, I. A., & Bruce, M. D., 1988. The birds of New South Wales: a working list, Biocon Research Group in association with the New South Wales Bird Atlassers. Sydney, Australia.

Patankar, P., Desai, I., Shinde, K., & Suresh, B., 2007. Ecology and breeding biology of the Cattle Egret *Bubulcus ibis* in an industrial area at Vadodra, Gujarat. *Zoos' Print Journal* 22 (11): 2885–2888.

Rasmussen, P. C., & Anderton, J. C., 2005. *Birds of South Asia: the Ripley guide.* 1st ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols. Pp. 1–378; 1–683.

Seedikkoya, K., Azeez, P. A., & Shukkur, E. A. A., 2005. Cattle Egret *Bubulcus ibis* habitat use and association with cattle. *Forktail* 21: 174–176.

Telfair, R. R., 2006. Cattle egret (*Bubulcus ibis*). The birds of North America online (A. Poole, ed.). Cornell Lab. Ornithol., Ithaca. http://bna.birds.cornell.edu/bna/species/113 (last accessed on 29 January 2008).

Status of Greater Spotted Eagle *Clanga clanga* in Tamil Nadu, and Puducherry, India

B. Santhakumar, A. Mohamed Samsoor Ali & P. R. Arun

Santhakumar, B., Ali, A. M. S., & Arun, P. R., 2016. Status of Greater Spotted Eagle *Clanga clanga* in Tamil Nadu, and Puducherry, India. *Indian BIRDS* 11 (3): 71–74.

B. Santhakumar, Environmental Impact Assessment Division, Sálim Ali Centre for Ornithology and Natural History (SACON), Anaikatty, Coimbatore 641108, Tamil Nadu, India.

A. Mohamed Samsoor Ali, Environmental Impact Assessment Division, Sálim Ali Centre for Ornithology and Natural History (SACON), Anaikatty, Coimbatore 641108, Tamil Nadu, India. E-mail: *amsamsoor@yahoo.co.in* [Corresponding author.]

P. R. Arun, Environmental Impact Assessment Division, Sálim Ali Centre for Ornithology and Natural History (SACON), Anaikatty, Coimbatore 641108, Tamil Nadu, India.

Manuscript received on 04 February 2014.

The Greater Spotted Eagle *Clanga clanga* is a globally 'Vulnerable' species (BirdLife International 2015), and its population is declining since a few years, mainly due to habitat destruction, disturbance, and hunting (Meyburg *et al*. 2001). It is a common winter visitor to most of northern India, but rare in the peninsula (Kazmierczak 2000; Ali & Ripley 2007; Grimmett *et al*. 2011), preferring a wide variety of lowland open habitats, particularly wetlands.

On 18 November 2012, we recorded a large, dark eagle perched on a tree branch close to Black-headed Ibis *Threskiornis melanocephalus* nests at Vettangudi Bird Sanctuary (10.10°N, 78.50°E), Tamil Nadu. A few days later, the bird was identified from photographs, and our field descriptions, as an adult Greater Spotted Eagle **[90, 91]**.

This prompted us to do a literature survey for the distribution of this species in Tamil Nadu. Surprisingly, except Rahmani (2012), most other regional references (Naoroji 2006; Grimmett *et al*. 2011; Rasmussen & Anderton 2012) do not provide more than four distributional records in Tamil Nadu. The only previous summary of its status in Tamil Nadu was by Santharam (1999), which was nearly two decades ago. Hence, we intensively searched for, and collected, information on reliable distributional records of the species in Tamil Nadu, and Puducherry from various journals, books, newspapers, avian online forums such as eBird (http://ebird.org), Tamilnadu Birds–Yahoo Groups (https://in.groups.yahoo.com/group/TamilBirds), Facebook bird forums, and different photographic databases (Oriental Bird Images: http://orientalbirdimages.org; India Nature Watch: http://indianaturewatch.net; Internet Bird Collection: http://ibc.lynxeds.com; and Flickr: http://flickr.com). Based on our survey, we present here the distributional records of Greater Spotted Eagle in Tamil Nadu, and Puducherry (Table; Fig. 1).

Photos: A. Mohamed Samsoor Ali

90. The Greater Spotted Eagle *Clanga clanga* perched on a tree *Prosopis juliflora* near to Black-headed Ibis *Threskiornis melanocephalus* nests.

91. A close view of Greater Spotted Eagle *Clanga clanga* perched on *Prosopis juliflora.*

It is noteworthy that Jerdon (1862–1864) reported it as a 'tolerably common' in Carnatic coasts (=the southern Indian states of Tamil Nadu, south-eastern Karnataka, north-eastern Kerala, and southern Andhra Pradesh) in the nineteenth-century, a statement that is used later by both, Ali & Ripley (2007), and Naoroji (2006) to suggest a decline since then. But with the availability of modern photographic equipment in the hands of good photographers, and an increasing number of naturalists, there are many winter sight records of this species from various parts of Tamil Nadu. Admittedly, all the sight records cannot be validated independently, and the possible confusion with the scarcer, resident Indian Spotted Eagle *C. hastata*, or the much rarer dark morph of Tawny Eagle *Aquila rapax*, remains. However, field techniques of bird-watchers have improved dramatically in the last few years due to the sheer number of photographs

Table. Distributional records of Greater Spotted Eagle *Clanga clanga* in Tamil Nadu, and Puducherry, India

Locality	Coordinates	District	Date	No. of birds	Reference	Remarks
Tamil Nadu						
6/21, 3rd St, Chennai	Not available	Chennai	10 December 2014	2	Madhav & Madhav (2014)	Unspecified region at Chennai and not indicated in the map.
Annamalaicheri	13.45°N, 80.25°E	Thiruvallur	16 February 2014	1	Kesavabharathi (2014)	eBird checklist
Bhavanisagar Dam	11.47°N, 77.11°E	Erode	26 November 2015	2	Ashwin (2015)	eBird checklist
Guindy National Park	13.00°N, 80.13°E	Chennai	16 January 1982	1	Santharam (1999)	
			13 November 1982	1		
			28 November 1982	1		
			18 March 1990	2		
			January 2012	1	Anonymous (2012)	Recorded during Chennai Bird Race
Kannankurichi (Mookaneri) Lake	11.68°N, 78.17°E	Salem	06 November 2015	1	Ganeshwar (2015)	eBird checklist
Karaivetti Bird Sanctuary	10.58°N, 79.11°E	Ariyalur	01 February–02 March 2008	1 / 2	Fitzgerald (2008)	One or two birds seen on 24 days between 01 February 2008, and 02 March 2008
			January & March 2010	2	Gokula (2013)	
			23 November 2014	1	Pandiyan (2014)	eBird checklist
Kaveripakkam Lake	12.94°N, 79.45°E	Vellore	22 January 2012	1	Kesavabharathi (2012)	eBird checklist
Koonthankulam Bird Sanctuary	85.8°N, 77.76°E	Tirunelveli	01 March 2015	1	Narayanan (2015a)	eBird checklist
Madurai [=Madura] District	9.56°N, 78.07°E	Madurai	November–April 1930	--	Nichols (1944)	No dates available. Period of stay roughly coincides with our conclusion. Not mapped as record at district level
Manali	13.16°N, 80.25°E	Thiruvallur	30 January 1983	1	Santharam (1999)	
Masinagudi	11.56°N, 76.63°E	Nilgiri	03 December 2011	1	Vasanthan (2011)	Photographed in flight
			14 April 2014	1	Vasanthan (2014)	Probably a Greater Spotted Eagle. An Indian Spotted Eagle cannot be ruled out. This record is not used for latest wintering date.
Mathur	13.17°N, 80.24°E	Thiruvallur	14 March 2015	2	Kesavabharathi (2015)	eBird checklist
Mudaliarkuppam Backwaters / Odiyur Lake	12.21°N, 80.3°E	Kancheepuram	11 April 2009	1	Madhav & Madhav (2009)	eBird checklist
Mudumalai Wildlife Sanctuary	11.58°N, 76.55°E	Nilgiri	Undated	--	Gupta (1997)	Obtained from IBAs in India – Tamil Nadu. No further details
			06 November 2014	1	Irving (2014)	Photographed in flight
Patemanagaram	8°65′N, 77°95′E	Thoothukudi	22 February 2015	1	Narayanan (2015b)	eBird checklist. Photographed in flight
Pulicat Lake	13.33°N, 80.10°E	Thiruvallur	23 February 2014	1	Jayaraman (2014)	eBird checklist
			15 March 2014	1	Rajamani (2014)	eBird checklist
Rameswaram Island	9.11°N, 79.12°E	Ramanatha-puram	February, July, and August 1929–1931	3	Biddulph (1938)	Includes summer records. Likely confusion with resident eagles, and hence not considered further
Samanatham Tank	9.86°N, 78.14°E	Madurai	11 December 2015	1	Nagappan (2015)	eBird checklist. Two photographs of a juvenile
Vallanadu Black Buck Sanctuary	85.6°N, 77.42°E	Thoothukudi	20 February 2015	1	Narayanan (2015c)	eBird checklist. Photographed in flight from two angles
			21 February 2015	1	Narayanan (2015d)	eBird checklist
			01 November 2015	1	Anand (2015a)	eBird checklist. Photograph of an immature
Vadakarai Tank	10.1°N, 77.57°E	Madurai	November 2014	1	Shrikumar (2014)	Reported by birders of Madurai Nature Forum
Vedanthangal Bird Sanctuary	12.32°N, 79.51°E	Kancheepuram	23 March 1985	1	Santharam (1999)	
			November 1995	1	Chandrasekharan (1996)	
			14 and 15 February 1996	2	Santharam (1999)	
			February 2007	1	Anonymous (2007)	
Vettangudi Bird Sanctuary	10.6°N, 78.30°E	Sivagangai	December 2009	2	Jayakumar (2013)	Reported waterbirds nest destruction
			18 November 2012	1	Present study	
			13 December 2015	2	Anand (2015b)	eBird checklist
Puducherry= Pondicherry						
Kaliveli	12.10°N, 79.50°E	Villupuram	25 November to 18 March 1986-1987	3	Perennou (1989)	
			31 January and 29 October 1988	2	Santharam (1999)	
Osudu / Ousteri Lake	11.95°N, 79.74°E	Villupuram	07 December 2014	2	Seshadri (2014)	eBird checklist
			15 January 2015	1	Gawas (2015)	eBird checklist

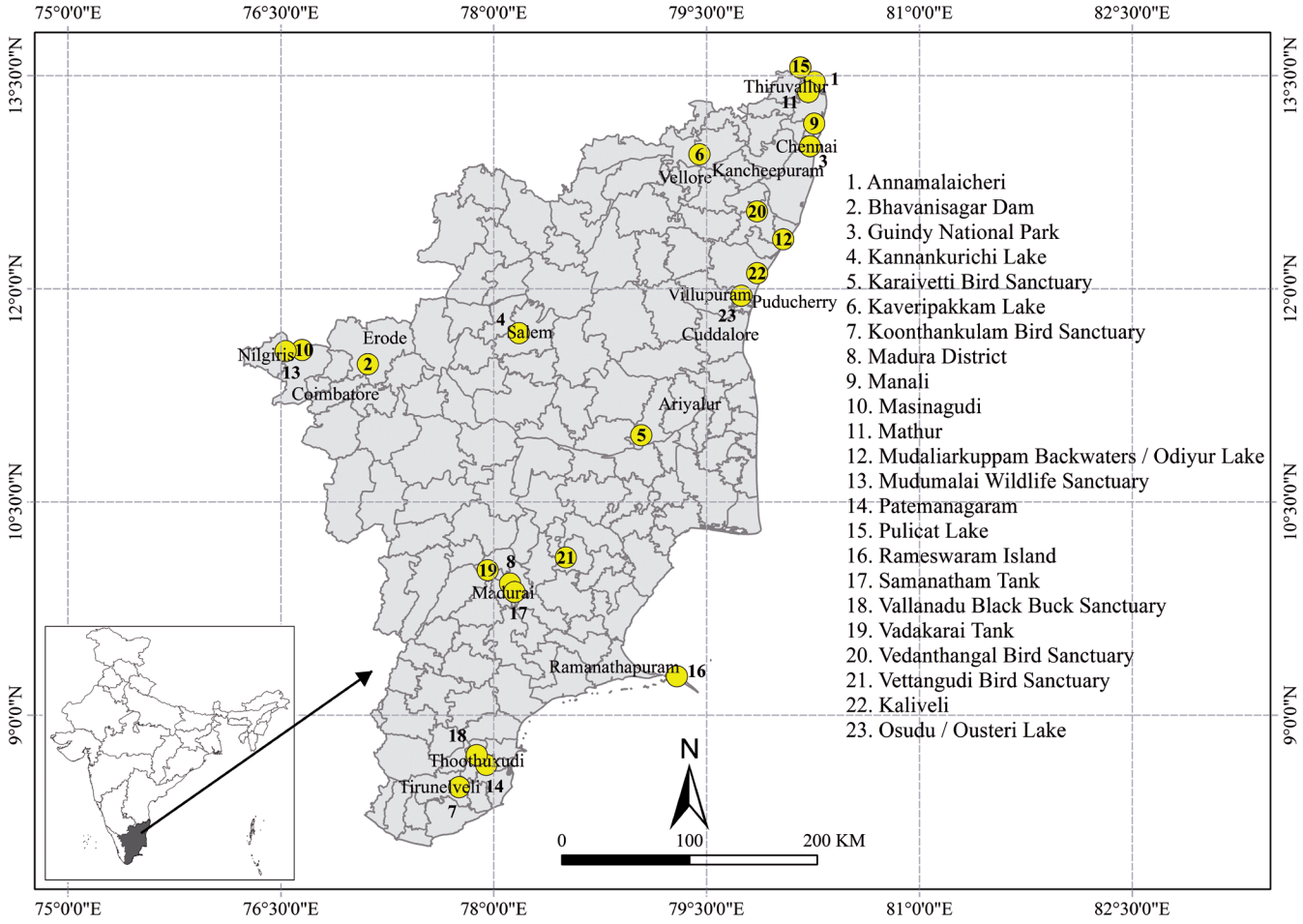

Fig. 1. Sightings of Greater Spotted Eagle *Clanga clanga* in various localities of Tamil Nadu and Puducherry, India.

available for comparison, thereby making most of these sight observations fairly reliable. The earliest wintering date is 29 October (Santharam 1999), and the last winter record is on 11 April (Madhav & Madhav 2009). We conclude that the Greater Spotted Eagle is still a widespread and regularly wintering raptor in the open habitats of Tamil Nadu, and Puducherry.

Acknowledgements

We are thankful to P.A. Azeez, Director, Sálim Ali Centre for Ornithology and Natural History (SACON), for his support, and for providing facilities. We are extremely thankful to Rajah Jayapal, Principal Scientist and Head of Ornithology Division, SACON, for confirming the identification of the Greater Spotted Eagle, based on photographs.

References

Ali, S., & Ripley, S. D., 2007. *Handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka.* 2nd ed. Delhi: (Sponsored by Bombay Natural History Society.) Oxford University Press [Oxford India Paperbacks.]. Vol. 1 of 10 vols. Pp. 2 ll., pp. i–lxiii, 1–384, 2 ll.

Anand, V., 2015a. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S25655626. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Anand, V., 2015b. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S26313401. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Anonymous, 2007. https://in.groups.yahoo.com/neo/groups/Tamilbirds/conversations/topics/309.

Anonymous, 2012. http://www.thehindu.com/news/cities/chennai/chennai-birdrace-to-be-held-on-december-22/article5452613.ece.

Ashwin, H.P., 2015. eBird Checklist: http://ebird.org/ebird/india/view/checklist?subID=S26024637. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Biddulph, C. H., 1938. The birds of Rameshwaram Island. *Journal of the Bombay Natural History Society* 40 (2): 238–257.

BirdLife International, 2015. Species factsheet: *Clanga clanga*. Downloaded from http://www.birdlife.org on 28/09/2015.

Chandrasekharan, S., 1996. New record for Vedanthangal. *Blackbuck* 12: 27–28.

Fitzgerald, S., 2008. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S6492250. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Ganeshwar, S.V., 2015. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S25719849. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Gawas, H., 2015. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S21367398. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Gokula, V., 2013. Avifauna of Karaivetti Bird Sanctuary, Tamil Nadu, India. *Zoos' Print* 28: 23–29.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Gupta, B.K., 1997. Status and distribution of raptors in Mudumalai Wildlife Sanctuary, Tamil Nadu, India. *Tiger paper* 24: 30–32.

Irving, D., 2014. Greater Spotted Eagle (*Aquila clanga*), Mudumalai, India. Website URL: https://flickr.com/photos/dave_irving/13890988617/.

Jayakumar, S., 2013. Organochlorine pesticides, population and reproductive success of fish-eating birds in select heronries in Tamil Nadu. Ph.D. Thesis, Bharathiar University, Coimbatore.

Jayaraman, G., 2014. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S17366334. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Jerdon, T. C., 1862. *The birds of India being a natural history of all the birds known to inhabit continental India: with descriptions of the species, genera, families, tribes, and orders, and a brief notice of such families as are not found in India, making it a manual of ornithology specially adapted for India.* 1st ed. Calcutta: Published by the author at the Military Orphan Press. Vol. I of 2 vols. Pp. i–xlv, 1–535.

Jerdon, T. C., 1863. *The birds of India being a natural history of all the birds known to inhabit continental India: with descriptions of the species, genera, families, tribes, and orders, and a brief notice of such families as are not found in India, making it a manual of ornithology specially adapted for India*. 1st ed. Calcutta: Published by the author (Printed by The Military Orphan Press). Vol. II.-Part I. of 2 vols. Pp. 1–439.

Jerdon, T. C., 1864. *The birds of India: being a natural history of all the birds known to inhabit continental India; with descriptions of the species, genera, families, tribes, and orders, and a brief notice of such families as are not found in India, making it a manual of ornithology specially adapted for India.* 1st ed. Calcutta: Published by the author (Printed by George Wyman and Co.). Vol. II.-Part II. of 2 vols. Pp. i–iv, 2 ll., 441–876, i–xxxii.

Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives.* 1st ed. New Delhi: Om Book Service. Pp. 1–352.

Kesavabharathi, G., 2012. http://ebird.org/ebird/view/checklist?subID=S22017887. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Kesavabharathi, G., 2014. eBird Checklist: http://ebird.org/ebird/gbbc/view/checklist?subID=S17017843. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Kesavabharathi, G., 2015. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S22501224. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Madhav, V., & Madhav, N., 2009. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S20959514. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Madhav, V., & Madhav, N., 2014. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S20911240. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Meyburg, B. U., Haraszthy, L., Strazds, M., & Schäffer, N., 2001. European Species Action Plan for Greater Spotted Eagle (*Aquila clanga*). In: Schäffer, N., & Gallo-Orsi, U., [Eds]. *European Union action plans for eight priority bird species*. Luxembourg: Office for Official Publications of the European Communities.

Nagappan, R., 2015. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S26236438. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Naoroji, R., 2006. *Birds of prey of the Indian Subcontinent.* 1st ed. London: Christopher Helm. Pp. 704.

Narayanan, M., 2015a. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S22136583. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Narayanan, M., 2015b. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S22033780. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Narayanan, M., 2015c. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S21998884. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Narayanan, M., 2015d. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S21998939. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Nichols, E. G., 1944. Occurrence of birds in Madura District [Part I]. *Journal of the Bombay Natural History Society* 44 (3): 387–407.

Pandiyan, R.S. 2014. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S20643387. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Perennou, C., 1989. Southern wintering range of some waterbirds. *Journal of the Bombay Natural History Society* 86 (2): 247–248.

Rahmani, A. R., 2012. *Threatened birds of India: their conservation requirements.* Mumbai: Indian Bird Conservation Network; Bombay Natural History Society; Royal Society for the Protection of Birds; BirdLife International; Oxford University Press. Pp. i–xvi, 1–864.

Rajamani, R., 2014. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S17473870. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide.* 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols. Pp. 1–378; 1–683.

Santharam, V., 1999. Records of Greater Spotted Eagle (*Aquila clanga*) from southern India. *Journal of the Bombay Natural History Society* 96 (3): 470.

Seshadri, T., 2014. eBird Checklist: http://ebird.org/ebird/view/checklist?subID=S20816241. eBird: An online database of bird distribution and abundance [web application]. eBird, Ithaca, New York. Available: http://www.ebird.org.

Shrikumar, A., 2014. http://www.thehindu.com/features/metroplus/environmentalists-from-madurai-nature-forumrecord-over-2500-bird-specimens-at-the-vadakarai tank/article6594972.ece.

Vasanthan, P.J., 2011. Greater Spotted Eagle (*Aquila clanga*): A bird in flight. IBC152127. Accessible at http://ibc.lynxeds.com/node/152127.

Vasanthan, P.J., 2014. Greater Spotted Eagle (*Aquila clanga*): A bird perched. IBC250555. Accessible at ibc.lynxeds.com/node/250555.

Eastern Marsh Harrier *Circus spilonotus* photographed in Chennai, Tamil Nadu, southern India

Gnanaskandan Kesavabharathi & Chandrashekar Sundaram

Kesavabharathi, G., & Sundaram, C., 2016. Eastern Marsh Harrier *Circus spilonotus* photographed in Chennai, Tamil Nadu, southern India. *Indian BIRDS* 11 (3): 75–76.

Gnanaskandan Kesavabharathi, No. 2B Mithila Block, Saibrindavan Apartments, Ramakrishna Nagar, 2nd Main Road, Adambakkam, Chennai 600088, Tamil Nadu, India. E-mail: *gnanaskeshav@gmail.com* [GK]

Chandrashekar Sundaram, No. 18, Thilakar Street, Krishna Nagar Extension, Ullagaram, Chennai 600091, Tamil Nadu, India. E-mail: *mailchandar@gmail.com* [CS]

Manuscript received on 20 February 2016.

The Eastern Marsh Harrier *Circus spilonotus* was formerly considered a conspecific of the Western Marsh Harrier *Circus aeruginosus*. It has been considered a winter visitor to parts of north–eastern India, but is a vagrant elsewhere (Ali & Ripley 2001;Grimmett *et al.* 2001; Naoroji 2006). In fact, Rasmussen & Anderton (2005) listed this species as hypothetical since there were no established specimens from South Asia. However, they included it in the second edition of their work (Rasmussen & Anderton 2012) on the basis of a recent photograph (see below). While sub-adults of the species are harder to separate from either the Western Marsh-, or the Pied Harrier *C. melanoleucos*, identification of adult birds is generally straightforward. Here we report a first sighting of an adult male Eastern Marsh Harrier, with photographic evidence, from Chennai, Tamil Nadu.

On 06 February 2016, we sighted an Eastern Marsh Harrier male flying on the periphery of a lake near Irungattukottai, Chennai (13.02°N, 79.98°E); CS photographed it **[92-94]**. Whenever the bird perched, other harriers mobbed it. It was a bulky bird, about the size of a female Western Marsh Harrier, which was flying next to it.

It had a pronounced head, and a dark, wide ear covert patch. It's under wing was white, with warmer streaking on the coverts. Other identifying features were: the upper wing coverts were speckled black, white, and buff; blackish outer primaries; greyer secondaries, contrasting with a darker mantle; a conspicuous white rump; a grey tail with dull brown barring, and also a darker trailing edge on the upper wing. The structure of the head, wider wing base, plain under wing, and the overall plumage pattern helped us eliminate the closely resembling immature male, and adult female Pied Harrier.

Photo: Chandrashekar S

92. Eastern Marsh Harrier, Chennai.

93.

Photo: Gnanaskandan K

94. Eastern Marsh Harrier showing upper wing pattern.

Historically, Jonathan Eames reported one bird on 08 February 1991, from Periyar Tiger Reserve (9.46°N, 77.24°E), Kerala (Robson 1991) exists, but there is no field description with it that supports the observation. Apart from this, there are no other records of this species from southern India. Tim Inskipp lists several photographs of this species from Odisha (Inskipp 2015), and these appear to be the most southerly records from India. However, none of these records have been written up formally, and many of them comprise sub-adults; none were adult males. A sub-adult male photographed in Boshipota [=Basipota] (22.67°N, 88.30°E), Howrah, West Bengal, on 16 February 2011 (Das 2011a, b), is the basis for its inclusion in Rasmussen & Anderton (2012), and this appears to be the closest documentation. Apart from this, Naoroji (2006) photographed a female of the species

on 08 February 1991, flying in Kaziranga National Park (26.58°N, 93.17°E).

Considering its status, we feel this is a well-documented record of an adult male Eastern Marsh Harrier for India, particularly since it is from southern India.

Acknowledgements

We would like to thank Dipu K., & Praveen J., for confirming the identity of the species, getting its distribution pattern, previous literature, and helping us writing up this note.

References

Das, A., 2011a. Website URL:http://orientalbirdimages.org/images/data/eastern_marsh_harrierdsc_7581.jpg. [Accessed on 23 February 2016.]

Das, A., 2011b. Website URL: http://www.indianaturewatch.net/displayimage.php?id=210483. [Accessed on 23 February 2016.]

Robson, C., 1991. Recent reports: India. *Oriental Bird Club Bulletin* 13 (July): 49–50.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Inskipp, T., 2015. Checklist and bibliography of birds of Odisha. Unpublished. Draft 19 May 2015.

Naoroji, R., 2007. *Birds of prey of the Indian Subcontinent.* 1st ed. New Delhi: Om Books International. Pp. 1–692.

Rasmussen, P. C., & Anderton, J. C., 2005. *Birds of South Asia: the Ripley guide: attributes and status.* 1st ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. 2 of 2 vols. Pp. 1–683.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide: attributes and status.* 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. 2 of 2 vols. Pp. 1–683.

Status of Kessler's Thrush *Turdus kessleri* in western Arunachal Pradesh, India

Pritam Baruah, Shashank Dalvi, & Praveen J.

Baruah, P, Dalvi, S., & Praveen, J., 2016. Status of Kessler's Thrush *Turdus kessleri* in western Arunachal Pradesh, India. *Indian BIRDS* 11 (3): 76–77.

Pritam Baruah, House 3, Padma Path, R. G. Baruah Road, Guwahati 781024, Assam, India. E-mail: *pritambaruah@hotmail.com* [PB]

Shashank Dalvi, Alumnus ofWCS-NCBS Master's Programe, F-21, NCBS, GKVK, Bellary Road, Bengaluru, Karnataka, India. E-mail: *shashank.da@gmail.com* [SD]

Praveen J., B303, Shriram Spurthi, ITPL Main Road, Brookefields, Bengaluru, Karnataka 560037, India. E-mail: *paintedstork@gmail.com* [Corresponding author] [PJ]

Manuscript received on 18 February 2016.

Kessler's Thrush *Turdus kessleri* is a breeding endemic of the eastern, and north-eastern parts of the Tibetan Plateau, "E Qinghai and SW Gansu S to N Yunnan" (Collar 2016), while non-breeding birds occur in south-eastern Xizang, China, and also in the Himalayas of Nepal & Bhutan (Ramussen & Anderton 2012; Collar 2016). Until recently, the only form of documentation for South Asia has been through sight records, while the Sikkim (Meinertzhagen 1927), and Nepal specimens were found to be fraudulent (Rasmussen & Anderton 2012). Discounting Meinertzhagen's Sikkim record, there have been no historical reports from within Indian limits, though it was hypothesised to occur in northern Arunachal Pradesh (Ali & Ripley 2001). Mandelli collected it in November, just north of Sikkim, across the border in Tibet (Blandford 1877). Here, we list a set of recent reports from western Arunachal Pradesh, India, including the first report, which is ours.

PB & SD birded in the Dirang, and Sela Pass, area while on a birding trip to north-eastern India in December 2007, and January 2008. At this time, a single male Kessler's Thrush was spotted in Dirang on 28 December 2007 (27.35°N, 92.23°E; 1700 m asl). SD & PB saw a large thrush flying from a patch of scrub and perch in the open, on an isolated pine tree. Through binoculars the following field marks were easily noted on the individual: black wings and hood, chestnut belly, pale breast contrasting with hood and belly. When the bird dived into the adjoining valley we briefly glimpsed its whitish mantle. These marks identified the bird clearly as a male Kessler's Thrush, excluding four other regularly occurring thrushes from the region: Tickell's Thrush *T. unicolor*, Chestnut Thrush *T. rubrocanus*, Black-breasted Thrush *T. dissimilis*, and Tibetan Blackbird *T. maximus*. No photography was attempted. This is generally a species found at higher elevations (>2700 m). The severe winter must have forced it to a lower elevation, as was the case with several other highland birds occurring below their typical wintering altitudes in western Arunachal (SD unpublished data)—exceptional flocks of Chestnut Thrushes, in 100s, at *c.*1400 m (normally >1800 m), Grey-headed Bullfinch *Pyrrhula erythaca* at ***c.*** 1000 m (normally >1800 m), White-throated Redstart *Adelura schisticeps* at *c.* 2000 m (normally >2800 m), and Ward's Trogon *Harpactes wardi* at 1400 m (normally *c.* >2000 m)—are noteworthy of mention.

Other bird tours were alerted of this sighting, and supporting photographic evidence came up in 2011 when a male **[95]** was photographed at Sela Pass (Table 1), the image of the same bird is on *Oriental Bird Images* (OBI), and was the basis for its inclusion in Rasmussen & Anderton (2012). Since then, on 21 March 2012, there has been another record of a large flock of 75 birds documented in a trip report (Anonymous 2012; Table 1). Till date, all other records have come from the Sela Pass area, above 4000 m asl. This species remains very rare at Sela Pass: an informal inferance of observations to field days, during December–March, yields a paltry ratio of five out of 30+trips (PB=3, SD=10, local guides=20).

Robinson (1989) reported the Kessler's Thrush from Nepal on three different occasions in January–February 1986 at altitudes above 4000 m; perhaps the first report of this species

Table 1. Reports of Kessler's Thrush from Dirang, and Sela Pass, western Arunachal Pradesh

No	Date	Observer	Reference	Remarks
1	28 December 2007	SD & PB	Present work	Sight record
2	20 February 2008	Sujan Chatterjee	Sujan Chatterjee, in e-mail dated 08 February 2016	Presumed to be a single bird. Further details not available.
3	05 February 2011	A tour group of eight birders from England led by Leio De Souza.	Anonymous (2011); Robson (2011); Rasmussen (2013)	Three adult male birds **[95]**. Also, photographed by Chris Knox and included in the trip report and OBI
4	21 March 2012	A tour group of six birders from Denmark lead by local guides	Anonymous (2012); Krabbe (2012)	A flock of 75+ birds with Tibetan Blackbird, possibly on northward migration. Photograph in the report. and in Krabbe (2012).
5	April 2013	Jainy Kuriakose	Pers. comm. 17 March 2016	A single bird seen during third week of April.

Photo: Leio De Souza

95. Kessler's Thrush *Turdus kessleri* at Sela Pass.

from South Asia. Jepson (1991) provides several additional Nepal records with the lowest altitude being 3,440 m. Inskipp *et al.* (2000) list two unpublished references of Kessler's Thrush from Thrumshingla National Park, Bhutan, from 3200 m—both in 2000. Yet another online trip report exists in the same year (Southerland & Southerland 2000). Some of these reports are listed in Robson (2000a). There are subsequent reports from Nepal (Giri & Choudhary 2000a, b; Robson 2000b), and possibly more, which remain unreported. We have not made any attempts to be comprehensive.

It is no surprise that the species might be overlooked; Sela Pass, and adjoining areas were hardly visited, at the time, by birdwatchers in winter, for birding is generally difficult. The species could also occur in the higher reaches of northern Sikkim, and eastern Arunachal Pradesh during winter as these parts adjoin the known range of this species in Tibet.

Acknowledgements

We would like to thank Jennifer De Souza for sending the picture, and Sujan Chatterjee, and Jainy Kuriakose for sharing their sighting details.

References

Ali, S., & Ripley, S. D., 2001. *Handbook of the birds of India and Pakistan together with those of Bangladesh, Nepal, Bhutan and Sri Lanka.* 2nd ed. Delhi: (Sponsored by Bombay Natural History Society.) Oxford University Press [Oxford India Paperbacks.]. Vol. 9 (Robins to Wagtails) of 10 vols. Pp. 2 ll., pp. i–xviii, 1–310, 2 ll.

Anonymous 2011. North East India Assam & Arunachal Pradesh Inc. Higher Altitudes of Dirang. Website URL: http://www.ntbc.org.uk/wp-content/uploads/2013/04/North-East-India-trip-report-2011.pdf. [Accessed on 09 February 2016.]

Anonymous 2012. North-east India: Assam & Arunachal. Website URL: http://allindiabirdingtours.com/wp-content/uploads/PDF/3rd%20trip%20report%20pdf.pdf [Accessed on 09 February 2016.]

Blanford, W. T., 1877. Notes on some birds in Mr. Mandelli's collection from Sikkim, Bhutan and Tibet. *Stray Feathers* 5 (5&6): 482–487.

Collar, N., 2016. White-backed Thrush (*Turdus kessleri*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E. (eds.). *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona. Website URL: http://www.hbw.com/node/58266. [Accessed on 08 February 2016.]

Giri, T., & Choudhary, H., 2000a. Additional sightings! *Danphe.* 9: (1–2) 2.

Giri, T., & Choudhary, H., 2000b. Additional sightings! *Danphe.* 9: (3) 3.

Inskipp, C., Inskipp, T., & Sherub. 2000. The ornithological importance of Thrumshingla National Park, Bhutan. *Forktail* 16: 147–162.

Jepson, P., 1991. The occurrence of Kessler's Thrush *Turdus kessleri* in Nepal. *Forktail* 6 (April): 83–85.

Krabbe, E. 2012. Kessler's Thrush (*Turdus kessleri*). Website URL: http://www.netfugl.dk/pictures.php?id=showpicture&picture_id=47720. [Accessed on 09 February 2016.]

Meinertzhagen, R., 1927. Systematic results of birds collected at high altitudes in Ladak and Sikkim. (Part II.). *Ibis* (12) 3 (4): 571–633.

Rasmussen, P. C., 2013. Then and now: new developments in Indian systematic ornithology. *Journal of the Bombay Natural History Society* 109 (1&2): 3–16 (2012).

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide: attributes and status.* 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. 2 of 2 vols. Pp. 1–683.

Ripley, S. D., 1952. The thrushes. *Postilla* 13: 1–48.

Robinson, T., 1989. Kessler's Thrush (Turdus kessleri) from Nepal. *Journal of the Bombay Natural History Society* 85 (3): 618–619.

Robson, C., 2000a. From the field: Bhutan. *Oriental Bird Club Bulletin* 32: 66.

Robson, C., 2000b. From the field: Nepal. *Oriental Bird Club Bulletin* 32: 70–71.

Robson, C., 2011. From the field: India. *BirdingASIA* 15: 109.

Southerland, T., & Southerland, M., 2000. Trip Report: Western Bhutan, March 13–18, 2000. Website URL: http://www.camacdonald.com/birding/tripreports/Bhutan00.html. [Accessed on 09 February 2016.]

In Memoriam

PRATIBHA PANDEY
(1954–2016)

96. Hooded Pitta courtship display.

A report of the Hooded Pitta *Pitta sordida* from southern West Bengal, India

Moumita Chakraborty, Shiladitya Mukhopadhyay & Sourav Mondal

Chakraborty, M., Mukhopadhyay, S., & Mondal, S., 2016. A report of the Hooded Pitta *Pitta sordida* from southern West Bengal, India. *Indian BIRDS* 11 (3): 78–79.
Moumita Chakraborty, Department of Ecological Engineering & Environmental Management, University of Kalyani, Kalyani 741235, West Bengal, India.
E-mail:*moumitachakraborty1.9.1993@gmail.com*.
Shiladitya Mukhopadhyay, Post Graduate Department of Zoology, Barasat Government College, Barasat 700124, (North 24 Parganas), Kolkata, West Bengal, India.
E-mail: *s21mukherjee@gmail.com*.
Sourav Mondal, Post Graduate Department of Zoology, Vidyasagar College, CL Block, Sector-II, Salt Lake City, Kolkata 700091, West Bengal, India.
E-mail: *sourav.mondal21@gmail.com*.
Manuscript received on 12 December 2015.

The Hooded Pitta *Pitta sordida* (Passeriformes: Pittidae) has an extremely large distributional range. It is common in some parts of this range,for which it has been categorised as 'Least Concern' by the IUCN (BirdLife International 2015).

This species is a summer visitor to the Himalayan foothills, from Himachal Pradesh to Arunachal Pradesh (*cucullata*), north-eastern Bangladesh (Sylhet), and perhaps, Meghalaya, and Nagaland. It is present in the Himalayas mostly during May–August. It migrates (at least) through Meghalaya, and eastern Bangladesh, staying mostly below 400 m, but may go up to 2000 m (Rasmussen & Anderton2012).

Bibhutibhusan Wildlife Sanctuary (23.18°N, 88.77°E; 0.64 sq km) is locally known as Parmadan Forest, and is located on the banks of the Ichhamati River, in North 24 Parganas Forest Division, North 24 Parganas District,West Bengal. Its natural vegetation comprises a varied assemblage of deciduous, and non-deciduous trees, while the undergrowth is thick and dense, comprising mostly ferns, tall grasses, and arum bushes. The core area of the forest, which houses over 200 chital *Axis axis*, is fenced off; visitors are permitted to walk along the road by the fence.

Amit Ghosh first observed a single Hooded Pitta on 14 June 2015 (Amit Ghosh, *verbally*). On 23 June 2015, a pair of Hooded Pitta was spotted during our survey in the area (Fig. 1). One bird was collecting food from the forest floor (core area). Later, a second bird flew over our heads and perched beside it. We photographed them. Initially, we heard frequent calls, and the birds seemed to be interacting with each other. Another pair was sighted on 29 June 2015; one bird stood erect, in a stretched posture, assumed to be courtship behaviour **[96]**. The survey was interrupted for the next few days, due to heavy rain. On 11 July 2015, we spotted a bird carrying nesting material **[97]**. Now the frequency of calls, and the second bird's response to them, was significantly lower. We didn't hear them call during our next two visits (15, and 18 July 2015). The breeding season of the species is May–July (Rasmussen & Anderton 2012). We could not continue our survey of these two nesting pairs after 18 July 2015 due to heavy rains. The buffer, and some parts of the core area of the sanctuary were flooded.

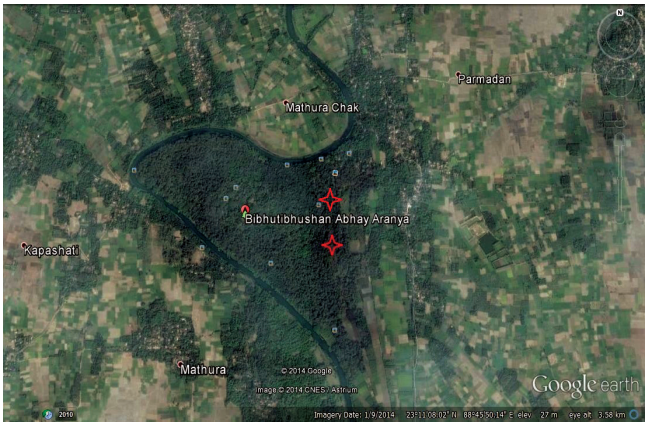

Fig. 1. Sighting locations of Hooded Pitta in Bibhutibhusan Wildlife Sanctuary, West Bengal, India.

97. Hooded Pitta with nesting material.

Photos: Sourav Mondal

The Hooded Pitta had been reported from Buxa Tiger Reserve (Allen *et al*. 1997), along with some scattered photographic documentation from Chapramari Wildlife Sanctuary, Khunia Forest, in northern West Bengal. But it has not been reported in several works from southern West Bengal, spanning the districts: Murshidabad, Nadia, Kolkata, Hooghly, Howrah, and parts of North-, and South 24 Parganas (Roy Chowdhury 1984; Mookherjee 2004; Ghosh 2010). So, these sightings could be the first for the region. Further monitoring in, and around, the sanctuary during summer is needed to elucidate whether its occurrence at Parmadan was accidental or regular.

Acknowledgements

We are grateful to Debjani Sarkar for helping in the preparation of this manuscript. Thanks are also due to Samiran Jha, Dhritiman Mukherjee, Shantanu Prasad, Kanad Baidya, Sandip Das, Mridulkanti Kar, and Soumitra Roy for their encouragement and help.

References

Allen, D., Anderton, J., & Kazmierczak, K., 1997. Report on an ornithological visit to Buxa Tiger Reserve, West Bengal, India, 17 February to 6 March 1992. *Forktail* 12 (August): 31–48.

BirdLife International. 2015. Species factsheet: *Pitta sordida*. Downloaded from http://www.birdlife.org on 28/11/2015.

Ghosh, S., 2010. Urban biodiversity of Calcutta: Flowering plants, butterflies, birds and mammals West Bengal, India. *Records of the zoological survey Of India. Occasional Paper* 327:1–250.

Mookherjee, K., 2004. Birds in and around Kolkata. *Naturalist* III: 4–14.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide.* 2nd ed.Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols.Pp. 1–378; 1–683.

Roy Chowdhury, D. K., 1984. Birds in and around the Calcutta Metropolitan area. *Naturalist* 1: 7-16.

White-browed Crake *Amaurornis cinerea* in Maguri-Motapung Beel, Assam, India: A new species for South Asia

Deborshee Gogoi & Porag Jyoti Phukan

Gogoi, D., & Phukan, P. J., 2016. White-browed Crake *Amaurornis cinerea* in Maguri-Motapung Beel, Assam, India: a new species for South Asia. *Indian BIRDS* 11 (3): 79–80.

Debroshee Gogoi, New Parbatia, Tinsukia 786125, Assam, India. E-mail: *deborshee05@gmail.com*
Porag Jyoti Phukan, Nakari Neogchuk, Tengakhat 786103, Assam, India. E-mail: *pj0802@gmail.com*

Manuscript received on 14 March 2016.

Maguri-Motapung Beel (27.57°N, 95.36°E; hereinafter, the Beel) is a ten square kilometer waterbody situated in Tinsukia town (Tinsukia District, Assam, India). It is an important birding destination for tourists from across the world. This wetland complex is part of the Dibru-Saikhowa Important Bird Area (IBA IN-AS-13) (Islam & Rahmani 2004) but is located just outside the Dibru-Saikhowa National Park and Biosphere Reserve. The Beel (=wetland in Assamese) is located on the southern bank of the Dibru River, which is a tributary of the Brahmaputra. The Beel is connected to the Dibru River by a system of channels, and is very rich in aquatic life. The grasslands adjacent to the northern, and western, parts of the beel are an essential habitat for important grassland species like Black-breasted Parrotbill *Paradoxornis flavirostris*, Marsh Babbler *Pellorneum palustre*, Jerdon's Babbler *Chrysomma altirostre*, Swamp Francolin *Francolinus gularis*, and Swamp Prinia *Prinia cinerascens*. The main grass species here include: *Andropogan* species, *Arundinella bengalensis, Arundinella nepalensis, Narenga porphyrocoma, Saccharum reynaudiana, Saccharum arundinaceum, Saccharum procerum* (Meghela, Bhutang), *Seacharum spotaneum* (Kohua), *Arundo donax* (Nal), *Cynodon dactylon* (Dubori), *Imperata cylindica* (Ulukher), *Erianthus ravennae* (Ikora), *Phragmites karka* (Khagori), *Themeda villosa*, *T. arundinacea*, and *Vetiveria zizanioides* (Birina).

On 05 March 2016 we went birding at the Beel with the prime target of photographing the Critically Endangered (CR) Baer's Pochard *Aythya baeri*, which is a winter visitor to Assam Valley. We were accompanied by Dipankar Phukan, a local bird guide from Maguri. At 1612 hrs, on our way back, we saw a crake in the floating marshes **[98]**. We took few photographs of the bird; it had a gray-black crown, yellowish-green bill, and a black eye stripe that intersects white patches on its eyebrows, and upper cheeks **[99-102]**. The bird had very large, yellowish-green, feet that allowed it to walk on lily pads. After a few minutes we saw another bird in the same marsh, along with a pair of Ruddy-breasted Crake *Porzana fusca*, and a Rusty-rumped Warbler *Locustella certhiola*.

We observed the bird for 38 mins, while sitting quietly on a country boat. The bird was quite bold and most of the time ignored our presence. It walked, and ran, on lily pads and other aquatic vegetation, just like a jacana (Jacanidae). The bird was flicking their tails most of the time while feeding in shallow water full of aquatic vegetation.

Photo: Porag Jyoti Phukan

98. The marsh where the White-browed Crake *Amaurornis cinerea* was spotted.

Photo: Deborshee Gogoi

99. White-browed Crake *Amaurornis cinerea.*

Photo: Deborshee Gogoi

100. White-browed Crake *Amaurornis cinerea.*

Photo: Porag Jyoti Phukan

101. White-browed Crake *Amaurornis cinerea.*

Photo: Porag Jyoti Phukan

102. White-browed Crake *Amaurornis cinerea.*

Our first reaction on spotting them was that we have seen, and photographed, a new species for the area as the birds resembled no *Porzana* crakes that are known to occur in northeastern India. At first, we tried looking for the birds in Kazmierczak (2000), Grimmett *et al.* (2011), and Rasmussen & Anderton (2012). But no illustration matched the species we photographed. Later on, we compared our photographs with the description, and plates provided in Robson (2015), and those available on the Oriental Bird Images website (www.orientalbirdimages.org) and confirmed the species to be a White-browed Crake *Amaurornis cinerea*. This crake is easily distinguishable from sympatric crakes by its strikingly diagnostic face pattern; black eye stripe intersecting white patches on eyebrows and upper cheeks. This seems to be the first record of the species from South Asia.

The White-browed Crake was previously thought to occur mainly south of the Isthmus of Kra, which includes Malaysia, Singapore, Philippines, Indonesia, New Guinea, and North Australia (Taylor 1996). Accordingly, in Southeast Asia, early records were from Malay Peninsula (Robinson & Chasen 1936). In the 1990s, new distribution sites were found across Southeast Asia, including Thailand, Cambodia, Vietnam, and Laos (Mundkur *et al.,* 1995; Robson, 2000, 2004, 2011; Buckton & Safford 2004). Duckworth & Hedges (2007) analysed the distribution records for this species since 1980 and deduced that it has been expanding northward, from a purely Sundaic distribution, and moving almost to China. Recently, this species was observed in different locations throughout south-western China, including Ningming and Baise, Guangxi, in 2012, and 2013, and from Xichang, Sichuan in 2013 (Yu *et al.* 2015). It has been recently reported from Myanmar too, though further location details are unknown (Anonymous 2015).

Birders to north-eastern India should keep a look out for this species in future.

Acknowledgements

We would like to thank Praveen J., Shashank Dalvi, and Ranjan Kr Das for encouraging and guiding us in drafting this short note.

References

Anonymous. 2015. Website URL: http://globalnewlightofmyanmar.com/new-bird-species-found-in-myanmar/. [Accessed on 15 March 2015.]

Buckton, S. T., & Safford, R. J., 2004. *The avifauna of the Vietnamese Mekong Delta. Bird Conservation International* 14: 279–322.

Duckworth, J. W., & Evans, T. D., 2007. First record of White-browed Crake (*Porzana cinerea*) for Laos and its current range in Southeast Asia. *The Wilson Journal of Ornithology* 119 (2): 253–258.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Islam, Z.-u., & Rahmani, A. R., 2004. *Important Bird Areas in India. Priority sites for conservation.* 1st ed. Mumbai: Indian Bird Conservation Network: Bombay Natural History Society and BirdLife International (UK). Pp. i–xviii, 1–1133.

Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives.* 1st ed. London: Pica Press / Christopher Helm. Pp. 1–352.

Mundkur, T., Carr, P., Sun, H., & Chhim, S., 1995. *Surveys for large waterbirds in Cambodia, March–April 1994*. IUCN. United Kingdom: Gland, Switzerland, and Cambridge.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide. 2nd ed.* Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols. Pp. 1–378; 1–683.

Robinson, H. C., & Chasen, F. N., *1936. The birds of the Malay Peninsula. Volume 3*. H. F. & G. Witherby, London, United Kingdom.

Robson, C., 2000. From the field: Laos. *Oriental Bird Club Bulletin* 32: 70.

Robson, C., 2004. From the field: Vietnam. *Birding Asia* 2:105.

Robson, C., 2011. *Field guide to the birds of South-east Asia*. London: New Holland Publishes Ltd.

Robson, C., 2015. *Birds of South-east Asia (concise edition, 2015).* Bloomsberry Publishing.

Taylor, P. B., 1996. Family Rallidae (Rails, Gallinules and Coots). In: *Handbook of the Birds of the World. Hoatzin to Auks*. del Hoyo, J., Elliott, A., & Sargatal, J., (eds.). Barcelona: Lynx Edicions. 3: Pp. 108–209.

Yu, L., Jiang, A., & Zhou, F., 2014. Update on the distribution range of the White-browed Crake (*Porzana cinerea*): a new record from mainland China. *Zoological Research* 36 (1): 59–61.

Ultramarine Flycatcher *Ficedula superciliaris* at Santhigiri, near Kumily, Idukki District, Kerala, India

P. J. George

George, P. J., 2016. Ultramarine Flycatcher *Ficedula superciliaris* at Santhigiri, near Kumily, Idukki District, Kerala, India. *Indian BIRDS* 11 (3): 81–82.
P. J. George, Perunnilathu, Parathode P. O., Kanjirapally 686512, Kerala, India. E-mail: drpjgeorge@gmail.com.
Manuscript received on 26 November 2015.

The Ultramarine Flycatcher *Ficedula superciliaris* is a small, compact, arboreal flycatcher. Its nominate race breeds in India, in the foothills of western Himalaya, from Jammu and Kashmir, and Himachal Pradesh, to Uttarakhand. It winters in central India, straggling to southern India, and is fairly common in appropriate habitats in northern Maharashtra, erstwhile Andhra Pradesh, Odisha, and Karnataka (Rasmussen & Anderton 2012b).

A small, brownish flycatcher was photographed at 1530hrs at Santhigiri (9.61°N, 77.10°E), about eight kilometres away from Kumily in Idukki District, Kerala, on the slightly misty afternoon of 14 November 2015. It was perched on a small tree amidst thick *Lantana camara* bushes on the rocky crest of a thickly wooded hill. This site appears to be a favourite habitat for warblers, flycatchers, sunbirds, flowerpeckers, tits, and treepies; I visit this particular spot several times a year. The bird emerged suddenly, on the low tree, amidst a mixed hunting flock of birds, but it did not move away with the other birds. It remained perched on a low branch for a few minutes, jerking its tail a couple of times. It changed its position, and stance, a few times, looking in all directions, and then darted down into the thick undergrowth and was gone.

Photographs **[103-104]** were circulated on online forums, and the bird was identified as a first-winter Ultramarine Flycatcher. The photos showed a short-tailed, brownish,flycatcher with a pale eye-ring, a short dark beak, and whitish underparts. Prominently seen in both photographs is the greyish half-breastband (a feature that is expected to turn blue as the bird ages), which stands out against a pale throat and mid-breast. **[104]** shows the primary tips, a guide in assessing the length of the short, notched tail; perhaps the central retrices are moulting. There is a strong chestnut cast to the face. A pale white covert bar is visible on both pictures, more like what is seen in some of the leafwarblers (*Phylloscopus*, and *Seicercus* species). Identification as a first-winter male Ultramarine Flycatcher is based on the prominent breast band, pale covert bar, and overall structure. Its posture and behaviour were also quite appropriate for a wintering Ultramarine Flycatcher, which keeps mostly to small trees, and bushes, and can be part of mixed hunting flocks.

Photos: P. J. George

103. Ultramarine Flycatcher *Ficedula superciliaris*.

104. Ultramarine Flycatcher *Ficedula superciliaris*.

Upon confirming that it was an Ultramarine Flycatcher, it was posted in eBird (www.ebird.org) with these pictures (George 2015) where further records from southern India are available.

The Ultramarine Flycatcher was first reported from southern India by Ali & Whistler (1942), during the Mysore bird survey,when they procured a specimen from Devarayanadugra State Forest, Tumkur District, Karnataka; they thought it was a 'remarkable range extension'. This is the only record from southern, and south-western, India that features in Grimmett *et al.* (1999). It is listed as a 'vagrant' to Goa (Lainer & Alvares 2013), where a single specimen was collected, and is in the BNHS Collection (Abdulali 1985). The Bengaluru area (Karnataka) has been generally accepted as its southern-most wintering range, and includes some published (Hemanth 1988; Karthikeyan & Prasad 1993), and online records (Bhatia 2009; Mohan 2015; Shenoy 2016). Kazmierczak (2000) also lists four records from Karnataka, two of them from the whereabouts of Bengaluru, which undoubtedly refer to prior published records. Nandi Hills, lying 60 km north-north-east of Bengaluru, is a well-known wintering site for this species, and from where at least 16 independent records are listed in eBird (eBird 2016), starting from February 2005 till January 2016, which includes one that was published (Lethaby 2006). Oriental Bird Images (http://www.orientalbirdimages.

org/, Accesssed on 17 February 2016) contains four photo records (five images) from Nandi Hills since December 2004. It has been reported once from Melkote, Mandya District (Koulagi 2012), which is *c.*100km south-west of Bengaluru. Five reports from Horsley Hills, and Rishi Valley (Andhra Pradesh) (eBird 2016), one from Sandur (Karnataka) (Ghorpade 1974), and two from Dharwad (Karnataka) (eBird 2016) further substantiate its regular wintering status, in appropriate habitats, in the intervening areas of the Deccan. Records also exist from further north, from Telangana, and north-eastern Andhra Pradesh, but are not being listed here. However, there are no reports south of a Bengaluru–Melkote axis in Karnataka, or in Tamil Nadu. For Kerala, Sashikumar *et al.* (2011) include this species only in the secondary list, citing a single record from Silent Valley National Park (Ajaykumar & Nayar 1999); this is not included in the checklist of birds of Kerala (Praveen 2015). Apart from the single records from Goa, and Silent Valley National Park, there are no reports from the intervening Western Ghats. In this context, the maps in Grimmett *et al.* (2011), and Rasmussen & Anderton (2012a) that show the entire south-western India, northern Kerala, and north-western Tamil Nadu as its wintering range seem an oversimplification. The map in *HBWAlive* (Clement & Juana 2016) is more accurate with regard to this southern wintering range, excluding most of south-western India. It remains to be seen if more Ultramarine Flycatchers get reported from other parts of the Western Ghats.

Acknowledgements

Sincere thanks to both, Dipu Karuthedathu, and Praveen J., for species identification and support.

References

Abdulali, H., 1985. A catalogue of the birds in the collection of the Bombay Natural History Society-29.Muscicapidae (Muscicapinae, Pachycephalinae). *Journal of the Bombay Natural History Society* 82 (1): 87–113.

Ajaykumar, B., &Nayar, T. S., 1999. Sighting of Whitebrowed Blue Flycatcher Muscicapa superciliaris in Silent Valley, Kerala. *Journal of the Bombay Natural History Society* 96 (1): 145.

Ali, S., & Whistler, H., 1942.The birds of Mysore. Part II. *Journal of the Bombay Natural History Society* 43 (3): 318–341.

Bhatia, G. 2009. Ultramarine Flycatcher (*Ficedula superciliaris*), Valley School, Karnataka. Website URL: http://www.migrantwatch.in/sighting.php?id=5284. [Accessed on 17 February 2016.]

Clement, P., & de Juana, E., 2016. Ultramarine Flycatcher (*Ficedula superciliaris*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E. (eds.). *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona. Website URL: http://www.hbw.com/node/59072 [Accessed on 13 February 2016.]

George, P. J., 2015. Website URL: http://ebird.org/ebird/view/checklist?subID=S25872990. [Accessed on 17 February 2016.]

Ghorpade, K. D., 1974. Preliminary notes on the ornithology of Sandur, Karnataka. *Journal of the Bombay Natural History Society* 70 (3): 499–531.

Grimmett, R., Inskipp, C., & Inskipp, T., 1999. *Pocket guide to the birds of the Indian Subcontinent.* New Delhi: Oxford University Press.Pp. 1–384.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm.Pp. 1–528.

Hemanth, J., 1988. Whitebrowed Blue Flycatcher. *Newsletter for Birdwatchers* 28 (5-6): 17–18.

Karthikeyan, S., & Prasad, J. N., 1993.Recent sighting of Whitebrowed Blue Flycatcher in Bangalore. *Newsletter for Birdwatchers* 33 (1): 8.

Koulagi, S., 2012. Melkote Temple Wildlife Sanctuary. *Hornbill* 2012 (April–June): 34–37.

Lainer, H., &Alvares, R., 2013. *Birds of Goa.* Goa, India: The Goa Foundation & Department of Forests, Goa.Pp. i–x, 1–240.

Lethaby, N., 2006.A visit to Nandi Hills, Karnataka, India. *Indian Birds* 2 (5): 141–142.

Mohan, D., 2009. Website URL: http://ebird.org/ebird/view/checklist?subID=S21489616. [Accessed on 17 February 2016.]

Praveen J., 2015. A checklist of birds of Kerala, India. *Journal of Threatened Taxa*. 7: (13) 7983–8009.

Rasmussen, P. C., & Anderton, J. C., 2012a. *Birds of South Asia: the Ripley guide: field guide.* 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. 1 of 2 vols. Pp. 1–378.

Rasmussen, P. C., & Anderton, J. C., 2012b. *Birds of South Asia: the Ripley guide: attributes and status.* 2nd ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. Vol. 2 of 2 vols. Pp. 1–683.

Sashikumar, C., Praveen J., Palot, M. J., &Nameer, P. O., 2011. *Birds of Kerala: status and distribution.* 1st ed. Kottayam, Kerala: DC Books.Pp. 1–835.

Shenoy, M., 2016. Website URL: http://ebird.org/ebird/view/checklist?subID=S27438963. [Accessed on 17 February 2016.]

Letters to the Editor

Comments on total albinism in Red-vented Bulbul in Sri Lanka

This is with reference to the case of total albinism reported for a Red-vented Bulbul *Pycnonotus cafer*, in Sri Lanka, by Gabadage *et al.* (2015).

A recent paper on colour aberration in birds proposes a uniform system of nomenclature for colour aberrations in birds, and discusses the difficulties in correctly identifying colour aberrant birds in the wild. It states that the most commonly misapplied names are, 'albino', and 'partial albino', with the term 'albino' being the most widely used but, correctly identified only in very few cases (van Grouw 2013). An identification key is given in Table 1 in this reference to identify the most common colour aberrations in birds.

In this case, the juvenile Red-vented Bulbul is not an albino. Also the terms 'total albinism' and 'partial albinism' are misnomers. Readers may refer to van Grouw (2013) for details. Correct identification of colour aberrant birds is extremely difficult, and trying to name the mutation correctly, a challenge.

References

Gabadage, D. E., Botejue, W. M. S., Dias, A. S., Surasinghe, T. D., & Karunarathna, D. M. S. S., 2015. A case of total albinism in a Red-vented Bulbul *Pycnonotus cafer*. *Indian BIRDS* 10 (6): 162–163.

van Grouw, H., 2013. What colour is that bird? The causes and recognition of common colour aberrations in birds. *British Birds* 106: 17–29.

– Prasad Ganpule
C/o The Parshuram Pottery Works
Nazarbaug, Morbi 363642, Gujarat, India
E-mail: *prasadganpule@gmail.com*

Editor's note: Hein Van Grow has checked the original photos, and confirms the mutation involved is 'Ino' (see details in van Grow 2013). The plumage is not bright white and clearly shows a minimal amount of melanin pigmentation left, giving the plumage a pale, cream colour. The eyes are reddish, but not as bright red as they would have been in an albino. Readers should bear in mind that the low-resolution online versions of the paper might not reproduce the true colours in the photograph to be of use in identification of the mutation.

A Western Reef Egret *Egretta gularis* from Hooghly, West Bengal

The Western Reef Egret *Egretta gularis* is a resident bird on both, the western, and the south-eastern coasts of India (Grimmett *et al.* 2011; Rasmussen & Anderton 2012). Two recent notes in *Indian BIRDS* have reported it from inland Rajasthan (Sharma *et al.* 2015; Chhangani *et al.* 2015). In fact, the eastern-most record of this bird is also from inland Bihar, from the early twentieth-century (Inglis 1903). Here we elaborate an instance where this species was photographed further east, again inland, in West Bengal, a possible first for the state.

At 1330 hrs, on the gloomy 19 December 2013, an egret in non-breeding plumage, and dark morph was observed in a post-harvest paddy stubble beside state highway number 15 of village Sheyakhala, block Chanditala, District Hooghly, West Bengal, India (22.77ºN, 88.15ºE) **[105]**. This spot is *c.* 100 km linearly from the coast of the Bay of Bengal. The bird was solitary, and paused on the stubble field. The first photograph was taken from a distance of 25 m. After 15 mins of observations the bird took flight.

Photo: Supratim Mukherjee

105. Western Reef Egret *Egretta gularis*.

Little Egret *E. garzetta* is known to occur in a rare dark morph, very similar to that of the Western Reef Egret (Dubois & Yesou 1995). Moreover, the habitat where the bird was found is more likely to be a habitat where a Little Egret would be found. But morphological characteristics like thicker, slightly down-curved, and paler bill; white patch on chin, which extend up to the throat and lower ear coverts; a white spot on primary coverts (seen when the bird flew); dull brown-coloured legs; and typical slate-grey plumage, all point towards it being a Western Reef Egret **[105]** (Kazmierczak 2000; Dubois & Yesou 1995).

We sincerely thank Sumit Sen for the valuable discussions regarding the identification of the said species.

References

Chhangani, A. K., Bithoo, K. S., Singh, M., Charan, P. D., & Saxena, M. M., 2015. A Western Reef Egret *Egretta gularis* record from Jalore District, Rajasthan. *Indian BIRDS* 10 (6): 165.

Dubois, P. J., & Yésou, P., 1995. Identification of Western Reef Egrets and dark Little Egrets. *British Birds* 88: 307–319.

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Inglis, C. M., 1903. The birds of the Madhubani sub-division of the Darbhanga district, Tirhut, with notes on speices noticed elsewhere in the district. Part VI. *Journal of the Bombay Natural History Society* 15 (1): 70–77.

Kazmierczak, K., 2000. *A field guide to the birds of India, Sri Lanka, Pakistan, Nepal, Bhutan, Bangladesh and the Maldives.* 1st ed. New Delhi: Om Book Service. Pp. 1–352.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide.* 1st ed. Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols. Pp. 1–378; 1–683.

Sharma, V., Kumawat, R. K., Meena, D., Yadav, D., Kumar, A., Kumawat, N. K., & Sharma, K. K., 2015. Sighting of Western Reef Egret *Egretta gularis* in Sirohi District, Rajasthan. *Indian BIRDS* 10 (5): 125.

– Souvik Chattopadhyay, Uddalok Bandyopadhyay & Supratim Mukherjee
Souvik Chattopadhyay, Uddalok Bandhopadhyay
Khamarchandi, Haripal, Hooghly 712405
West Bengal, India

– Supratim Mukherjee
Department of Zoology, Raja Rammohun Roy Mahavidyalaya
Radhanagar, P. O. Nangulpara, Hooghly 712406
West Bengal, India
E-mail: *supratimm7@gmail.com* [Corresponding author]

Sighting of Curlew Sandpipers near Hyderabad, Telangana, India

On the evening of 02 October 2014 I went to Ameenpur Lake, Hyderabad, Telangana (78.52°N, 78°.33E) to see if the waders had arrived, and to click some photographs. The reeds, which dotted the edge of the main lake, were a good place to spot water birds like coots, and rails (Rallidae), grebes (Podicipedidae), and, occasionally, the Yellow Bittern *Ixobrychus sinensis*. But to my dismay the reeds had been cut.

Fearing that the birds would fly off at the slightest disturbance, I crawled closer to get a better look at the winter guests along the edges of the lake. I spotted Common Greenshank *Tringa nebularia*, Common Redshank *T. totanus*, Wood Sandpiper *T. glareola*, Common Sandpiper *Actitis hypoleucos*, Little Ringed *Plover Charadrius dubius*, and Little Stint *Calidris minuta*. There were also the resident Great *Egret Ardea alba*, and Little Egret *Egretta garzetta*, and at a distance, a pair of Glossy Ibis *Plegadis falcinellus*.

In a mixed flock of Little Stints, Common Sandpipers, and egrets I saw four waders that resembled Curlew Sandpipers *Calidris ferruginea* **[106]**. All the birds in that mixed flock were busy feeding in the shallows when I snapped a photograph for the record.

Back home, I referred to my field guide for their distribution, and not finding them in and around Hyderabad I posted the picture on the 'Indian Birds Facebook group', where they were confirmed as Curlew Sandpiper. The birds were not sighted the next day, nor the week thereafter. Though they are known from coastal Andhra Pradesh (Kannan *et al.* 2009; Guptha *et al.* 2012; Rao *et al.* 2014), this is the first inland record of the species from the newly minted state of Telangana, which was earlier a part of a larger Andhra Pradesh state.

Photo: Nishant Shah

106. Two Curlew Sandpipers feeding amidst other waders at Ameenpur Lake.

References

Guptha, M. B., Rao, P. V. C., Rao, P. M., Ramalingam, G., Prasad, P. N., Kannan, V., Kishore, S., & Rajashekar, M., 2012. Water birds of Kudiri wetland (near Pulicat), Andhra Pradesh, India. *Newsletter for Birdwatchers* 51 (5): 71–74 (2011).

Kannan, V., Manakadan, R., Rao, P., Mohapatra, K. K., Sivakumar, S., & Santharam, V., 2009. The waterbirds of Pulicat Lake, Andhra Pradesh–Tamil Nadu, India, including those of the adjoining wetlands and heronries. *Journal of the Bombay Natural History Society* 105 (2): 162–180 (2008).

R., S. K., Rao, V. V., Sasikala, C., & Nagulu, V., 2014. Wetland birds of Srikakulam District, Andhra Pradesh, India. *International Journal of Fauna and Biological Studies* 1 (6): 42–49.

– Nishant Shah
1-5-63/2, Phanigiri Colony
Chaitanyapuri, Hyderabad 500060
Telangana, India.
E-mail: *nish.skywalker@gmail.com*

02 October 2014

Spotted Owlet *Athene brama* with a cataract in its left eye?

On 06 December 2015, Devrat Mori, Ankit Shah, Meet Agrawal, and I were searching for a resident pair of Barn Owls *Tyto alba* near a concrete overhead water-tank in a temple premises near Wadhwan, Surendranagar, Gujarat.

We searched for a while, but couldn't locate them. On our way back we observed a movement in a neem tree *Azadirachta indica*. When we flashed a torch towards that movement, we saw two Spotted Owlets *Athene brama* perched on different branches of the tree. A closer look showed that one of the owlets seemed to have a cataract in its left eye. We clicked a series of photographs that showed up this anomaly **[107-108]**.

107. A cataract afflicted Spotted Owlet *Athene brama*.

Photos: Vickey Chauhan

108. A cataract afflicted Spotted Owlet *Athene brama*.

In humans, a cataract is a clouding of the lens, leading to a decrease in vision. Often it develops slowly, and gradually covers the whole eye. If it is not attended to well in time, vision in the eye might be lost forever. Perhaps, this Spotted Owlet may also find it difficult to hunt, given its eye condition. The bird also seems to have an injured right claw, and beak, or perhaps it is holding some prey in that claw, and has a morsel in its beak. However, we did not observe this bird flying, or even hunting. Is this indeed a cataract? How common is cataract amongst wild birds?

– Vickey Chauhan
3/A, Kartik Swami Society
O/s, Shahpur Gate
Ahmedabad 380004
Gujarat, India
E-mail: vkeychauhan@gmail.com

Note: A response from an ophthalmologist, who is also a birder

Cataract is a cloudiness or opaqueness of the eye lens, which is behind the pupil and iris and therefore will appear as a grey, or white area within the pupil, and will appear slightly behind the front of the eye. Having looked at all the photographs, the following points can be deduced.

- A greyish cloudiness of the cornea (front surface of the eye) of the left eye; the reflection of light from the cornea (catch light is practically absent) is imperfect.
- The light reflection from the retina (back of the eye), when a flash is used, will be absent if cataract is total, or will be imperfect if the cataract is mild. Here there seems to be an imperfect light reflection from the retina, but is definitely present.
- Pupil is extremely dilated.
- The light reflex from the retina of the uninvolved right eye is different from the reflex of the left eye, indicating that the difference is mainly due to corneal opacity, and also because of a slight cataract.
- In the second photo **[108]**, there is an opacity in the lower part of the lens, indicating a cataract.
- The feather tracts surrounding the left eye do not seem to be different from that of the right eye. One could presume that an injury of the eye would also cause some damage to the adjoining structures; which is actually not visible here.

In summary, there is a combination of findings: (1) corneal cloudiness/opacity, (2) cataract in the lower part of the lens, and (3) fixed dilated pupil not constricting with the flashlight. This could denote an increased eye pressure with corneal cloudiness, optic nerve damage, and fixed dilated pupil, or could imply a traumatic corneal opacity with traumatic dilated pupil caused by blunt trauma. The most likely possibility is an old injury which has caused all the above, with or without glaucoma.

– T. Badrinarayanan
262, Second Main Road
Gomathipuram
Sivagangai Road
Madurai 625020
Tamil Nadu, India.
E-mail: badrinarayanant@gmail.com

Snapshot sightings

Red Phalarope from Satpura National Park, Madhya Pradesh

David V. Raju


109

On 14 April 2014, a Phalarope was photographed at Madhai mudflats (22.57ºE, 78.13ºN), Satpura National Park, Madhya Pradesh. It was initially suspected to be a Red-necked Phalarope *P. lobatus*, but shorter and stouter beak with yellow base and lack of white stripe on sides of mantle indicated a Red Phalarope *P. fulicarius*. The species is a rare spring passage migrant through India (Sangha *et al.* 2013) and is probably the second record from Central India (Rawal *et al.* 2013).

Forsyth Lodge, Bijakhari Village, Madai, Satpura NP. Hoshangabad, Madhya Pradesh, India. E-mail: *davidraju2007@gmail.com*.

White-winged Tern from Loktak Lake, Manipur

Elangbam Premjit Singh


110

On 16 May 2015, a single White-winged Tern *Chlidonias leucopterus,* in non-breeding plumage, was photographed at Moirangkom (24.51ºN, 93.76ºE) near Loktak Lake, Manipur. Though it looked superficially like a Whiskered Tern *C. hybrida*, white rump, tail sides and the distinct black cheek patch lacking an eye-stripe separated it from the latter species. A passage migrant to most of south-eastern India, this is probably the first record for Manipur (Grimmett *et al.* 2011; Rasmussen & Anderton 2012).

Toubul, Bishnupr District 795126, Manipur, India. E-mail: *premjitdanao@gmail.com*

Himalayan Vulture from Uttara Kannada, Karnataka

Siddhesh S. Surve

While birding on 10 January 2016 in Halga-Ulga region of Uttara Kannada District, Karnataka, a vulture was photographed at Bolshitta (14.90ºN, 74.22ºE) that was tentatively identified


111

as a juvenile White-rumped Vulture *Gyps bengalensis*. However, larger size, heavy streaks on its body and secondary pattern confirmed it as a juvenile Himalayan Vulture *G. himalayensis*. The species is a vagrant to southern India in recent years and probably the third record from Karnataka (Praveen *et al.* 2014).

Hornbill House, Bombay Natural History Society, Opp. Lion's Gate, Shaheed Bhagat Singh Road, Mumbai 400001, Maharashtra, India. E-mail: *siddhesh.surve15@gmail.com*

Rufous-tailed Rock Thrush from Kachchh, Gujarat

Dilipsinh M. Chudasama


112

A Rufous-tailed Rock Thrush *Monticola saxatilis* was photographed near Karaghogha (22.95°N, 69.68°E) Village, Bhuj District in Kachchh, Gujarat on 23 September 2015. Grey and scaly upperparts with rufous tinge on rump and long wings reaching more than half the length of the tail confirm it as a first winter male of this species which was probably on its autumn passage. There has been only one previous record of this species from Gujarat (Mishra 2015).

Near Water Tank, Darbar Street, Karaghogha Village, Mundra Taluk, Bhuj District (Kachch) – Gujarat, 370415, India. E-mail: *raaj_software@yahoo.com*

References

Grimmett, R., Inskipp, C., & Inskipp, T., 2011. *Birds of the Indian Subcontinent.* 2nd ed. London: Oxford University Press & Christopher Helm. Pp. 1–528.

Mishra, V. 2015. Sighting of Rufous-tailed Rock Thrush in Kachchh. *Flamingo.* 13: (3) 10

Praveen, J., Nameer, P.O., Karuthedathu, D., Ramaiah, C., Balakrishnan, B., Rao, K.M., Shurpali, S., Puttaswamaiah, R., & Tavcar, I. 2014. On the vagrancy of the Himalayan Vulture *Gyps himalayensis* to southern India. *Indian BIRDS* 9(1): 19–22.

Rasmussen, P. C., & Anderton, J. C., 2012. *Birds of South Asia: the Ripley guide. 2nd ed.* Washington, D.C. and Barcelona: Smithsonian Institution and Lynx Edicions. 2 vols. Pp. 1–378; 1–683.

Rawal, T. S., Kumar, H., & Shukla, K., 2013. Red Phalarope *Phalaropus fulicaria*: an addition to the avifauna of peninsular India. *Indian BIRDS* 8 (4): 103–104.

Sangha, H. S., Sharma, M., Poonia, S. S., Sridhar, S., Bhatnagar, G., & Jain, A., 2013. Red Phalarope *Phalaropus fulicaria* at Tal Chhapar, Churu district, Rajasthan: the fourth record for the Indian Subcontinent. *Indian BIRDS* 8 (4): 99–100.

PITTI LAMINATIONS LIMITED

Manufactures of electrical laminations & stampings

Phones: 040-2331 2774, 2331 2768, 2331 2770, Fax: 040-2339 3985, Grams: PITTILAM
Email: hyd2_pittilam@sancharnet.in, Website: www.pittielectricalam.com

ISO 9001: 2000
World Class Quality Systems