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Indian Peafowl
Masked Finfoot
Hunting in Arunachal Pradesh

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N. Rajeshkumar & P. Balasubramanian

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Fig. 1. Indian Peafowl *Pavo cristatus*. Photo: P. Manikandan

Abstract

This paper discusses habitat utilisation, time-activity budget, food and feeding habits, and roost tree utilisation of Indian Peafowl *Pavo cristatus* in Anaikatty Hills, Western Ghats. The peafowl population in the study area (2 km^2) was estimated to be 21. Sixteen trees belonging to four species were used for roosting. About 50% of the roost trees were the thorny *Acacia polyacantha*, located near streams. Although the diet of peafowl constituted both animal and vegetable matter, vegetable matter comprised 91%.

Introduction

The Indian Peafowl *Pavo cristatus* (Galliformes: Phasianidae) is the national bird of India, and is common and widely distributed in the Indian Subcontinent (Ali & Ripley 1987). However, its distribution is patchy and ranges from the Himalayas in the north to peninsular India in the south. In Tamil Nadu, peafowl population is abundant in Pudukottai, Madurai, Ramanathapuram, Nilgiri, and Coimbatore districts (Veeramani & Sathyanarayna 1999; Krishnakumar 2003). The species is virtually an omnivorous and opportunistic feeder on a wide variety of insects, plants, seeds, tender shoot, amphibians, reptiles, and worms (Baker & Inglis 1930; Ali & Ripley 1987; Trivedi & Johnsingh 1995). It serves as a flagship species for wildlife conservation, particularly outside protected areas. Today, its population is facing a severe threat due to habitat destruction, poaching, and contamination of its food source, even though it is protected under Schedule 1 of the Wild Life (Protection) Act, 1972. Despite its wide distribution, there have been very few ecological studies on peafowl populations (Sharma 1979; Johnsingh & Murali 1980; Trivedi & Johnsingh 1995; Yasmin & Yahya 1996; Yasmin 1997; Veeramani & Sathyanarayana 1999). Due to the high degradation rate of its natural habitats, there is an urgent need to understand the ecological requirements of wild populations of peafowl. The objective of this study was to assess its food habits, habitat use, and to identify its roost sites.

Study area

The study was carried out in and around the Sálim Ali Centre for Ornithology and Natural History (SACON) campus (25 ha), located at Moongilpallam, in Anaikatty Hills, Western Ghats, 25 km north-west of Coimbatore city in Tamil Nadu. It borders private land on two sides, and Anaikatty Reserve Forest on another (11°5′N–11°31′N, 76°39′E–76°49′E). It comprises various habitats, namely, scrub jungle and open barren lands in SACON campus, and mixed dry deciduous forest and agricultural fields outside the campus. The reserve forests of this landscape come under the Coimbatore Forest Division, Tamil Nadu. A non-perennial stream, Perumpallam, flows on its western side. SACON campus has scrub jungles and vast open areas with scattered bushes. The extent of the study area was *c.* 2 km^2. Anaikatty Reserve Forest is situated in the foothills of Nilgiris, at an elevation of *c.* 610–750 m AMSL. The average rainfall is about 670 mm, mostly received during the north-eastern monsoon. The study was conducted from December 2004 to March 2005.

Methods

Peafowl were directly observed under natural conditions during three time periods: 0600–1000 hrs, 1000–1400 hrs, and 1400–1800 hrs respectively. Observations were recorded in a field notebook and duration of each observation was noted with a stopwatch. When a bird was sighted it was followed to the extent possible. The time activity budget was determined by focal animal sampling method (Altmann 1974) with the aid of binoculars. The following behavioural activities were recorded.

Calling: Uttered a loud call that sounded like, "*he-on*." A call might normally contain one to four syllables; sometimes extending up to seven.
Displaying: Male spreading, vibrating train feathers.
Feeding: Pecking any object actively on the ground or pulling at the vegetation.
Flying: Bird observed in flight from the roost tree at dawn, or towards the roost tree at dusk, or while changing a feeding location.
Moving: Primary form of peafowl locomotion, without any engagements.
Preening: Running the bill through feathers while standing or sitting.
Resting: Sitting on a tree or stone pillar without any activity.

In order to assess their diet, food items were divided into plant (leaf, shoot, flower, fruit, and seed), and animal (insect, and other) components. The type of food consumed and the number of instances of feeding were recorded for each observation. In addition, droppings were collected at roosting sites. Samples of dry droppings were teased apart and sieved to standard microns (355–1022 microns), and isolated. Undigested plant and animal matter was weighed separately on an electronic weighing scale.

In order to understand the roosting behavior of peafowl, observations were made in the early morning and late evening. Because peafowl regularly roost during dusk, and congregate till dawn, Sharma (1979) suggested that the counting of peafowl at roosting sites at dusk and dawn could be used to determine their abundance. Whenever a roost tree was located, it was marked with paint, and various parameters such as tree height,

site location and elevation, distance from waterbody, distance from human path/road, canopy cover, and roosting height were recorded. Whenever roosting behavior was observed, time of arrival, time of settling, and flock size were noted.

In order to assess the role of peafowl in seed dispersal of their food plants, seeds of one of its common food plants, *Ziziphus oenoplia* (Rhamnaceae) were collected from droppings, planted in a nursery bed at SACON campus, and observed for germination success.

Results

Population: Counts at roosting trees revealed the presence of 21 peafowl in and around SACON campus, comprising 17 males, and four females. Since the study period coincided with their breeding season, it is presumed that the number of females sighted was fewer.

Time activity pattern: During the study period, peafowl showed seven major types of behaviour. 'Moving,' was the most frequently observed behaviour (38.10%), followed by feeding (27.93%), and resting (24%). Less frequently observed behaviour included preening (4.31%), flight (2.60%), calling (2.52%), and display (0.36%).

Food and feeding habits: In Anaikatty Hills, peafowl consumed both, plant, and animal matter. A list of food consumed is given in Appendix 1. Vegetable matter (91.02%) constituted the major proportion of food **(Table 1)**. Animal matter (8.97 %) constituted only a lesser proportion **(Table1)**. Analyses of droppings also revealed that the diet of peafowl mainly constituted the vegetable matter **(Table 2)**. Undamaged seeds of *Lantana camara* and *Ziziphus oenoplia* were commonly noticed in peafowl droppings.

Roosting habits: In Anaikatty Hills, peafowl used 16 trees belonging to four species, for roosting. Of these, eight (50%) were *Acacia polyacantha*. The others included *Tamarindus indica* (31.25%), *Eucalyptus longifolia* (12.50%), and *Ailanthus excelsa* (6.25%). It is interesting to note that peafowl roosted at different heights. A roost height of 10–13 m (50%) above ground level was preferred, to other roost heights: 7–10 m (6.25%), 13–16 m (25.0%), 16–18 m (12.5%), and 19–22 m (6.25%).

Habitat use: Peafowl, though inhabiting dry mixed deciduous forest, showed greater preference for scrub jungle (45%), followed by agricultural fields (32%), open barren land (13%), and mixed dry deciduous forest (10%).

Peafowl's role in seed dispersal: Of the 30 *Ziziphus oenoplia* seeds planted in the nursery bed, 12 (40%) germinated successfully. From this observation it is evident that the Indian Peafowl aids in dispersing the seeds of food plants it consumes.

Discussion

Activity pattern: 'Moving' was the most frequently observed activity, recorded in all the habitats. The probable reason for such a high mobility could be due to the dry vegetation, and low levels of food availability, forcing peafowl to move a lot to forage, and meet out their food requirements. 'Resting' was also found to be one of the major activities. Ali & Ripley (1987) mentioned that peafowl use undergrowth thickets of shrubby bushes during mid-day to avoid the heat of the sun. 'Calling' was more at dawn and dusk. Peafowl utter alarm calls, when predators approach them. 'Preening' was observed mostly in the early mornings before foraging started, whereas 'flight' occurred mainly before moving to a roosting site, or from the roosting site, when disturbed by predators.

Table 1. Proportion of various food items consumed by Indian Peafowl during direct observations

Food item	Feeding observations #	%
Vegetable matter		
Leaves, Shoots	73	34.43
Seeds	59	27.83
Fruits	35	16.50
Flowers	26	12.26
Animal matter		
Insects	18	8.49
Earthworm	01	0.48

Food habits: Peafowl is an opportunistic feeder and an omnivore. Sathyanarayana (2005a, b), and Chakravarthy & Thyagaraj (2005) mentioned that peafowl are mainly granivores as they chiefly feed on paddy in the agricultural ecosystem. They are considered pests in the agricultural ecosystem. Yasmin & Yahya (1996) recorded that peafowl feed on a mixture of seeds, leaves, and wild herbs such as, *Achyranthes alternifolia, Amaranthus viridis, Dendrocalamus strictus, Setaria verticillata*, *Panicum antidotale, Dichanthium annulatum,* and flowers of *Bombax ceiba.* Johnsingh & Murali (1980) reported that peafowl feed on a wide range of crops such as groundnut, tomato, paddy, chilly and bananas in the cultivated areas. By analysing crop content, Johnsingh & Murali (1980) reported various food constituents such as leaves (*Digera arvensis, Centella asiatica, Allium cepa*), flowers (*Musa paradisiaca*), grass seeds (*Echinochloa colona, Panicum repens*), fruit (*Croton sparsiflorus*), seed (*Acacia arabica*), chilly, paddy, and animal constituents such as grasshopper, black beetle, ants, and termites. Peafowl's diet in Anaikatty Hills comprised seeds (13 spp.), fruits (9), shoots (8), leaves (6) and flowers (4), in addition to invertebrate food, which indicates its omnivorous food habit. Droppings contained chiefly vegetable components (leaves, twigs, seeds, shoots, and fruits), hard undigested remains of insects, and grit. In order to get minerals and grind the food, peafowl consume grit in small quantities. The dropping contained a large proportion of *Ziziphus oenoplia* fruits. Trivedi & Johnsingh (1995), and Veeramani & Sathyanarayana (1999) reported that fruits of *Ziziphus jujuba* formed a favourite food for peafowl in Gir Forest and Mudumalai Wildlife Sanctuary respectively. In all, in the natural habitat, Indian Peafowl mainly feeds on grass seeds, tender leaves and shoots of herbaceous species, various flowers, and *Ziziphus* spp., fruits; and in the agricultural landscape it consumes paddy, finger millet, ground nut, and other vegetable crops such as tomatoes.

Roosting behaviour and roost tree utilization:

In Anaikatty Hills, Indian Peafowl favoured *Acacia polyacantha* for roosting because they are thorny, they afford a multi-directional view, they generally grow close to water and in bushy undergrowth, and their first branch is at maximum preferred height above ground. These factors help peafowl escape predators. Navaneethakannan (1984), and Veeramani & Sathyanarayana (1999) reported that it preferred to roost on densely foliaceous tree species like *Pongamia pinnata* and *Holoptelia integrifolia.* Parasharya & Mukherjee (1999) reported that peafowl roosted on electric poles in Ahmedabad, and pointed out that that might be a behavioural adaptation to reduce predator threat.

Table 2. Percentage proportion of various food items recorded in the droppings of Indian Peafowl

Food item	Weight (gm)	%
Fibres and husks	115.75	80.59
Seeds	25.93	18.05
Insects	0.11	0.08
Bones	0.07	0.05
Grit	1.77	1.23

In Anaikatty Hills, peafowl roosted at a height ranging from seven to 22 m, favouring a range between 10–13 m.

Veeramani & Sathyanarayana (1999) recorded that peafowl roost at a height of 16–22 m, and in Gir forest they frequently roosted at 15 m (Trivedi & Johnsingh 1996). From these observations it can be surmised that they prefer tall trees for roosting, probably to escape from the predators. Sharma (1979), and Ali & Ripely (1987) mention that peafowl regularly roost on the same tree for generations, but during the present study, frequent changing of roost trees was observed. Inside SACON campus, peafowl changed their roosting site from *Acacia* spp., to *Eucalyptus* spp., and vice versa. This showed their high alertness as mentioned by Trivedi (1993). Ali & Ripley (1987) mentioned that the peafowl is neither a communal nor a solitary rooster. In the present study, peafowl were found to roost alone as well as in flocks. It is apparent that the selection of a roosting tree acts as an anti-predatory strategy. Most of the roosting trees in Anaikatty Hills were located in SACON campus, with a few on the forest's edge, and in open barren land. In open lands, peafowl mainly roosted on tamarind trees, probably due to their dense foliage, and proximity to agricultural fields.

Habitat use and predators: In Anaikatty Hills, peafowl spent a major proportion of their time (45%) in the scrub jungle. Other habitats such as mixed dry deciduous forests, open barren land, and agricultural field were scarcely used. Similar observations were reported by Sathyanarayana (2000) who opined that Scrub jungle provides perfect camouflage, better concealment, and protection from predators, and serves as a rich food source. During human interventions, birds hid inside the bush. In Anaikatty Hills, roaming stray dogs were recorded as the major predator for peafowl. Johnsingh & Murali (1980) recorded predation of male peafowl by village dogs in a forest plantation. Sharma (1979) also reported dogs as prime predators for peafowl.

From this study it is inferred that the peafowl is an omnivore that relies mainly on vegetable matter; prefers tall trees with dense foliage, or thorny trees for roosting; and prefers open scrub vegetation for foraging. Stray dogs seem to be the major predator for peafowl.

Appendix 1. List of food items consumed by The Indian Peafowl in Anaikatty Hills

S.No	Food Item	Part(s) used
	Vegetable matter	
1	*Croton bonplandianum*	leaves, shoots, seeds
2	*Opuntia dillenni*	fruits
3	*Parthenium hysterophorus*	buds, seeds
4	*Lantana camara*	fruits
5	*Leucas aspera*	leaves, shoots, flowers
6	*Cassia occidentalis*	flowers
7	*Aerva lanata*	buds
8	*Achras sapota*	fruits
9	*Solanum nigrum*	leaves, shoots, fruits
10	*Cynodon dactylon*	leaves, shoots
11	*Abutilon crispum*	seeds
12	*Clausena dentata*	shoots
13	*Alternanthera sessilis*	leaves, shoots, buds
14	*Datura metel*	seeds
15	*Ziziphus oenoplia*	fruits
16	*Vicoa indica*	shoots, flowers
17	*Santalum album*	fruits
18	*Abutilon indicum*	seeds
19	*Eleusine coracana*	seeds
20	*Dolichos lablab*	seeds
21	*Amaranthus sp*	leaves, shoots, seeds
22	*Capsicum annum*	fruits, seeds
23	*Solanum sp*	seeds
24	*Sida acuta*	seeds
25	*Argemone mexicana*	flowers
26	*Calotropis gigantea*	buds
27	*Crotalaria sp*	seeds
28	*Tephrosia purpurea*	seeds
29	*Maytenus emarginata*	fruits
30	*Pavonia odorata*	fruits
31	*Ocimum sanctum*	shoots
	Animal matter	
1	Ants	
2	Termites	
3	Grasshopper	
4	Spider	
5	Beetle	
6	Earthworm	
7	Bones (unidentified)	

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Finding fascinating Finfoots

Sayam U. Chowdhury

Chowdhury, S. U., 2011. Finding fascinating Finfoots. *Indian BIRDS* 7 (5): 128–133.
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Cruising through a ropey canal, after dusk, in the heart of the tiger-swamp, certainly sounds most daunting. The glimmering eyes of fish owls perched on overhanging trees, alarm calls of spotted deer, and the tender tone of the rowing boat make for a stirring adventure, whose climax reaches its highest peak if a tiger roars close by! Those who have spent a little time in the mangroves of the Sundarbans would clearly understand what I am trying to portray, and the uniqueness of it.

Well, other than tigers, crocodiles, and deer, our Sundarbans is home to many fascinating life forms that we hardly hear about. There are some captivating species in this unique mangrove forest, which are little known to science, but hold the dubious distinction of a superior space in the world's threatened species lists.

One of these only-found-in-the-Sundarbans-in-Bangladesh species is the Masked Finfoot *Heliopais personata*, a duck-like bird, but largely differing from it, and placed in its own family by taxonomists with only two other similar birds, found in Africa and South America. Finfoots are named for the lobes on their feet, which enable them both, to swim well, and to clamber about among fallen trunks and branches of dense mangrove forest.

While only a thousand or less mature individuals of Masked Finfoots are left in the world, our Sundarbans supports a considerable number of these. BirdLife International (2012) classifies the species as Endangered, due to the destruction and increasing disturbance to rivers in lowland riverine forests, hunting, and the collection of eggs and chicks for food. Masked Finfoots are thinly distributed from north-eastern India, Myanmar, Thailand, Cambodia, Laos, and Vietnam to peninsular Malaysia, Sumatra, Java, and Indonesia—but the Sundarbans of Bangladesh remain a definite place to see this elusive bird.

As we struggle to save endangered mega-fauna like the tiger or elephant, it is even more challenging to think about overlooked species like the Masked Finfoot—so rare and elusive that till date very little is known about its biology and ecology. To understand more about this highly threatened species, we braved the hot, humid, and wet summer to find Masked Finfoot nests in the Sundarbans.

Even the ones with not-so-adventurous-hearts get excited at the thought of visiting the Sundarbans and exploring her mysteries, and our team held people who were seeking not just adventure but knowledge about the most mysterious bird in the largest mangrove forest in the world. We spent almost two months on a boat without much contact with the outside world, taking only a few days' break to replenish supplies.

Photos: Sayam U. Chowdhury

Masked Finfoot habitat at low tide.

The presence of a horn on the bill, hitherto recorded only for male Masked Finfoot, is also present on a female's bill, as evident from this and subsequent photos.

Photos: Sayam U Chowdhury

A male Masked Finfoot sitting close on its nest, staring at us.

The days were long, for we were at the mercy of the tide, starting at dawn and sometimes ending after dusk. From our boat we got on a small *dinghi* and searched never ending *khals* (narrow creeks) along the eastern side of the Sundarbans, starting from Chadpai up to the Sarankhola range, covering more than 100 km^2.

We found 12 nests, of which two were active, and 10 were from last year or had already been used during this year. Our *dingi* rode up and down the canals, at times with nothing but hope, tired bodies, the heat of July, the monsoon rain of August, the starting of Ramadan and breaking fast—in between our search for the bird continued.

We interviewed fishermen on the way; nearly a hundred by the end of our stay, and almost all of them had hunted or at least tasted Masked Finfoots once in their lifetime! Most of them had captured Finfoots, or found their nests, while setting up *Charpata Jaal* (=fishing nets) along narrow streams in the Sundarbans. *Charpata* fishermen usually set up long fishing nets at low tide along banks of *khals* and harvest fish after high tide. Many of them flushed incubating finfoots while affixing *Charpata* nets either underneath, or near nests, and came back at night to grab the unfortunate finfoot, its eggs, or chicks from off the nest.

Camera trap reveals the secret life of Masked Finoots by documenting its behaviour for weeks.

Masked Finfoot nest with eggs

Some even claimed to have chased fledgling or juvenile finfoots to the shore and captured them for lunch or dinner. We kept our emotions under control and used the fishermen as leads to where we might be able to find an active nest. At times they were unhelpful, but cooperated some times. We had realised by then that every bit of information was important, and noted all that we saw and heard.

There were days when we came back in higher spirits, having spotted Masked Finfoots foraging during low tide, and there were days when nothing, absolutely nothing was found, except for watching the common kingfishers, hearing the calls of the Mangrove Pitta, and spotting footprints of the spotted deer.

After searching high and low, a brilliant ray of hope lighted our path one afternoon in early August, in Chhita-Kotka, in an unnamed canal; there he was, the male guarding its three eggs! We rode right under the nest and he literally gazed at us intruders. We were delighted at finding an active nest, for having overcome the shadows of uncertainties: dealing with the changes in the mighty tides, the mysterious jungle, the venous canals, and our fading confidence.

To observe and document the Masked Finfoot's nocturnal behaviour, for the first time ever, we set up camera traps in a safe location not to disturb the Masked Finfoot couple, and also watched them from a hide. We took turns and kept a watch to learn more about their behaviour, their feeding habits, and their patterns of incubation. After about a week and a half the male Masked Finfoot left the female to guard and incubate the nest. He never returned. Most of these data were new to science and we were extremely excited to share this with others.

23 days passed and there was no sign of the chicks. The eggs had not hatched, and we started to worry. Had something gone wrong? Was there no light at the end of this journey? We realised we were now at the mercy of Mother Nature and left it to her to decide the fate of the three eggs. We waited patiently.

Then one afternoon in late August the eggs hatched—bringing hope for the future, an understanding for tomorrow, and a pledge for their continued existence. The precocious chicks left the nest within a day and our time in this magical land of finfoots, tigers, dolphins, and many wonderful species came to an end.

Looking back to the last summer, and our quest in the Sundarbans to understand, and later help the survival of Masked Finfoots, there are many memories that come to mind. Strangely it's not the hardships that I see, but the positives, the finding of the nest, the attachment to the Masked Finfoot family, comprehending their behaviour, and later taking steps to improve their condition.

We want the government to change its policies of natural resource management, especially regarding fishing in important Masked Finfoot breeding areas from Supoti to Chhita-kotka. We want to change the habits of the fishermen, for *Charpata* net fishing to be done on a limited basis in Masked Finfoot zones, especially during the breeding season; we want to go to villages of the fishermen and make them understand what they do not know yet, the gems they have and are destroying due to being unaware. Most importantly, we want to continue our work, more research, more findings, and help the Masked Finfoot grow with generations, for Bangladesh, and for our future.

For a short video of our Masked Finfoot research please visit: http://www.youtube.com/user/SayamUChowdhury

A day old Masked Finfoot!

Acknowledgements

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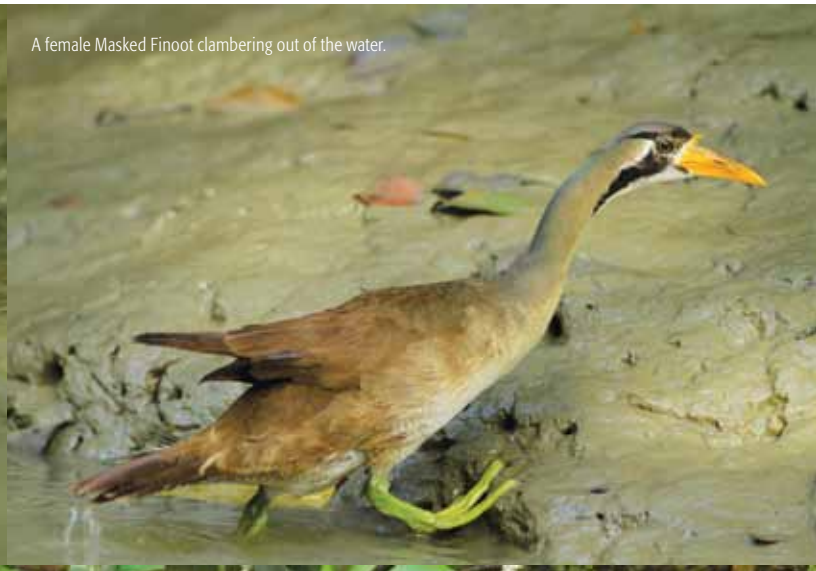
BirdLife International., 2012. Species factsheet: *Heliopais personatus*. Downloaded from http://www.birdlife.org on 25/01/2012.

Photo feature

Masked Finfoots are expert swimmers.



A female Masked Finoot clambering out of the water.

Photos: Sayam U. Chowdhury

Their lobed feet also help them climb trees.

Sometimes they do use their wings along with the lobed feet to climb overhanging trees near water.

Masked Finfoots mostly forage during low tide; this female is eating a big shrimp.

They used this spot to clean their feathers.

Male Masked Finfoot.

Photos: Sayam U. Chowdhury

Male Masked Finfoot in rain.

A male Masked Finfoot watches us warily while patrolling its territory.

The male on its way to the nest.

Photos: Sayam U. Chowdhury

The male rushing to its nest as the rain starts.

Bird hunting in Mishmi Hills of Arunachal Pradesh, north-eastern India

Ambika Aiyadurai

Aiyadurai, A., 2011. Bird hunting in Mishmi Hills of Arunachal Pradesh, north-eastern India. *Indian BIRDS* 7 (5): 134–137.
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Introduction

Arunachal Pradesh (26°28'–29°30'N, 91°30'–97°30'E), also known as the 'land of the rising sun,' is located in the north-eastern corner of India **(Fig. 1)**. Formerly known as North East Frontier Agency (NEFA), the state of Arunachal Pradesh covers an area of 83,743 km^2. It is bordered by Bhutan on the west, China (Tibet) on the north and north-east, and Myanmar on the east and south-east. The Indian states of Assam and Nagaland are located to its south. The population density of the state is one of the lowest in India, with 13 persons per square kilometer, whereas the country's average is 324 (Anonymous 2006).

Arunachal Pradesh is rich in biodiversity and has become a hub of scientific explorations leading to the discovery of new taxa species. In 2003, a new race of Sclater's Monal *Lophophorus sclateri arunachalensis* was discovered in the Subansiri region (Kumar & Singh 2004). A new species of primate, the Arunachal macaque *Macaca munzala* was discovered from Tawang district in 2004 (Sinha *et al*. 2005). In 2006, a new bird species, the Bugun Liocichla *Liocichla bugunorum* was discovered near Eaglenest Wildlife Sanctuary in western Arunachal (Athreya 2006). Of late Arunachal Pradesh has become the focus of national and international wildlife research and conservation, partly due to its status of being in the Eastern Himalayas 'biodiversity hotspot' (Myers *et al*. 2000).

Arunachal Pradesh has always attracted botanists, ornithologists, and explorers, both in colonial, and post-colonial periods, including Ali & Ripley (1949), Singh (1995), Choudhury (1998, 2006), and Datta (1998, 2007). However, given the important geographical location of the state, information on Arunachal Pradesh's avifauna in general, and Mishmi Hills in particular, is lacking.

Study area

Anjaw district was part of Lohit district till 2004 when it was separated into a new district **(Figs. 1 & 2)**. Most of the district is hilly and rugged. Other than a metal road till Kibithoo, Hawai, and Hayuliang, the rest of Anjaw is difficult to access. Frequent landslides and lack of transportation are major hurdles in reaching large parts of the district. The Mishmi Hills are formidable, with peaks ranging from 3500 m to 5000 m. There are seven administrative circles, namely, Hayuliang, Hawai, Walong, Kibithoo, Chaglagam, Manchal, and Goilliong with headquarters in Hawai. Anjaw district is in the north-eastern extremity of the state, bordering China (Tibet), and Myanmar.

The forests in Anjaw district are classified as Northern Tropical Semi-evergreen Forest (Eastern Alluvial Secondary Semi-evergreen Forest), Assam Sub-tropical Pine Forest, and East

Fig. 1. District map of Arunachal Pradesh

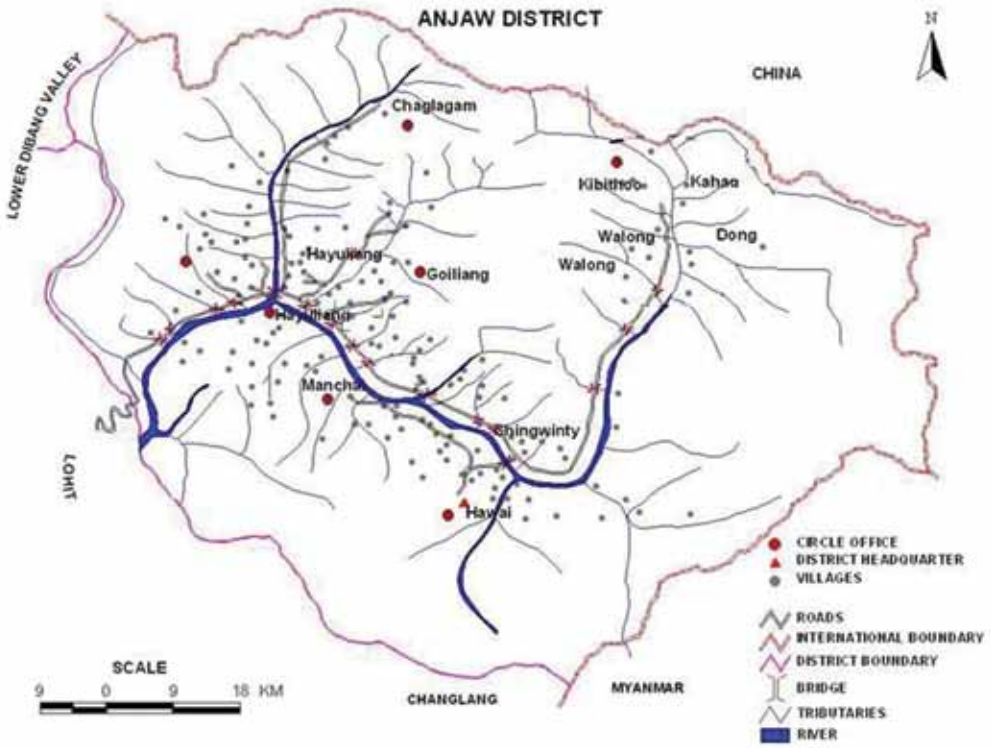

Fig. 2. Anjaw district and the circle offices

Himalayan Sub-alpine Birch/Fir forest (Anonymous 2005). There are no Protected Areas in Anjaw district, the nearest being the Kamlang Wildlife Sanctuary in the adjoining Lohit district, which is approximately 110 km from Hayuliang.

Hayuliang is the functional headquarters of Anjaw district (officially, Hawai is the headquarters) and is a Block Development Office. Except for Manchal, Hayuliang, and Walong, other locations lie along the Indo–China border. Walong and Kibithoo have large army establishments. The local population belongs to the Meyor and Mishmi tribal groups. Around 120 exogamous clans of Mishmi are known, the three main groups being Miju Mishmi in upper Lohit, and Anjaw districts; Digaru Mishmi in the western part of Lohit district; and Idu Mishmi in Dibang Valley (Mills 1952; Chowdhury 1982).

Methods

Anjaw district was visited four times from 2006 to 2009 to study wildlife hunting practices of local communities **(Table 1)**. The recordings are based on *ad hoc* encounters during village trails, interviews, and interactions with professional hunters, and children who hunted birds with catapults. Pictorial bird guides were used to generate interest during the interviews and were used to confirm identifications of birds. Evidence of birds found in the region was also recorded through artifacts used by the local people. Village ceremonies, festivals, and celebrations were attended to document the utility of wildlife parts, and to gather additional information about hunting. Villagers demonstrated various types of traps used by them near the *jhum* fields, or in the canopies. Occasionally villagers made models of the traps and explained the mechanism.

Tribal communities

The major tribal inhabitants of Anjaw district are Miju Mishmi, Digaru Mishmi, and Meyor. Mishmi are shifting cultivators who follow animism and believe in the presence of spirits in mountains, rivers, and trees, and the different names given for them emphasise the importance to their relationship with nature. This relationship is maintained in the form of domestic animal sacrifices, and wildlife hunting. The main crops grown are maize, millet, and some vegetables. Cash crops grown are cardamom, opium, and oranges. Agriculture, and other cultivated products are an important part of their economy and crop protection is a priority. Trapping overlaps with the shifting cultivation and is a frequently used technique to capture wild animals found near villages and in fields.

The Meyor, one of the lesser-known tribes of India, inhabit the Walong and Kibithoo circles of Anjaw district. They are Buddhists and are believed to have migrated from China to evade taxes. They are good at hunting and frequently travel to the snow-covered region to hunt. Unlike Mishmi, who practice slash-and-burn cultivation, Meyor practice terrace cultivation.

Table 1. Dates and sites visited in Anjaw district

Dates	Sites
27/01/2006–24/02/2006	Hayuliang, Walong, Kibithoo, Chaglagam, Goilliong
19/08/2007–01/11/2007	Hayuliang, Walong, Kibithoo
06/01/2008–17/02/2008	Hayuliang, Chaglagam
05/06/2009–20/07/2009	Hayuliang, Manchal, Goilliong

Hunting methods

Hunting is a way of life among the Mishmi—whether for consumption, trade, cultural reasons, or sometimes for fun during leisure (Aiyadurai *et al*. 2010). Wildlife hunting is usually a winter activity when wild animals and birds descend from the snow-covered mountaintops in search of food. Pheasant hunting is common in winter in high altitude villages (Hilaludin *et al*. 2004; Aiyadurai 2007). Smoked wild meat is given as a 'bride-price' during Mishmi weddings. During village functions and ceremonies, wild meat is usually a luxury, reserved for special guests like priests or government officials. After the meat is consumed, parts like tail feathers are used as artefacts, some for ornamental purposes and some for religious ceremonies.

Bird hunting and trapping is common in the Anjaw region of Mishmi Hills. Tail feathers of Himalayan- *Lophophorus impejanus*, and Sclater's Monal *L. sclateri* are used as hand-fans, especially by chanting priests waving them during rituals. Some bird parts, like wing feathers, are used for decorative purposes, and occasionally women wear monal feathers around their necks (Aiyadurai 2007).

Hand-fans made from pheasant tail feathers are commonly seen in most Mishmi households. It is not clear why only pheasant tail feathers are used. Tails of six pheasant species were recorded in the villages visited: Himalayan-, and Sclater's Monal Blyth's-*Tragopan blythii*, and Temminck's Tragopan *T. temminckii*, Kalij Pheasant *Lophura leucomelanos*, and Grey Peacock-pheasant *Polyplectron bicalcaratum*.

Hand-fans are sometimes partly covered with an ungulate's skin, usually goral *Nemorhaedus goral*, barking deer *Muntiacus muntjak*, or sambar *Cervus unicolor*. Feathers of other wild birds like Red Junglefowl *Gallus gallus*, and Racket-tailed Drongo *Dicrurus paradiseus* also find their place on these fans.

Traps

Different kinds of traps are used for hunting birds. Six most commonly used traps are shown in **Table 2**.

Some traps are easy to make, like *Handam, Kheyet,* and *Diow* **(Fig. 3)**, require limited skills, and can be reused. Trapping is a low investment and low cost method as traps are prepared with locally available material like bamboo. Trapping is practiced in a wide range of habitats, from farmlands, riverbeds, kitchen gardens, to forests, and mountaintops. Traps are set up at

Table 2. Types of indigenous traps used by the villagers

Traps	Material used	Species targeted	Landscape	Frequency of use
*Diow** (Loop bamboo strip trap)	Plant fiber, nylon rope	Ground-dwelling birds, especially pheasants	Mountains in snow covered regions	High
*Hakap** (Canopy traps)	Bamboo	Birds	Around villages and near crop fields (set on the tree canopy)	Medium
*Handam** (Stone trap)	Stone, bamboo	Rodents, birds	Crop fields, kitchen gardens	High
*Kheyet**	Metal wire, bamboo	Wild pig, bears, barking deer, but ground-dwelling birds like pheasants are also likely to be trapped	Forests, crop fields, mountains	High
*Paipit** (Noose with a coloured seed as bait) **(Fig. 3)**.	Nylon rope / plant fiber, bamboo	Large and small birds	On the ground, near crops fields and villages	Medium
*Tawan** (Triangular trap)	Wires (used in fencing), bamboo	Rodents, birds, squirrels, sometimes snakes	Around granaries, crop fields	High

different heights: *Hakap* and *Tawan* **(Fig. 3)** traps are set at tree canopy level, targeting birds that arrive to feed on fruits, which are otherwise difficult targets for catapults or guns. Traps for pheasants and other ground-dwelling birds are set on the forest floor and checked after three or four days.

Catapults

Boys start hunting at the young age of 12–14 years, using catapults, mainly targeting birds and squirrels. As they grow up, they join their fathers and uncles as assistants (porters and cooks) on hunting trips when they acquire hunting and trapping skills. There is no specific age for hunting. Men in their 20s hunt till they are in their 50s, indicating that hunting continues to be a popular activity and that skills continue to be acquired by younger generation.

Guns

Hunters with guns search and pursue animals. Generally

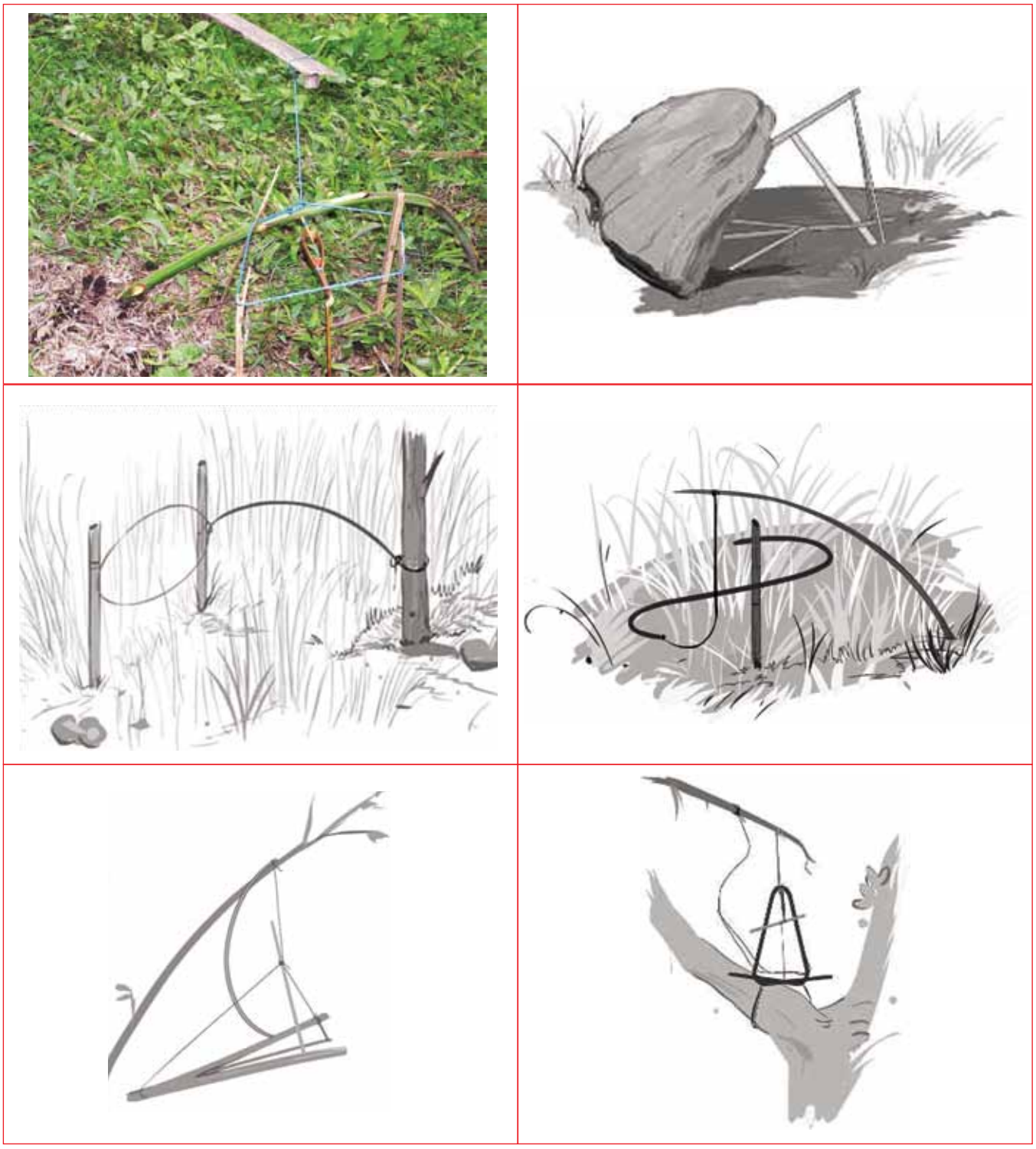

Fig. 3. Clockwise from top right: Different types of traps: *Handam*, *Kheyet*, *Diow*, *Hakap*, *Tawan,* and *Paipit*.

Table 3. Attributes of hunting and trapping methods

Hunting method	Who uses	Where	Seasons
Catapults	Boys, adult men	Around villages, crop fields	No particular season but more in winter
Traps	Men, women (sometimes), children	Around villages, kitchen gardens, crop fields and in the mountains	Guarding and harvest season (Aug-Nov), winter
Guns	Adult men only	Forests, crop fields, mountains	Winter (long duration trips), guarding and harvest season

shotguns are used, but one respondent in Yatong village (Anjaw district) had a 0.22 rifle with a telescopic vision. Guns are both, locally made, and bought in the open market on government-issued licenses. Most widely used are double-barreled shotguns (DBBL), single-barrel shotguns, and a hand shotgun. DBBL is preferred for its effectiveness. Guns are currently used for hunting along with a variety of traps and catapults **(Table 3)**.

Checklist of birds recorded during the surveys (list includes both live and dead birds)

Great Cormorant *Phalacrocorax carbo*: Hayuliang (Dead specimen, shot).
Temminck's Tragopan *Tragopan temminckii*: Chaglagam (Dead specimen, trapped).
Eurasian Crane *Grus grus*: Walong (Dead specimen, shot).
Rufous-necked Hornbill *Aceros nipalensis*: a pair near Parshuramkund. Also reported by Ali & Ripley (1949) from near Tidding, and by Singh (1995) from near Hayuliong road.
Great Barbet *Megalaima virens*: Chipru, near Hayuliang. Common during this season.
Golden-throated Barbet *M. franklinii*: Common around Hayuliang.
Sand Martin *Riparia riparia*: Common, Khupa.
Nepal House Martin *Delichon nipalense*: Common, Hayuliang, and Chipru.
White Wagtail *Motacilla alba*: Common.
Scarlet Minivet *Pericrocotus flammeus*: Common around Hayuliang.
Black-crested Bulbul *Pycnonotus melanicterus*: Common.
Red-whiskered Bulbul *P. jocosus*: Common.
Black Bulbul *Hypsipetes leucocephalus*: Common.
Orange-bellied Leafbird *Chloropsis hardwickii*: Hayuliang.
Blue Whistling Thrush *Myophonus caeruleus*: Common along the roads, close to farms.
White-collared Blackbird *Turdus albocinctus*: Taflagam, Chaglagam.
Orange-flanked Bush-Robin *Tarsiger cyanurus*: Loilum, dead specimen.
Black Redstart *Phoenicurus ochruros*: Common.
Blue-fronted Redstart *P. frontalis*: Chaglagam, Yatong, and Hayuliang
White-capped Water-Redstart *Chaimarrornis leucocephalus*: Common near streams.
Black-Backed Forktail *Enicurus immaculatus*: Sightings from Hayuliang to Chaglagam.
White-crested Laughingthrush *Garrulax leucolophus*: Common in undergrowth.
Striated Laughingthrush *G. striatus*: Khupa.
Blue-winged Laughingthrush *G. squamatus*: Captured alive.
Silver-eared Mesia *Leiothrix argentauris*: Dead specimen. Catapulted.
White-naped Yuhina *Yuhina bakeri*: Hayuliang, Chipru, and Chaglagam.
Fire-tailed Myzornis *Myzornis pyrrhoura*: Chaglagam.
Slaty-backed Flycatcher *Ficedula hodgsonii*.
Asian Paradise-flycatcher *Terpsiphone paradisi*: Chipru.
Yellow-bellied Fantail *Rhipidura hypoxantha*: Around Chipru, Metaliang, and Chaglagam.
Mrs. Gould's Sunbird *Aethopyga gouldiae*: dead specimen.
Little Spiderhunter *Arachnothera longirostra*: Chaglagam. Dead specimen, catapulted.
Little Bunting *Emberiza pusilla*: Chaglagam.

Discussion

Hunting for wild meat is a major issue in several countries across the world. Wildlife hunting is widespread in Arunachal too. With changes in lifestyle, improved infrastructure like roads, providing easy access to remote forests, and availability of modern hunting technology, the pressure on forests and wildlife is tremendous, and hunting is reported as one of the major threats to the avifauna of the state (Kumar & Singh 2003). Hunting is not only for the pot but also strongly linked to local culture. So what can be done about this issue of hunting is the main question. Conservation projects need to consider the social, economic, and cultural aspects of the local communities, since the ultimate aim is to prevent wildlife from declining, by involving local people. Their knowledge about the local ecology is very rich, and it is this knowledge and skill that can be harnessed for designing and implementing better conservation projects.

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A photographic record of a displaying Malayan Night-Heron *Gorsachius melanolophus* in Goa, India

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Bandekar, A., Parab, P., & Shetkar, S., 2011. A photographic record of a displaying Malayan Night-Heron *Gorsachius melanolophus* in Goa, India. *Indian BIRDS* 7 (5): 138.

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Fig. 1. Malayan Night-Heron *Gorsachius melanolophus*

For a warm and humid morning at Cotigao Wildlife Sanctuary, situated in South Goa, bordering Karnataka, birding on 23 May 2010 was not too bad. We had been welcomed by the calls of the Asian Fairy Bluebird *Irena puella* and Grey-headed Bulbuls *Pycnonotus priocephalus*. We stumbled twice on a pair of Grey Junglefowl *Gallus sonneratii* and at least five times on its spectacularly coloured male. An Emerald Dove *Chalcophaps indica* seemed unusually comfortable just a few meters away from our car. Through the thick canopy we got a view of the majestic Crested Serpent Eagle *Spilornis cheela* on two occasions. Once we saw it being 'chased' rather unceremoniously by an angry pair of Racket-tailed Drongos *Dicrurus paradiseus*. The reason we suspected was that either the Crested Serpent Eagle had ventured too close to the nest or had actually made its way into the nest of the Racket-tailed Drongos. A female Malabar Pied Hornbill *Anthracoceros coronatus* also gave us a quick stare before flying away noisily.

Photos: Amit Bandekar & Prasanna Parab

Fig. 2. Malayan Night-Heron *Gorsachius melanolophus* displaying.

But the cherry on the cake was the sudden and unusual sighting of the extremely rare Malayan Night-Heron *Gorsachius melanolophus*. Here is how it happened! After many unsuccessful attempts at photographing the handsome male Grey Junglefowl *Gallus sonneratii*, which kept scampering away, into the thick bushes every time we slowed the car, we nearly gave up on it. So the next moment we heard some rustling in the leaves, we turned our heads casually towards the sound, but this time it turned out to be a brownish bird resembling a bittern. Only when it stopped to stare at us did we identify it as the beautiful male of the Malayan Night-Heron **(Fig.1)**. It appeared to be puffing its throat, and walking around without minding our presence. Then it sneaked into the bushes and disappeared.

Ecstatic but unsatisfied with this unexpected encounter we decided to return again to the same area a bit later. An hour and an half later, when we returned, we found our prayers and persistence had paid off. There was a pair of them by the roadside in the same area. Upon seeing our car approaching one bird (female?) scampered into the thicket, hence we could not get its photograph. However, the male as earlier, waited, and watched us. This time we noticed that its purplish-black crown was erect and all the brown feathers on the neck and back were fluffed-up **(Fig. 2)**. While it did that, it took a few steps forward uttering a '*thuk thuk thuk thuk*' sound, which appeared to erupt from deep down its gut. Then it froze for sometime upturning leaf litter probably feeding, before resuming this act. It appeared very obvious to us that it was displaying to the bird on the other side of the road, perhaps somewhere behind the bushes. We witnessed this behaviour for about 20 min. It did not seem to mind our car or our antics from inside it trying to photograph, film, and sound record the bird; that is if it could at all see us through the glass, and seemed unconcerned at the occasional popping out of our heads or lenses. When it did not receive a response from the other bird it turned around and disappeared into the thicket slowly and steadily.

On the Indian Subcontinent, the Malayan Night-Heron has so far been reported from the Southern Western Ghats, North-eastern India, Nicobar Island, and Sri Lanka. It breeds in the Western Ghats from May to August, during the monsoons (Ali & Ripley 2001). This is perhaps the first photographic record of the bird from Goa, and probably the first of it displaying.

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Huge concentrations of the White-eyed Buzzard *Butastur teesa* at Tal Chhapar Wildlife Sanctuary, Churu district, Rajasthan

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Sangha, H. S., Bhardwaj, G. S., & Poonia, S. S., 2011. Huge concentrations of the White-eyed Buzzard *Butatur teesa* at Tal Chhapar Wildlife Sanctuary, Churu district, Rajasthan. *Indian BIRDS* 7 (5): 139–140.

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While birding at Tal Chhapar Wildlife Sanctuary, Churu district, Rajasthan, on 23–24 August 2008, we found an exceptional concentration of White-eyed Buzzard *Butastur teesa*. Although it was difficult to count the birds in the grassland, we estimated at least 375 birds in the sanctuary, almost evenly spread throughout the grassland, covering an area of 722 ha. Interestingly, we did not see a single adult bird; all were juveniles. They were generally walking about on the ground, and opportunistically catching locusts/grasshoppers. At times they took advantage of the movements of blackbuck *Antilope cervicapra* and caught insects disturbed by them. In the evening five to six buzzards were noticed hawking dragonflies, *c.* 30 m above the ground. The buzzards continued hunting well beyond sunset.

In 2009 White-eyed Buzzards arrived early, on 24 June, due to unexpectedly heavy rains, and good grass cover. Their number started increasing in the first week of July, and on 12 July 2009 SSP estimated that there were 100 birds in the sanctuary. The number of birds peaked to a staggering *c.* 500 on 19 July 2009. The number of birds declined in mid-August with about 100–150 birds being present in the area on 19 August 2010. Barely four to five birds remained by the first week of October 2009.

On 9 June 2010 the unexpected arrival of the cyclone Phet saw 58 mm of rain in 28 hrs! On 2–3 July HSS counted *c.* 30 birds in the area. Eight–nine birds appeared on 6 July 2010, after the first monsoon showers. About 250 birds were counted on 28 July 2010. Their numbers declined to *c.* 150 by mid-August. Although the rains were very good at Tal Chhapar in 2010 the insects were in low numbers. For at least five weeks the area was inundated due to exceptionally heavy precipitation.

On 9 July 2011 four birds arrived in the sanctuary. Although *c.* 100 buzzards were there on 11 August the numbers peaked between 17 August and 16 September and *c.* 650 birds were present in the sanctuary. The numbers declined in the last week of September and only 500 and 200 buzzards were there on 20 and 30 September respectively. Only 19-20 buzzards were seen on 21 October 2011.

Sharma (1988) was the first to report the seasonal concentration of raptors, mainly harriers (*Circus* sp.), at Tal Chhapar. White-eyed Buzzards arrive soon after monsoon and stay until the food supply is exhausted, usually up to the last week of September or early October. There were over 70 birds at Tal Chhapar on 5 September and about 40 on 9 September 2004. On 10 September 2005 *c.* 25 were recorded; on 3 September 2006 *c.* 45. However, the concentration of these birds was exceptional in 2008, 2009, and 2011 due to extremely favourable food supply.

Similar concentrations have been irregularly observed in Sariska Tiger Reserve in eastern Rajasthan. In August 2004 *c.* 200 birds were observed feeding on caterpillars in the reserve. An infestation of caterpillars on dhok *Anogeissus pendula* had attracted the birds to the area (Shantanu Kumar *pers. comm.*). Over 100 birds were seen here in 1989 during a period of rodent abundance, but fewer were present at the same site in 1990 (del Hoyo *et al.* 1994).

The species is generally regarded as sedentary, but is locally nomadic in response to fluctuations in prey availability. Some local movements have been recorded in northern Pakistan, in the region bordering Afghanistan (del Hoyo *et al.* 1994). Its local movements are governed by weather conditions and food availability (Naoroji 2007).

Taxa such as Honey Buzzard *Pernis* spp., Red-footed Falcon *Falco vespertinus* and Lesser Kestrel *F. naumanni* specialise in catching insects. For certain species such as Hobby *F. subbuteo*, Eleonora's Falcon *F. eleonorae* and Sooty Falcon *F. concolor*, insects are an important food source, whereas for harriers, kites (*Milvus* sp.), buzzards (*Buteo* sp.), eagles (*Aquila* sp.), and most falcons they are only a supplementary source. In fact, most of the 46 Western Palaearctic raptor species include insects as at least part of their diet (Gensbøl 2008). A sudden profusion of beetles, or the populations of any other medium-sized or large insects, are

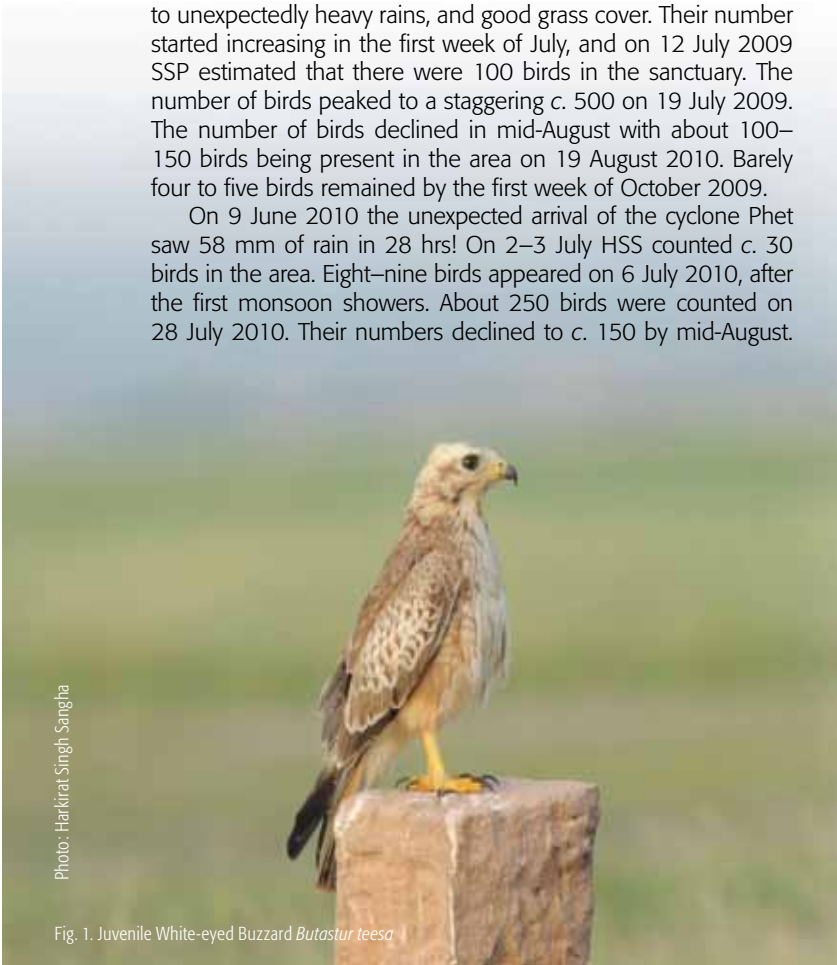

Photo: Harkirat Singh Sangha

Fig. 1. Juvenile White-eyed Buzzard *Butastur teesa*

exploited opportunistically by birds of prey. Huge concentrations of predators, including many hawks, kites, and eagles, follow swarms of locusts in the Old World tropics or attend bush fires, where they catch more insects than vertebrates (del Hoyo *et al*. 1984).

Although the principal food of White-eyed Buzzards is orthopterous insects and small reptiles, they also catch a variety of mammalian- and herpeto-fauna (Roberts 1991). At Tal Chhapar a sudden profusion of locusts/grasshoppers is exploited opportunistically by White-eyed Buzzards and for four to five weeks these birds appear to feed exclusively on insects. It is difficult to say why only juveniles are attracted to the area during monsoon and post monsoon months.

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Photo: Gobind Sagar Bhardwaj

Fig. 2. Juvenile White-eyed Buzzard *Butastur teesa*

Occurrence of Lesser Florican *Sypheotides indicus* in Bangalore, Karnataka, India

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Raghavendra, M., 2011. Occurrence of Lesser Florican *Sypheotides indicus* in Bangalore, Karnataka, India. *Indian BIRDS* 7 (5): 140–142.
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On 18 December 2011 I visited the dry Lake bed at Hesarghatta, located about 23 km north-west of Bangalore, intending to photograph birds. When I reached the site at 0730 hrs, it was cold, and as the sun had not come out, I waited. The light improved after 20 min, and a harrier flew over my car. As I was ruing my chances for photography, I spotted a medium-sized land bird crossing the road about 15 m from the car. At first glance, I thought it was a juvenile junglefowl, but on seeing the structure of the head, I got a doubt that it could be a bustard. I slowly moved my car to the place where the bird had crossed the road, and was able to spot it amidst thick grass. I photographed it for the record, before it vanished silently into the grass **(Fig. 1)**. After waiting for a few minutes for the bird to show up again, I decided to get out of the car and find the bird. For a few more minutes I scanned the area but could not spot the bird. Then, all of a sudden, it flew out of the grass about 5 m away from me, flying away to a great distance. I visited the place again on 24 December, and was lucky to sight and photograph the bird again **(Fig. 2)**, but I failed to locate the bird again, when I returned the next day.

Photo: M. Raghavendra

Fig. 1. First record shot of the Lesser Florican *Sypheotides indica* female

Table 1. Historical records of Lesser Florican *S. indicus* in Karnataka

	Place	Number of birds	Date/Season	Source
1	South Kanara	Unknown	October to Feb–Mar	Jerdon 1864
2	Mallur (=Malur)	30	Not known	Mcinroy 1880
3	East Mysore	Numerous	Not known	Mcinroy 1880
4	Dharwar	Common	Not known	Butler 1881
5	Belgaum	Few	All year	Butler 1881
6	Bangalore	Numerous	Rains & cold weather	Anderson 1883
7	Shimoga	Good many	Hot weather	Anderson 1883
8	Kanara	Rare	Not known	Barnes 1891
9	Halyal (=Haliyal) North Kanara	1–2	April	Davidson 1898
10	Bangalore	One	14 December 1911	Betham 1911
11	Tumkur	One	Before 1912	Baker 1912
12	Mysore	One	1925–40	Phythian-Adams 1940
13	Hassan district	One	26 May 1952	Worth 1953
14	Belikeri	Female	Not known	Abdulali 1969
15	Tungabhadra, at Tungabhadra Wildlife Sanctuary	Unknown	pre–1956	Goriup & Karpowicz 1985

The bird was found in dry grassland mixed with *Stachytarpheta indica, Lantana camara*, and *Parthenium hysterophorus*, and dominated by scattered growth of tall *Prosopis juliflora* bushes **(Figs. 3 & 4)**. The grass was 45 cm tall. At home, I identified the bird as a female Lesser Florican *Sypheotides indicus* with the help of Grimmett *et al*., (1998).

The Lesser Florican is an endangered endemic bustard (Otididae) of the Indian Subcontinent. Once common and most widely distributed across India, this species has become increasingly rare (Sankaran *et al*., 1992; Sankaran 1995; BirdLife International 2001). It is known to breed during the south-western monsoon (Jerdon 1864; Baker 1921; Dharmakumarsinhji 1950; Ali & Ripley 2001) from June to September/October, and is said to move in response to rainfall. Its presence at locations can be erratic, with the sudden appearance of large numbers in some seasons (Whistler 1949). During this period, the species is known to show a distinct movement into Gujarat, eastern Rajasthan, western Madhya Pradesh, and north–central Andhra Pradesh, where it congregates in areas of good rainfall (Jerdon 1864; Sankaran *et al*. 1992, 1997; Rasmussen & Anderton 2005). Outside the breeding season, it is known to winter in dry, grassy areas throughout much of India, mainly north-western Bengal, Orissa, east of the Western Ghats, south and east of the Godavari River, and south to Kerala (Sankaran 1995; Rasmussen & Anderton 2005).

In Karnataka, the Lesser Florican has been recorded at nearly 15 locations since the late 1870s **(Table 1)**, with the last one being seen before 1956 at Tungabhadra Wildlife Sanctuary (Goriup & Karpowicz 1985). According to McInroy (1880) 30 birds were shot in one day by two officers of the forest department at 'Mallur' (=Malur) railway station, located about 37 km east of Bangalore while, Davidson is said to have found the species sparingly in (erstwhile) Mysore, but had only seen a single bird on two occasions in Tumkur district, pre-1912 (Baker 1912). Worth (1953) sighted one bird at the '101 mile post' on the Bangalore–Mangalore road, in Hassan district, while Goriup & Karpowicz (1985) mention a pre-1956 record from Tungabadra Wildlife Sanctuary.

In Bangalore, Anderson (1883) found the species to be numerous during rains and cold weather, while Betham (1912) shot a bird on 14 December 1911 in a scrub forest with scattered paddy fields. Thus, considering the records of the species in Karnataka, the species has not been sighted since pre-1956 in the state, while it has been sighted in Bangalore after 100 years.

Taking into account the above records, I consider the present sighting of the species at Hesarghatta of particular interest, and its continued presence here over seven days is a strong proof of its occurrence in Bangalore outside its breeding season. This record also gives hope that the Lesser Florican could possibly be found in similar habitats in Bangalore, and also across Karnataka.

The species' habitat is described as, 'tall grassland with scattered bushes, and standing crops of cotton and millets …' (Ali & Ripley 2001; Rasmussen & Anderton 2005), and the grasslands of Hesarghatta fall within the preferred habitat of the species. BirdLife International (2011) indicates that the species

Fig. 2. The Lesser Florican *Sypheotides indica* female at Hesarghatta

Photo: M. Raghavendra

Fig. 3. The Lesser Florican *Sypheotides indica* habitat at Hesarghatta

is suspected to be declining rapidly owing to ongoing loss and conversion of grassland habitats.

In light of this, and the unfortunate recent decision of the Bangalore Development Authority to take up intensive tree planting in 121 ha grassland area of Hesarghatta, and having planted over 30,000 saplings already (Anon 2011; Nandi 2011; Menon 2011), will alter the florican habitat drastically, and spell doom to its occurrence in the area. Thus, there is an urgent need to put an end to the tree planting activity, and if possible, restore the grassland habitat.

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Photo: M. Raghavendra

Fig. 4. Close view of the Lesser Florican *Sypheotides indica* in its typical habitat at Hesarghatta

Buff-breasted Sandpiper *Tryngites subruficollis* from northern Kerala : a third record for India

P. C. Rajeevan & Jayan Thomas

Rajeevan, P. C., & Thomas, J., 2011. Buff-breasted Sandpiper *Tryngites subruficollis* from northern Kerala: a third record for India. *Indian BIRDS* 7 (5): 143–144.
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This note describes the sighting of a Nearctic vagrant, the Buff-breasted Sandpiper *Tryngites subruficollis* from Madayipara, Kannur district, Kerala. Madayipara (12°01'N, 75°15'E) is a laterite hillock on the south-western coast of India, situated in Madayi village near Payangadi town in the Kannur district of Kerala. The area is largely a plateau with grassy meadows and rocks interspersed with very few trees or shrubs. There are several small pools amidst the rocky spots apart from two large artificial tanks.

This small area is rich in biodiversity (Palot & Radhakrishnan 2005) and is one of the best over-wintering areas in Kerala for migrants like Pacific Golden Plover *Pluvialis fulva*, Greater Sand Plover *Charadrius leschenaultii*, Lesser Sand plovers *C. mongolus*, Curlew Sandpiper *Calidris ferruginea*, and Terek Sandpiper *Xenus cinereus* (Sashikumar *et al.* 2011). Reports of the first sightings from Kerala of birds like Isabelline Wheatear *Oenanthe isabellina* (Sashikumar *et al.* 2011), and Tawny Pipit *Anthus campestris* (Rajeevan *et al.* in press) were also from Madyaipara.

Details of the Sighting: While watching waders at 1115 hrs on 30 October 2011, PCR spotted a small wader that looked different in plumage and structure from the accompanying Lesser Sand Plovers; it had yellow legs and pearly-edged wings. The bird was smaller and slimmer than the accompanying sand plovers, with a short, pointed, stint-like bill, and seemed more like a small Pacific Golden Plover in general plumage. PCR recollected seeing a bird with yellow legs on 28 October 2011, also in the same area at 0830 hrs, but was unable to watch it at close quarters then. On this day, while the bird was under close observation by PCR, JT inched closer to get some photos of the bird. The bird was observed for about 30 min, from as close as 15 m. The bird was also spotted on 1 and 2 November by PCR, and was last seen on 3 November by JT & PCR when it was filmed. The bird could not be located after this date despite several visits and detailed searches by PCR. Hence, it seemed to have been around for at least three days and possibly a few more days earlier prior to 30 October.

Behaviour: The bird was feeding on a small patch of burnt-out grass by the side of a pool near a rocky area. It was actively feeding, a little away from the plovers, with its head bobbing while feeding. The bird was silent at all times and had striking sun-flower yellow legs. At times a plover would butt this bird with its head and the bird would flee to a side and start feeding again. The bird was not shy as we could approach as close as 15 m, without flushing it. Whenever the plovers took off, this bird also would join them, but was usually the last one to take to the air.

Field features: The bird was a generally drab, buff-coloured, wader with scalloped upper-parts. Its crown, nape, hind-neck, and upper mantle were streaked with fine blackish lines. It had a dove-like plain buff head with a dark eye and a pale eyering that stood out in an otherwise non-descript buff face. The bill was short , black, and straight, and was nearly equal to the length of the head measured across the eye. Mantle, scapulars, wing coverts, and tertials had black-centred feathers. The breast was buff with small black spots on its sides. The chin seemed paler brown than the face and fore-neck. The neck and breast were buff in colour and the rest of the under parts gradually faded to a whitish colour from rear belly, and vent to the under-tail coverts. In flight, the bird showed white on the under-wing, but no hint of white on the upper-wings, tail, or rump.

Photographs **(Figs. 1 & 2)** showing all the field features were widely circulated for expert opinion. Though the plumage showing pale eye-ring, unmarked face, and spots on the sides of breast was convincing enough for identifying a Buff-breasted Sandpiper, photographs of lone birds are liable to be confused

Photos: Jayan Thomas

Fig. 1. Buff-breasted Sandpiper *Tryngites subruficollis.*

Fig. 2. Buff-breasted Sandpiper *T. subruficollis* amidst *Eriocaulon* sp.

Table 1. Table of past records of Buff-breasted Sandpiper *Tryngites subruficollis* from South Asia

Date	Location	Observer(s)	Reference
5 March 1960	Kalametiya Lagoon, near Hambantota, Southern Province, Sri Lanka	TSE De Zylva	Norris 1960
November 1974	Trincomalee, Sri Lanka	JC Sinclair	Phillips 1978
19–23 January 1985	Bundala Sanctuary, Sri Lanka		Hoffman 1992
18 May 1996	Harike, Punjab, India	Per Undeland	Robson 1996
18 November 2000	Santa Cruz, Goa, India	Rick Heil, Paul Holt & other birders	Holt & Heil 2003

Photos: Jayan Thomas

Fig. 3. Buff-breasted Sandpiper *T. subruficollis* with Lesser Sand Plover *Charadrius mongolus*.

for a juvenile Ruff *Philomachus pugnax*, as there is no indication of size in such pictures. However, the picture **(Fig. 3)** showing the bird next to a Lesser Sand Plover enabled size comparison and clearly helped in clinching it as a Buff-breasted Sandpiper, one of the rarest of the South Asian vagrants. It happens to be the first time that this species has been photographed from this region.

Breeding in the northern Nearctics, and wintering in the southern Neotropics, this species is frequently vagrant nearly worldwide (Rasmussen & Anderton 2005). However, it has been reported just five times from South Asia, one record per decade, and twice within Indian limits (Table 1). This autumn was particularly interesting for this species with several birds windblown to the coast of United Kingdom due to hurricanes in the West Atlantic (Mike Prince *pers. comm.* November 2011).

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Feeding record of the Green Cochoa *Cochoa viridis* in Pakke Tiger Reserve, Arunachal Pradesh

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Velho, N., 2011. Feeding record of the Green Cochoa *Cochoa viridis* in Pakke Tiger Reserve, Arunachal Pradesh. *Indian BIRDS* 7 (5): 144–145.
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The Green Cochoa *Cochoa viridis* is a shy, arboreal, and frugivours bird. It is fairly widespread in north-eastern India and South-east Asia (del Hoyo *et al*. 2005). Little is known of its diet though it is reported to feed broadly on berries, insects, and molluscs (del Hoyo *et al*. 2005). Bishop (1999), recorded two instances of Green Cochoa foraging in the mid-storey of subtropical forests at 1,000 m, and on exposed tops of tall trees within a mosaic of partially degraded subtropical forest at 1,400 m. On both those occasions, there were no details on what the cochoas fed on.

In 2010, I sighted the Green Cochoa in the foothill forests (150 m ASL) of Pakke Tiger Reserve (26°54′–27°16′N, 92°36′–93°09′E; 862 km^2), in eastern Arunachal Pradesh. As part of a larger study on avian frugivory in the area, fruit tree watches on several bird-dispersed tree species were conducted from 0600 hrs to 1100 hrs. Focal tree watches were conducted on a *Litsea* sp. which was seen to be fruiting in February–March. Fruits of these species are drupaceous, occur in clusters, and have a diameter of 9.09 mm. This tree species belongs to the predominantly bird-dispersed Lauraceae family (Datta & Rawat 2008).

On 14 March 2010 at 0748 hrs a Green Cochoa was observed feeding on the fruits of a *Litsea* sp. The bird spent nearly three

minutes on the *Litsea* tree, during which it swallowed three to four fruits and dropped one of them.

Dietary information on the other three species of cochoa is also lacking, although the Javan Cochoa *C. azurea* is known to feed on *Zanthoxylum ovalifolium* and *Z. scandens* (del Hoyo *et al*. 2005).

The other species observed feeding on *Litsea* sp., were Black-crested Bulbul *Pycnonotus melanicterus*, White-throathed Bulbul *Alophoixus flaveolus*, Red-vented bulbul *P. cafer*, Blue-throated Barbet *Megalaima asiatica*, and Lineated Barbet *M. lineata*.

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Notes on two migratory cuckoos from the Western Ghats, Tamil Nadu, southern India

V. V. Robin & Sudheendra Rao

Robin, V. V., & Rao, S., 2011. Notes on two migratory cuckoos from the Western Ghats Tamil Nadu, southern India. *Indian BIRDS* 7 (5): 145–146.
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Cuckoos in the Genus *Cuculus* and *Hierococcyx* comprise species that are both sedentary and migratory. The migratory species have a wide distribution, and in India, they breed in the Himalayas where they are described as being highly vocal brood parasites. In their wintering grounds in peninsular and southern India, these species are under-recorded as they are silent and also resemble resident species with respect to field characters.

During a field study that involved mist-netting, in the evergreen forests of the Anamalai Tiger Reserve in the Western Ghats of Tamil Nadu, southern India, we captured, marked, and measured one individual of Large Hawk Cuckoo *Hierococcyx sparverioides* on 24 December 2005 and two individuals of Lesser Cuckoo *Cuculus poliocephalus* on 28 October 2004. All captures were *c*. 1400 m above MSL and at the edge of a large evergreen forest patch bordering tea plantations.

The Large Hawk Cuckoo is known to resemble the Shikra *Accipiter badius* in plumage and behaviour (Ali & Ripley 1983; also see Payne 2005 for an illustration of flight similarity and description regarding this). It is known to breed in the Himalayas at an elevation of 900–2700 m, between April and July, and migrate south to the peninsula in winter. Issues have been raised regarding the possibility of confusion in identification with the more common resident Common Hawk Cuckoo *H. varius* (Ali & Ripley 1983). Moreover, its silent habits in the wintering grounds make it difficult to detect. The species has been only sporadically recorded from this region (Yoganand 1997; Kannan 1998; Sridhar 2005; Raman 2006). We captured this species during our under-storey mist-netting session at Anamalai Tiger Reserve, at 1450 m elevation in a degraded forest patch adjoining a tea estate. It was identified in hand and its identity was confirmed by an examination of morphometric details **(Table 1)**.

The Lesser Cuckoo is known to occur in montane habitats in much of its breeding range (Payne 2005). In the Himalayas, it occurs at 1500–3200 m above MSL between April and August, and migrates to lower elevations and latitudes in the winter, 'wandering widely in the peninsula south to Kerala' (Ali & Ripley 1983). Ali & Ripley (1983) speculate on a wide winter distribution for this species but attribute the lack of records to its silent habit in the non-breeding season. Though there is one record from the Nilgiri Hills in Tamil Nadu (Ali & Ripley 1983), many past studies in this region have not reported this species (e.g., Kannan 1998; Sridhar 2005; Raman 2006). The two individuals caught were similar in plumage but differed in size, with one being smaller than the other.

These records form part of a larger study on the conservation biology of the White-bellied Shortwing *Brachypteryx major* that one of the authors (VVR) has been conducting in the same area for four years (2003–2007). Coincidentally, both species of cuckoos are known to parasitise *Brachypteryx* species in the Himalayas though the genus level affinity of the shortwings in the Western Ghats is not presently clear (Robin *et al*. 2010). The study in the Western Ghats involves annual intensive mist-netting, maintaining a constant trapping effort in about 10 ha of forests spread across four plots, while also monitoring four small patches (<2.5 ha each) of montane forests. However, the two species of cuckoos were recorded only in one season and were never re-captured. We speculate that these individuals were probably moving through these areas. More intensive sampling over a longer period of time across a

Table 1. Morphometric measurements of two species of cuckoos captured in southern India

Species	Right tarsus (mm)	Right wing (mm)	Tail (mm)	Bill (mm)	Weight (g)	Age
Large Hawk Cuckoo *Hierococcyx sparverioides*	25.4	224	204	24.4	–	Adult
Lesser Cuckoo *Cuculus poliocephalus*	18.47	152	131	21.32	–	Adult
Lesser Cuckoo	20.16	154	136	24.64	47	Adult

larger geographical area, or citizen science initiatives like Migrant Watch (http://migrantwatch.in), may help in understanding the wintering grounds of these cuckoos in the Western Ghats better.

Acknowledgements

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First photographic record of Blyth's Rosefinch *Carpodacus grandis* from Sikkim, India

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Rahut, B., Dutta, M., & Bonpo, C. R., 2011. First photographic record of Blyth's Rosefinch *Carpodacus grandis* from Sikkim, India. *Indian BIRDS* 7 (5): 146–147.
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Blyth's Rosefinch *Carpodacus grandis*[1] **(Fig. 1)** is found from northern Baluchistan (Ziarat) to Chitral, thence eastward through Gilgit, Astor, Baltistan, Ladakh (not being recorded in Kashmir proper), Lahul, Spiti, Garhwal, and Kumaon (Ali & Ripley 2007). The British Museum holds a specimen from Kumaon (Ali & Ripley 2007).

The species is not globally threatened, and is known to be locally common (Rasmussen & Anderton 2005).

It breeds between 2400 m and 3500 m in Baluchistan (North-West Frontier Province), up to 3700 m in Gilgit (Baltistan), and between 3400 m and 3800 m in Ladakh and Lahul (Ali & Ripley 2007).

Blyth's Rosefinch generally affects juniper, briar, rose bushes, and shrubs in dry biotpope. In winter (end of October to April) it moves down to the foothills (300–2400 m), into the Quetta Valley, Kohat, the Salt Range, Campbellpur, and Rawalapindi. In Dharmsala, Kangra, and Simla it is recorded in winter between 2200 m and 2600 m. In foothill areas it affects bushes, wild olive trees, patches of thorny scrub, gardens, and cultivated spots (Ali & Ripley 2007).

During our third visit to Pangolakha Wildlife Sanctuary (28–31 August 2011; guide: Chewang Rinchen Bonpo), a designated Important Bird Area in eastern Sikkim, we recorded and photographed a large, stout-billed rosefinch at *c.* 3800 m, near Lungthu (27°45'N, 88°02'E). Instantly noticeable morphological characters of the species were: (i) The prominently large size of the bird as compared to the other rosefinches (e.g. Himalayan White-browed Rosefinch *Carpodacus thura*, Dark-breasted Rosefinch *C. nipalensis*) normally found in the area, (ii) a large heavy bill, (iii) vinous-washed mantle, (iv) silvery-pink supercilium, cheek, and throat, (v) pinkish vent, and (vi) streaks all through the ventral part from throat to the belly.

After minute scrutiny of the photographs, we concluded that it was a Blyth's Rosefinch. We sent photographs of the bird to Krys Kazmierczak, who also confirmed it as a Blyth's Rosefinch (*in litt.* 17 September 2011). Tim Inskipp too posted on the Facebook page of the Sikkim bird group (13 October 2011) that this was probably the first fully acceptable record of the bird from Sikkim.

Sharpe (1888) gives its distribution as, 'Afghanistan and Himalayas from Northern Cashmere to Native Sikhim,' and records a specimen collected in 'Native Sikhim, Aug. 19, 1879 (L. Mandelli),' i.e., present day Sikkim. However, Oates (1890) noted that, 'In the British Museum there is also a single female said to have been procured in Sikhim by Mandelli, but there is no original label attached to this specimen and I fear that some mistake may have been made regarding this locality,' (pp. 216–217). Baker (1926) referred to this Mandelli specimen but attached no doubt to the locality information, and in 1934 he simply stated, 'has once occurred in Sikkim,' (p. 48). Finally Ganguli-Lachungpa et al. (2007) mention its occurrence in the Tso Lhamo plateau-Lashar-Sebu La-Yumesamdong complex.

This is the first photographic documentation of the species not only in the Eastern Himalayas but also east of the Kumaon region.

The Pangolakha Wildlife Sanctuary in Sikkim, the Neora Valley National Park in West Bengal, and the Toorsa Nature Reserve in Bhutan form a sort of green triangle that is extremely rich in biodiversity. The varied altitudes of these protected areas formulate a wide tier of natural vegetation from the barren alpine slopes at the top to the mixed deciduous variety at the foothills,

1 Elevated to species level from Red-mantled Rosefinch *C. rhodochlamys grandis*, and re-christened Blyth's Rosefinch by Rasmussen & Anderton (2005).

Photos: Biswapriya Rahut

Fig. 1. Blyth's Rosefinch *Carpodacus grandis*.

with conifers, rhododendron groves, malinga bamboo areas, and moist evergreen forests in between. Such a variety of natural vegetation is home to wide diversity of fauna.

The natural vegetation, altitude, and topography somewhat match with the places where the species normally occurs except for the fact that Lungthu is, by no means, a dry biotope.

Rosefinches are much understudied in these areas as the region falls within the restricted zone close to the Indo-Chinese border.

Future studies may reveal an extended home range of Blyth's Rosefinch in the Eastern Himalayas, where they seems to be apparently rare.

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Figs in the diet of Greater Golden-backed Woodpecker *Chrysocolaptes lucidus*

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Figs (*Ficus* spp.) are an important source of food for a wide range of bird species. Surveys of bird diets in both, the New-, and the Old Worlds show that among 1,230 species of frugivorous birds, 990 spp., feed on figs (Shanahan *et al.* 2001; Kissling 2007; Sreekar *et al.* 2010). Though the diet of woodpeckers consists mostly of insects, there are scattered records of figs being eaten by woodpeckers (Shanahan *et al.* 2001).

On 28 February 2010 in Agumbe, Karnataka, India (13°50′52″N, 75°09′35″E; *c.* 557 m ASL), I observed a female Greater Golden-backed Woodpecker *Chrysocolaptes lucidus* on a *Ficus tsjahela* in fruit. The woodpecker was feeding on the ripe fruits of *F. tsjahela* for about five minutes till it flew away. My presence might have affected the behaviour of the woodpecker.

The diet of the Greater Golden-backed Woodpecker consists mostly of insects and grubs, nectar and fruit are taken occasionally as supplementary food (Ali & Ripley 1983; Santharam 2003). Frugivory by woodpeckers in the Western Ghats was earlier reported by Santharam (1999, 2003), who observed frugivory in seven species of woodpeckers (Picidae), none of which were observed feeding on figs. This is the first record of the Greater Golden-backed Woodpecker feeding on figs. The previous records, as well as the current observation, of frugivory in woodpeckers suggest that fruit may comprise a supplementary diet in woodpeckers.

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Observations on the nests of Scaly-breasted Wren-babbler *Pnoepyga albiventer*: do trails affect nesting success?

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Bashir, T., Bhattacharya, T., Poudyal, K., & Sathyakumar, S., 2011. Observations on the nests of Scaly-breasted Wren-babbler *Pnoepyga albiventer*: do trails affect nesting success? *Indian BIRDS* 7 (5): 148–149.

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The Scaly-breasted Wren-babbler *Pnoepyga albiventer* is a passerine bird species formerly included in the Old World babbler family Timaliidae (Cibois 2003; Beresford *et al*. 2005; Alström *et al*. 2005), but based on the morphological, behavioural, and phylogenetic uniqueness of this genus it has now been placed in a new family Pnoepygidae (Gelang *et al.* 2009).

It differs from most babblers in having rounded and 'cup-shaped' wings, the near absence of a tail, making it almost flightless (Collar & Robson 2007), and in being solitary by nature. The bird is very small and measures *c.* 10 cm in length, and weighs between 19 and 23 g (Ali & Ripley 1972). It inhabits sub-tropical dense undergrowth montane forests of Bhutan, China, India, Myanmar, Nepal, and Vietnam, and is reported to be found usually near water (Ali & Ripley 1972; Rasmussen & Anderton 2005; del Hoyo *et al.* 2007; Gelang *et al.* 2009). The species is listed under 'least concern' in the Red List of threatened species (IUCN 2010), as it is common throughout its distribution range.

In 2009 we monitored five nests of Scaly-breasted Wren-babbler along the main Yuksam–Dzongri trekking route and the network of trails in the temperate forests of Prek *Chu* catchment in the buffer zone of Khangchendzonga Biosphere Reserve, Sikkim. The nests were located at *Dubdi, Chong, Bakhting, Quapani*, and *Jamathang* areas that ranged from 1900 to 2500 m ASL. Observations were made once in a week for two months (mid-April to mid-June) and information on nest position, building material, and clutch size was recorded. Caution was taken that the nests observed were not exposed after monitoring.

The nests were globular, about 5 cm in diameter, and positioned at *c.* 1.0–1.5 m above ground. As reported by Ali & Ripley (1972) and del Hoyo *et al.* (2007), nests were located under a moss-clad rock, or amongst moss growing on large tree trunks, or on moss-covered slopes alongside the trails / trekking paths. Mosses and rootlets were the main materials used for both placement and construction of nests.

Among the five nests that were monitored, only four reached hatching stage, as one nest was found dismantled from its position due to some unknown reasons, and its diameter was recorded (5 cm). The white, longish, and oval eggs were laid in April–May comprising a clutch of 3–4 eggs **(Table 1)**. Hatching was recorded during May–June after an incubation period of about 12–14 days (this study). Hatchlings from only two, of the four, nests survived successfully. The others were predated, except for one chick found alive on the ground. An eastern trinket snake *Orthriophis cantoris* was observed feeding on the chicks of one nest, and a Himalayan keelback *Rhabdophis himalayanus* on those of the other. The chick that was found alive on the ground was placed back into its nest, but not found in the nest when visited next. Considering this small sample of five nests, the occurrence of over 60% mortality of hatchlings (Table 1), only due to predation, may be of concern, as effects of other pressures are not known.

Another matter of concern is that some of the local communities are often keen to search for this bird, locally known as '*Mustay*' ("tailless bird" in *Nepali*) or '*Marchok-bong*' (*Lepcha*), as there is a belief that if a young boy catches the bird alive, he is endowed with leadership qualities and could guide the whole tribe towards success. The local people believe the bird to be so agile and careless that when in danger it even leaves its nest without bothering about its eggs or chicks. They are also of the opinion that this species used to be common and sighted frequently about a decade ago, but has now become locally rare.

Although, we do not know the success rates of nests that are located in the forest interiors (away from trails), it is very likely that the effects of human activities would be minimal there. Lack of scientific information on the status of common species, such as this, is another limiting factor that prevents assessments for conservation. Cumulative impacts of human activities such as tourism, hunting, and forest resource dependency over a period of time, have led to habitat degradation and fragmentation worldwide. It would be interesting to investigate the breeding success of this species in areas that are subjected to different levels of human use.

Table 1. Observations on five nests of Scaly-breasted Wren-babblers in the buffer zone of Khangchendzonga Biosphere Reserve, Sikkim, 2009

Nest ID	Elevation (m)	Vegetation type	Clutch size				# Hatchlings	# Chicks		# Survived
			I	II	III	IV	V	VI	VII	VIII	IX
Dubdi	2,190	*Castanopsis hystrix –Quercus lamellosa*		2	3	3	3	3	3	3	3
Chong	1,970	*Castanopsis hystrix –Machilus* spp.	1	2	3	3	3	3	2	0	0
Bakhting	2,450	*Quercus* spp.		1	3	3	3	3	3	3	3
Quapani	2,120	*Castanopsis hystrix –Symplocos theifolia*		2	4	3	0	0	0	0	0
Jamathang	2,260	*Quercus lineata –Symplocos theifolia*	1	3	4	4	4	4	1	0	0

Note: I, II, III … IX denote monitoring occasions (once in a week) starting from 15 April to 15 June 2009.

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Photographic record of Long-tailed Shrike *Lanius schach tricolor* from Bandhavgarh National Park, Madhya Pradesh, India

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Sawant, D., 2011. Photographic record of Long-tailed Shrike *Lanius schach tricolor* from Bandhavgarh National Park, Madhya Pradesh, India. *Indian BIRDS* 7 (5): 149.

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The Long-tailed Shrike *Lanius schach* is a member of the family Laniidae. This species has a wide distribution from central and southern Asia through to New Guinea, and is morphologically variable. Of the nine races recognised, *L. s. tricolor* (sometimes called Black-headed Shrike) is quite distinct in having a black head extending from the eye mask to the whole crown and nape. This sub-species is known to occur from Nepal, east to northern Thailand; in India, it is regularly recorded from Kumaon, east through the Gangetic Plains to Arunachal Pradesh, and south to West Bengal, Jharkhand, Chhattisgarh, and Orissa (Rasmussen & Anderton 2005).

I present here the first photographic record of the black-headed race of Long-tailed Shrike from central India. The bird was seen and photographed near Ranccha village (23°43′53″N, 81°00′52″E) at Bandhavgarh National Park in Umariya district, Madhya Pradesh, on the morning of 1 February 2010 at around 1000 hrs. The bird was first seen perched on the top-most branch of a *Terminalia bellerica*, at the height of about 4.5 m. The identification was confirmed using Grimmett *et al*. (1999).

Photo: Dipak Sawant

Fig. 1. Long-tailed Shrike *Lanius schach tricolor* in Bandhavgarh National Park.

The landscape is mainly agricultural fields scattered with trees like *Terminalia bellerica*, *Butea monosperma*, *Lagerstroemia longifolia*, and *Buchanania lanzan*. Most of the crops had already been harvested, and thatches and husks were lying on the ground for drying in the surrounding agricultural fields.

The shrike was seen swooping in the air at regular intervals and catching flying insects. I observed it every day during my stay till 10 February 2010. I returned to Bandhavgarh on 29 March 2010, but it was not seen in the locality.

Subhasis Mahato and Navneethan Kutty photographed another individual near the Majkheta village (*c.* 20 km south of Ranccha) on 12 April 2010 in similar habitat. The bird was seen once more on 25 June 2010 in Gadhpuri village, C. 3 km away, and was heard mimicking Common Myna *Acridotheres tristis*, and Black Drongo *Dicrurus macrocercus*.

From these observations, it seems possible that *L. s. tricolor* winters in small numbers in and around Bandhavgarh in north-eastern Madhya Pradesh.

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Review

Birds of Kerala: status and distribution

by C. Sashikumar, Praveen J., Muhamed Jafer Palot, & P. O. Nameer. 2011. 1st ed. DC Books: Kottayam, Kerala. Pp. 1–835. Hardback (14.0 x 21.0 cm, with illus. dust cover), seven portraits (various sources), 572 photos (col., by 50 photographers), six maps (by M. Pradeep Kumar), two text-figs, and 17 tables. Price: Rs. 995/-.

Contents: List of Families/Subfamilies in the main list (pp. 6–8); Foreword (pp. 9–10, by Asad R. Rahmani); Preface (pp. 11–12, by authors); Acknowledgements (pp. 13–15); A history of ornithology in Kerala (pp. 16–29); The changing landscape of Kerala (pp. 30–53, by S. Sathis Chandran Nair); Climate of Kerala (p. 54); An overview of the bird communities of Kerala (pp. 55–79); Conservation (pp. 80–87); Map of northern Kerala (p. 80); Map of southern Kerala (p. 81); Site descriptions (pp. 90–108); Species accounts: methodology and notes (pp. 109–119); Species accounts: the main list (pp. 120–708); Map (p. 709); Species accounts: the secondary list (pp. 710–741); Appendix 1: Checklist of the birds of protected areas and reserve forests of Kerala (pp. 742–759); Appendix 2: Survey locations of Salim Ali's Travancore–Cochin survey (pp. 760–767); Appendix 3: Glossary (pp. 768–771); Appendix 4: Useful contacts (p. 772); Bibliography (pp. 773–814); Index of scientific names (pp. 815–819); Index of English names (pp. 820–825); Additional information (pp. 826–835).

Kerala has been lucky in its ornithologists. Perhaps it has something to do with its biogeography, perhaps the unique avifauna such geographical positioning evolves, perhaps an intrinsic desire of its human population to take a serious interest in their surroundings, and document the vicissitudes of avian lives. Kerala seems to be not just 'God's own country,' but the itinerant ornithologists' too, and they flock to it like a mixed feeding party in a forest glade, leaving their best work in their wakes.

Given the substantial documented legacy that pervades Kerala ornithology, it seems to me that the book under review was waiting to be written.

This is not a field guide, though it is replete with bird photographs. This is not a sumptuous handbook of Kerala ornithology, though that should be on the authors' target next. This book perches perfectly on that branch of contemporary ornithology, which intelligently brings together scattered records from various media, be they from published scientific/semi-scientific papers, downloads from the Internet, newspaper reports, or the unpublished personal notes of birdwatchers into a single comprehensive volume. It provides the most pertinent information required by ornithologists, conservationists, administrators, and ecologists—that of the status and distribution of birds within the boundaries of Kerala. And the authors have chosen to pick up the thread of recorded ornithology from where it had run up to in 1993, only they have wisely decided to spread their research over the past three decades, thereby overlapping the period covered by Neelakantan *et al.* (1993), for good measure and thoroughness.

Birds of Kerala covers 491 spp. (pp. 11–12), in two lists. The first, Main List, contains 453 taxa, which were recorded in Kerala at least once since 1 January 1975. The second, Secondary List, comprising 49 taxa, contains historical records that do not meet the authors' criteria for inclusion in the Main List.

Species accounts contain English, Malayalam, and scientific names, the serial number from Ripley's *Synopsis* (1982), a photograph of the species, and information under the sub-headings: habitat, status, distribution, breeding, threats and conservation, historical records, and notes.

Three tables try to resolve identification pitfalls of the following difficult groups: pipits (p. 528), *Acrocephalus* and *Hippolais* warblers (pp. 618–619), and leaf warblers (pp. 628–629).

The brevity and crispness of writing, the occasional telegraphic notations, the seeming coldness of dates and numbers belie the enormous research that has gone into putting these data together—in the only way possible, through the sparse language that accuracy demands.

Glance at the elaborate detail to methodology and criteria, clearly laid out in the preliminary pages, run your eye through the forty-odd pages of the bibliography, ponder the inclusion of a Secondary List of tentative birds that have been listed historically from Kerala, but for which the authors did not find enough proof to warrant inclusion in their Main List—and you will realise the extent of deep research and consistent scholarship that underlines the entire work.

There needs to be a certain type of commitment, an uncompromising drive, an acuteness of focus to pull off a work of this caliber—and of course, a depth of knowledge, based both, on field work, and the comprehensive overview that a deep study of the published literature provides; to sift the recorded ornithology of the region, winnow the chaff from the grain, pursue every trail to the source. These are indeed driven people, doing consistent, tough, emulatory work. And if one were to stretch a point, they have created a template for ornithologists across India.

Having said that, I would like to point out a few areas that require attention, mainly for two reasons: one, that readers should know the book's shortcomings, and two, they might help make a second edition more accurate.

The book contains 491 spp., divided into 453 in the Main List, and 49 in the Secondary List (pp. 11–12), however, there is a discrepancy in these numbers. Site descriptions given in two tables comprise 126 and 27 sites respectively (pp. 90–108), but the map on p. 103 marks only 21 sites, with the location '2' occurring twice on the map. The authors state that 'the English name is given first together with the Malayalam name in both Malayalam

and Latin script,' (p. 109). However, only the Malayalam script is given; its transliteration into English would be obviously useful. There is a degree of confusion with the way citations are treated in the text and the authors should use a system that differentiates between citations relating to published work, and those referring to anecdotal records, wherein the form of enclosing the author and year within parentheses is used for both. The references section needs proper formatting, and abbreviation of journal titles. This could have reduced the number of pages, and the inevitable carbon footprint that any printed book creates. In a work of this length, typos with regard to scientific nomenclature become a minefield. The authors have dealt admirably with this issue, but I could pick out a few that slipped through at the final stage: *Hirundo smithii filifera* (p. 506), *Motacilla flava simillima* (p. 516), *Anthus similis travancoriensis* (p. 524), *etc*.

Rasmussen & Anderton (2005; 2: 263) list *Alcedo meninting coltarti* from north-eastern India, and *A. m. phillipsi* from southern India and Sri Lanka, whereas the former is named in this work (p. 447). The Forest Wagtail is now included in the genus *Dendronanthus* (p. 511).

I hope care has been taken to tally the subspecific names of taxa not photographed in Kerala, with those used in the text.

And in the next edition I would like to see the names of these four gentlemen appear as authors of the work, and not as its 'editors.'

Ornithology is a dynamic science in a constantly changing, vibrant world of birds, and though the authors modestly deny the 'claim that this document is the final word in Kerala ornithology' (p. 12), to me it will remain so for a long time to come.

– Aasheesh Pittie

Birds of Madhya Pradesh

by Satish Pande, Niranjan Sant, Kailash Chandra, Pramod Deshpande, and Narmada P. Shukla. 2009. Ela Foundation & Madhya Pradesh Council of Science & Technology: Pune. Pp. i–xviii, 1–234.

Paperback (10x18.5 cm), 2 maps, 53 illustrations by 5 illustrators, 409 colour photographs by 36 photographers, and five portraits (colour). Price: not mentioned.

This is a handy photographic guide to the birds of Madhya Pradesh (M.P.). Within its pocket-sized format it packs a great deal of information. The photographs are of a consistently high standard, some even excellent. The cooperation of two organisations in publishing this book is laudable, and I hope it will catalyse the birdwatching fraternity in a region that is rich in its avian diversity, but particularly lacking in contemporary ornithological work.

The preliminary pages (pp. i–xviii) briefly explain about the book, introduce the region it covers, its geology, physiology, climate, forests, biodiversity hotspots, faunal diversity, and historical aspects of its avifaunal documentation. Page xvii has pictures of eight major habitat types found in the region, along with their locations, except for the riverine, and semi-evergreen forest habitats. A division-wise map of M.P. (p. xviii) is helpful, but misses out on a couple of districts that are listed alongside, e.g., Ashoknagar (Gwalior division), and Burhanpur (Indore division).

The authors have quoted several different pertinent works, and stated the number of taxa variously tallied in them, ranging from 469 (p. xv) to 517 (p. xiv); but for this work they consider 417 spp., for Madhya Pradesh, describing and illustrating 407 of which 21 are were either vagrant, or doubtful (p. xv).

The bulk of the work (pp. 1–205) contains photographs and brief accounts of birds, arranged so that two species are shown on each page. The notes comprise English, Hindi, and scientific names, size, information on sexual dimorphism, status, habitat, nest-type, food, identification pointers, and distribution in the divisions of M.P. as delineated in the map on p. xviii. This last is obviously only indicative, as it would be based on published sources.

Without taking away anything from the value of this work, I would like to point out a few things in the interest of accuracy that it otherwise so consistently upholds.

The photographs purportedly illustrating two different taxa on p. 23, namely *Aythya fuligula* and *A. marila*, are both of the former. The occurrence of *Lanius collurio* (p. 147), and *L. tephronotus* (p. 149) in the region needs to be watched carefully.

Some sexually 'dimorphic' taxa are erroneously treated as 'alike': *Ardeotis nigriceps* (p. 62), *Ocyceros birostris* (p. 116), *Copsychus malabaricus* (p. 159), and *Melophus lathami* (p. 188). Users of this work should keep in mind that birds of prey are generally considered sexually dimorphic, in that the female is much larger than the male, and invariably differences in the density of plumage markings differ between sexes.

This work follows Rasmussen & Anderton (2005) in matters of taxonomy (p. xi). However, I could spot two taxa that do not conform: *Lanius meridionalis* is treated as *L. excubitor* (p. 148), and *Oriolus kundoo* as *O. oriolus* (p. 200), even though the photograph clearly identifies the former.

This work treats the 'residential status [of birds] as applicable to India' (p. xi). However, at least two taxa are wrongly listed under 'winter visitor' or 'winter migrant' category: *Nettapus coromandelianus* (p. 25), and *Sarkidiornis melanotos* (p. 26).

Some minor factual contradictions have crept into the text: Number of threatened birds shown as '24' on p. vii, but 25 listed on p. 206; '1' biosphere reserve (p. viii), but two listed on p. 208; '45' districts (p. xii) but a count reveals 48 [p. xviii]; Chandra & Singh's paper was published in 2004, not '2006' (p. xv).

There is a useful glossary at the end (pp. 210–211).

– Aasheesh Pittie

Letter to the Editor

The Spotted Creeper *Salpornis spilonotus* in Goa: vagrant or a possible range extension?

Lad & Rangnekar's (2011) report of the Spotted Creeper *Salpornis spilonotus* in Goa could be much more significant than just a new bird for Goa. If confirmed as a resident, this would extend the known range of the species in India by about 500 kms farther south, since it is known to occur only south to the Godavari River (Ali & Ripley 1987; Rasmussen & Anderton 2005; Fig.1). Besides, this may not be the first sighting of the species in the Goa area. It was reported at least once in this area, on 17 May 1993, in Telewadi, Mahadayi valley, Karnataka, which is on the outskirts of Goa (Uttangi 1993). It is perplexing that Rangnekar himself included the "Spotted Tree Creeper" in 2004 in his Catalogue of Birds of Goa (Rangnekar 2004), in which he indicated the species' status as "unclear." Yet, in the Lad & Rangnekar (2011) paper, the species is declared new for Goa. Uttangi (1993) too seems to have missed the full import of the occurrence of the species in that area. He does not mention anything of the record in the main text, and merely includes the species in the list at the end with altitude (2055 feet = 627 m) and habitat (secondary forest) information. All these issues, unfortunately, add clouds of uncertainty to what would otherwise be significant and invaluable reports. Interestingly, Lainer (2004) does not include the species in his authoritative work on the avifauna of Goa, which was based on decades of fieldwork.

We urge contributors to thoroughly scour the literature, understand, and discuss the full significance of their records in their articles offered for publication. It took us not more than a few minutes of searching on the Internet to find that the species has been recorded earlier in the Goa area. Sending a draft of the article for comment prior to submission to a few experienced birders can be a good way to improve the quality of the manuscript. Also, searching online databases like *southasiaornith.in*, and *wildindia.org/birds/* can help. We were able to unearth some interesting publications on this species through *scholar.google.com*. Finally, we reiterate the importance of giving self-explanatory titles (Kannan & James 2010) to convey at-a-glance the full significance of important bird observations and minimise the chance of getting erroneously cited by others.

Fig. 1. Known range of the Spotted Creeper in India in relation to Goa [shaded; after Ali & Ripley 1987]

Lad & Rangnekar (2011) assert that, "the presence of the bird in two different locations, in two different seasons, clearly suggests that the sightings are not of stragglers." We feel that the species' status in Goa is still unclear, considering that ornithologists did not report it for several decades in one of the best-studied areas in the country. It often requires a series of sightings over an extended period of time to unequivocally establish resident status in an area. It is plausible that the birds that were seen in Goa were either vagrants or that the species has recently expanded its range southward due to land use or climate change factors. If this indeed turns out to be a range extension, the Spotted Creeper could occur in suitable habitats in the area between Goa (*c.* 15ºN) and the Godavari River (*c.* 19ºN), including the Sholapur and Gulbarga environs (Fig. 1). More surveys are needed for this restricted and enigmatic species, especially in these areas. Interestingly there are no reports of the bird in Pune and Hyderabad although they fall within this latitudinal belt.

The Spotted Creeper has a discontinuous Afro-Asian distribution with several populations in sub-Saharan Africa, and a disjunct population in India (Ali & Ripley 1987). The Indian population may be recognised as a separate species, *S. spilonotus*, distinct from the African populations (four subspecies under *S. salvadori*) based on strong morphometric, genetic, and acoustic differences (Tietze & Martens 2010). Wherever they occur, Spotted Creepers are scarce and hard to find, even in well-surveyed protected areas like Keoladeo National Park in Bharatpur, Rajasthan (Kannan 1986, 1995). Given its overall scarcity and inconspicuous nature, and the fact that the Indian population may be a distinct species with a restricted distribution, more attention is warranted to determine its exact conservation status. Therefore, getting an accurate idea of its current distribution in India is important.

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WWF is one of the world's largest and most experienced independent conservation organisations, with almost five million supporters, and a global network active in more than 100 countries. WWF's mission is to stop the degradation of the planet's natural environment, and to build a future, which allows humans to live in harmony with nature.

WWF-India is recognised nationally as one of India's leading conservation organisations with initiatives spanning across the country. The organisation works towards the conservation of biodiversity, natural habitats, and the reduction of human footprint.

Established on 26 November 1969 in Mumbai, WWF-India today has approximately 300 staff across more than 60 state and field offices working closely with multiple stakeholders including local communities, teachers, students, media, state and central governments, industry, and civil society organisations, so as to ensure a living planet for future generations.

WWF-India's work can be divided into biodiversity conservation and footprint mitigation. In Andhra Pradesh, WWF is working as a State Office since 1972, with a focus on environmental education, biodiversity research, and on-ground conservation involving local communities and schools within forests and forest fringe areas.

WWF has recently installed a solar deep well pumping system in Farahabad, Nagarjunasagar Srisailam Tiger Reserve. This clean energy system pumps water from an open well into an overhead tank of 5000 l capacity with a head of 11.58 m. The overflow water has been directed to water holes and percolation tanks. The animals in the Farahabad plateau visit these. The area harbours around eight tigers and a good herbivore population consisting of chital deer *Axis axis*, sambar *Cervus unicolor*, nilgai *Boselaphus tragocamelus*, chausingha *Tetracerus quadricornis*, barking deer *Muntiacus muntjak*, wild boar *Sus scrofa*, *etc*. This is a first of its kind installation in India.

Biodiversity research in the Eastern Ghats and Deccan Plateau has added new species to the invertebrate lists and many range extensions for A.P. The golden gecko *Calodactylodes aureus* was earlier known only from the Seshachalam Hills of Chitoor district. In one of WWF's nature camps, school students discovered the gecko in the reserve forests around Papikonda Wildlife Sanctuary. New findings will be useful for drawing attention of the State policy makers in developing policies that do not threaten the State's ecological richness.

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