

# Bird diversity of the Sharavathy landscape, Karnataka

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Barve, S., & Warriier, R., 2013. Bird diversity of the Sharavathy landscape, Karnataka. *Indian BIRDS* 8 (3): 57–61.

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Manuscript received on 4 April 2011.

## Abstract

We present a description of the avifauna recorded during a survey of the Sharavathy area, central Western Ghats, Karnataka. The survey was carried out between November 2008 and March 2010. The major habitats available in the landscape are described along with a brief note on important bird records from the area. A total of 215 species were sighted during the survey of which 15 are endemic to the Western Ghats. Four 'Near-threatened,' and one 'Vulnerable' species, as per IUCN threat category, were recorded. A complete checklist of species recorded from the area is also given along with their respective relative abundance levels recorded during the survey.

## Introduction

The Western Ghats are a "biodiversity hot spot" characterised by high diversity and endemism (Myers *et al.* 2000). The altitudinal and rainfall gradients have created an array of habitat types all along the ghats, from dry deciduous forests in the north, to wet evergreen and stunted montane forests in the south. The geographically isolated evergreen forests of this region have many bird species in common with north-eastern India and the greater Oriental Region. However, most of these species have diversified to form either subspecies or unique species, which are endemic to this region (Rasmussen & Anderton 2005). Though considered depauperate, the Western Ghats are one of the two bastions supporting tropical forest birds in India (Daniels 1994). For this reason alone, the Western Ghats, and the bird diversity they support, deserves special conservation efforts.

Bird life in most areas of the Western Ghats is well documented. However, the present study describes the forest bird community of an area from the central Western Ghats, which has received almost no scientific attention. A primary reason for this might be that this area does not have any large township or city, is far from metros like Bengaluru and Mumbai, and is not readily accessible. We report new records of species occurrence, describe habitats, and give species distributions in the area, along with a comprehensive bird list of primarily forest bird species.

## Study area

The study was conducted in the central Western Ghats, an area that lies within the state of Karnataka, India. We surveyed a fairly large area (13°05'N–14°50'N, 74°07'E–74°52'E) of the Sagar Forest Division (FD), the Sharavathy Wildlife Sanctuary (WLS) and the Kodachadri hill (Fig. 1). The altitudinal range of the surveyed area is 80–1,343 m, the latter being the peak of Kodachadri. The area, due to its large altitudinal and rainfall gradients and geography has a wide range of habitats situated in a small area (Davidar *et al.* 2007). We have divided the study area into three habitats, relevant to this study, as: 1) the habitat in or near the ridge of the ghats (Kogar range of Sharavathy WLS) near Bachhodi village—henceforth Bachhodi; 2) the habitat on the plateau near / around the town of Sagar; 3) the shola forest habitat near the peak of Kodachadri. Brief descriptions of the three habitats are provided below.

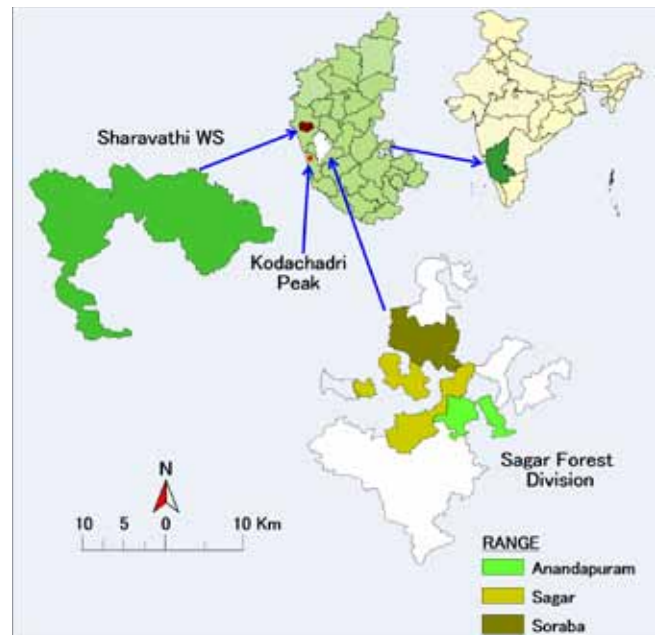


Fig. 1. Map of the Sharavathy landscape study area.

**West coast tropical evergreen forests:** Vegetation of Bachhodi can be broadly classified under this category listed under group I/A-C/4 (Champion & Seth 1968). This vegetation type is characterised by high annual rainfall, sometimes exceeding 5,000 mm and a long dry season of six–seven months. Anthropogenic pressure on these forests is strong at low elevations, and in areas close to villages and settlements. The climax vegetation type in such areas has been replaced by secondary vegetation dominated by deciduous species. Such deciduous patches consist of species such as *Schleichera trijuga*, *Lagerstroemia microcarpa*, *Terminalia bellerica*, and *T. tomentosa*. Similar habitat also occurs at the base of Kodachadri hill.

**Southern tropical moist-deciduous forests:** The trees have a very short "leafless" period at the beginning of March. The area has large patches of forests interspersed with teak *Tectona grandis* plantations. Dominant tree species in the area include teak, *L. lanceolata*, *T. alata*, *Xylia xylocarpa*, *T. paniculata*, and *Pterocarpus marsupium*. Although the forests support large trees,

the undergrowth is highly disturbed due to frequent fires and fuel wood collection by the local populace (Barve *et al.* 2009).

**Wet evergreen, sub-tropical hill forests:** The peak of the Kodachadri hill is covered in rolling grass meadows interspersed with stunted evergreen forests called 'shola' forests. These forests comprise tree species like *Syzygium spp.*, *Elaeocarpus recurvatus*, and *Michelia nilagirica*.

## Methodology

The area was surveyed intermittently between December 2008 and March 2010. The Sagar area was surveyed extensively between December 2008 and March 2009 as part of a Master's dissertation on birds of the area and the species recorded from there are a result of this study. Data were gathered through transect walks (n=9, total of 67 walks) as part of the dissertation study and by walking along roads and forest paths for opportunistic sightings. Data from Kodachadri was collected by trekking to the summit twice and during one day spent bird watching around the base of the hill along forest trails. Hence all sightings from this area are opportunistic. Bachhodi was surveyed extensively for birds between December 2009 and March 2010. The methodology involved walking trails (0600–1000hrs) (n=6, total of 38 walks) covering all habitat types in the area equally. During transect walks, at each observation, 1) species 2) sex/age (if possible), 3) flock size, and 4) distance from observer were recorded. Species that were not documented in the transects but were encountered opportunistically during the survey period were also included in the list. The lists from all three habitats were collated to form a final forest bird checklist for the landscape (Appendix).

## Results

215 bird species were recorded during the survey. The maximum species were recorded from the Sagar area (190), followed by Bachhodi (141), and Kodachadri (118). The list categorises species on the basis of the study site where they were detected. Also all species have been categorised on the basis of a rough index of relative abundance as Rare (<3 sightings during the study period), Fairly Common (3–10 sightings), and Common (>10 sightings; species that were regularly seen). We define a "sighting" as one observation of the species (e.g., a flock of 40 rosefinches = 1 sighting). The abundance index is provided only for the Sagar and Bachhodi areas, as transect walks were limited to those areas. The species that were recorded only at Kodachadri have not been given an abundance index. As the walks were only in winter (December–March), the index reflects the relative abundance only for that period. Previous records for all the species from the area are based on Praveen's (2010) online list. Some important bird species recorded during the survey are discussed briefly.

- Woodpeckers (Picidae): We had one sighting of Common Flameback *Dinopium javanense* from Bachhodi area in January 2009. We feel this bird is overlooked due to difficulty in identification, as it has been rarely recorded from the state. Though considered 'uncommon' we found that the White-bellied Woodpecker *Dryocopus javensis* is fairly common in the Sharavathy area. While it is restricted to evergreen forests in winter, pairs were seen feeding in deciduous forests and teak plantations at the beginning of summer. A single bird was also sighted once in scrub vegetation fringing paddies in

Bachhodi. The Speckled Piculet *Picumnus innominatus*, also easily overlooked, was observed in the deciduous forests around Sagar between November 2008 and March 2009.

- Malabar Pied Hornbill *Anthracosceros coronatus*: This uncommon bird is partial to moist deciduous and riverine forest habitat (Muddappa & Raman 2009). It is on the decline due to the loss of this unique habitat in most parts of the Western Ghats. However, where found, it is locally common. It is seen regularly in Bachhodi. Juveniles and adults form large flocks of up to 17 birds. Flocks of up to 25 birds roosted regularly along the river-courses.
- Blue-eared Kingfisher *Alcedo meninting*: We had one sighting of this bird on a forest stream in the Kodachadri area in December 2009.
- Black-capped Kingfisher *Halcyon pileata*: This species is generally partial to coastal areas. One individual was seen by Sarale River (30 km inland from the coast) near Nagavalli village in Bachhodi in February 2009.
- Banded Bay Cuckoo *Cacomantis sonneratii*: Very little is known about the status of this bird in Karnataka. It was detected at many places in the study area due to its peculiar call and was fairly abundant in both intact and disturbed habitats from late January till April 2009.
- Forest Eagle-owl *Bubo nipalensis*: We heard the bird's screaming call on two occasions, and once observed a large owl fly away (~15 m away) from the direction of the call in March 2009.
- Brown Wood Owl *Strix leptogrammica*: This bird was seen once in December 2009 sitting on a log at the roadside in Bachhodi.
- Sri Lanka Frogmouth *Batrachostomus moniliger*: This species has been reported recently from the forests near Bachhodi and Sagar (Barve 2010). However we found the bird in most of the study area where suitable habitat exists and is a common nocturnal bird of the area.
- Orange-breasted Green-pigeon *Treron bicinctus*: A flock of four birds was seen in January 2009 in the Chordi Reserve Forest (RF) about 40 km from Sagar town.
- Nilgiri Woodpigeon *Columba elphinstonii*: This uncommon forest pigeon is placed in the 'Vulnerable' category by the IUCN. It was sighted once in the Kodachadri area, and once in the Hosanagara area of the Sharavathy valley. Both were opportunistic sightings.
- Crested Goshawk *Accipiter trivirgatus*: This accipiter is fairly common and was seen on several occasions in many areas, including, once, just seven kilometers from Sagar, in a moist deciduous forest patch. Here it was seen hunting Pompadour Green-pigeons *T. pompadora*. Birds were regularly seen during the course of the survey from November 2008 to March 2010.
- Malayan Night-heron *Gorsachius melanolophus*: This uncommon nocturnal bird has been recorded recently from the area. Although the authors did not see it, they were shown a photograph of the bird on a nest, with two chicks, from the Sagar area. There has been a record of this species from Udipi in 2008 (Praveen 2010).
- Black Bittern *Dupetor flavicollis*: This rare species was sighted twice in February 2010 along the banks of the Sarale River in Bachhodi.
- Spangled Drongo *Dicrurus hottentottus*: This winter migrant is very common and can be often seen in flocks of three–five in Bachhodi from December to March. Nectarivores,

they were seen congregating on flowering *Bombax ceiba*.

- Eurasian Crag-martin *Hirundo rupestris*: A flock of 14 birds was seen in a mixed flock with Dusky Crag Martins *H. concolor* and Alpine Swifts *Tachymarptis melba* near the summit of Kodachadri peak in December 2009.
- Grey-headed Bulbul *Pycnonotus priocephalus*: This 'Near Threatened' Western Ghats endemic was seen only once in Bachhodi.
- Nilgiri Flycatcher *Eumyias albicaudata*: This Western Ghats endemic was seen thrice between November 2008 and March 2009 in the evergreen forests surrounding Sagar town.
- Lesser Hill Myna *Gracula indica*: This highly gregarious species was seen regularly in the evergreen tracts of the study area. However it is only a seasonal migrant to areas around Sagar. In Bachhodi, large flocks were seen in late December, and January. Flocks of more than 50 birds were seen quite frequently. The large flock formation coincided with the main *Ficus* sp., fruiting season in this area. Flocks tended to disperse with the progression of summer.
- Rufous Babbler *Turdoides subrufus*: This bird, although distributed over a large part of the Western Ghats, often goes undetected because of its skulking habits. It has a distinctive call and is generally seen in small flocks in thick undergrowth in evergreen forest. It was seen in Kodachadri in December 2009.
- Common Rosefinch *Carpodacus erythrinus*: Large flocks of 40+ birds were regularly seen in the teak plantations near Sagar feeding on bamboo seeds. They were seldom seen in the natural forests and might have invaded the area to exploit the stochastic bamboo seed crop.
- Vigors's Sunbird *Aethopyga vigorsii*: Rasmussen & Ander-ton (2005) consider this sunbird a species of the northern Western Ghats. However it has been recorded from northern Karnataka, and recently photographed (Mohan Raj 2006) from the Dandeli WLS, Uttara Kannada district, which is c. 110 km north of the current study site. We report here two more southerly records of this species from Shimoga district. A male was spotted once in the Chipli RF in Sagar FD (14°07'N, 75°09'E; c. 614 m above MSL; ~20 km from Sagar town). SB spotted it at c. 0745 hrs on 26 March 2009, while conducting transects in the area. It was c. 8 m up from the ground, and c. 12 m from the transect line. Vigors's Sunbird was recorded only once in this five-month extensive survey of the area and hence appears to be rare in the region. Another individual was spotted by RW in February 2010 close to the Nagavalli village (14°05'N, 74°41'E, c. 90 m above MSL) in the Sharavathy Valley WLS. However this was an opportunistic sighting along the road and unfortunately no further information was documented. These two sightings make up two southerly records for this species from Karnataka.

### Interesting absences

- Great Pied Hornbill *Buceros bicornis*: We consider the absence of the Great Pied Hornbill in this area an oddity as it is found in good numbers to the north (Dandeli) and south (Mookambika) of the study area (Mudappa & Raman 2009). Seemingly suitable habitat also exists throughout the study area. However not a single observation of this species was obtained by the authors throughout the study period.

Although historically this bird has been known from this area (Ali & Ripley 1983), the current status of this species in the area needs further investigation.

- Vultures: None of the critically endangered *Gyps* vultures were recorded during the survey.

### Discussion

The study site supports a fairly high diversity of bird species. Nearly 507 species of birds are known to occur all along the Western Ghats of which 28 species are endemic to the region (Rasmussen & Ander-ton 2005). The present study recorded 216 species of which 15 are endemic to the region. A majority of these are primarily forest species (197). However, species diversity was not uniform across the study area. Maximum species were recorded from the Sagar area. The high disparity in species counts from the three areas could be an effect of both habitat differences and heterogeneity, and inconsistent sampling effort, since the Sagar area was surveyed more intensively. Although the abundance index based on the sampling in Sagar and Bachhodi is still quite crude, it definitely reflects the relative abundance for these species in the area.

With regard to IUCN threat status four species, namely, Oriental Darter *Anhinga melanogaster*, Malabar Pied Hornbill, Grey-headed Bulbul, and Nilgiri Flycatcher are classified Near-threatened (NT) while the Nilgiri Woodpigeon is Vulnerable (V). We found that a number of species, including Sri Lanka Frogmouth and Crested Goshawk, which had been considered rare or uncommon were in reality locally common. Frogmouths, though extremely common in Bachhodi, were reported from this landscape recently (Barve 2010). Bachhodi also supports large patches of lowland evergreen forests. These are one of the most endangered habitats in spite of being the most bio-diverse, in the Western Ghats and the world over, with less than 5% of its original forest cover remaining along the western coast of India (Kadur & Bawa 2005). This fact adds to the importance of strict conservation of these areas and points towards a need to more intensive surveys of areas in the Western Ghats, which have hitherto remained neglected. The three study sites presently face relatively small amounts of anthropogenic pressure from surrounding settlements because of low human densities. Large portions of the study area fall under reserved forests or have higher levels of protection. Hence this area has tremendous potential for ornithological research. However increasing illegal forest litter collection for manure in arecanut plantations, and fuel-wood collection for heating water could be major threats in the future. Forested areas that do not have protection are greatly degraded, especially in the Sagar area, and are fast being converted to other land-use practices. Several large village ponds in the area, which harbour wetland bird species like darters, whistling-ducks, moorhens and migratory waders, face this threat of changing land-use practice by their being converted to paddies. The forest department has replaced a large part of the wet evergreen forest areas with *Acacia auriculiformis* plantations. Although commercially important, this species supports little biodiversity (*pers. obs., of authors*). The local people dislike it, as it does not support any cattle-palatable plants, which restricts them from grazing in these areas. Future conversion of such areas should be halted. Heightened scientific attention to the area could be used for increasing awareness about biodiversity conservation locally. Some places in the study area, which we believe are especially rich in bird fauna, include Bachhodi



(lowland wet evergreen forest), Chipli RF (moist deciduous forest), Kodachadri RF (evergreen forest and shola patches), Avinhalli RF (semi-evergreen forest) and Anandapuram RF (moist deciduous forest and teak plantations).

## Acknowledgements

We would like to thank the Karnataka State Forest Department for making this study possible. We would also like to thank the Wildlife Institute of India and Nature Trails Pvt. Ltd., for funding parts of the study. Sujendra Kumar K. C., Gururao Bapat, Mrs. Bapat, and Prakash Anna made invaluable contributions for overall logistics. Sujendra Kumar and Saiju Anna were brilliant support in field. Sincere thanks are also extended to Navendu Page and Sartaj S Ghuman. We thank all the people who reviewed our manuscript, and S. Subramanya who improved the map. Lastly we would like to thank all our friends and well wishers without whom the completion of the study would not have been possible.

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### Appendix. Checklist of birds of the Sharavathy landscape

No.	Species	Locality	Abundance
1.	Little Cormorant <i>Phalacrocorax niger</i>	B,S,K	C
2.	Great Cormorant <i>P. carbo</i>	S	C
3.	Oriental Darter <i>Anhinga melanogaster</i> (NT)	S	C
4.	Little Egret <i>Egretta garzetta</i>	B,S,K	C
5.	Great Egret <i>Casmerodius albus</i>	S	Fc
6.	Intermediate Egret <i>Mesophoxys intermedia</i>	B,S,K	R
7.	Cattle Egret <i>Bubulcus ibis</i>	S	R
8.	Indian Pond-heron <i>Ardeola grayii</i>	B,S	R
9.	Striated Heron <i>Butorides striatus</i>	S	R
10.	Black-Crowned Night-heron <i>Nycticorax nycticorax</i>	S,K	Fc
11.	Malayan Night-heron <i>Gorsachius melanolophus</i>	B,S	R
12.	Black Bittern <i>Dupetor flavicollis</i>	B	R
13.	Oriental Honey-Buzzard <i>Pernis ptilorhynchus</i>	B,S,K	C
14.	Black-shouldered Kite <i>Elanus caeruleus</i>	S	Fc
15.	Black Kite <i>Milvus migrans</i>	B,S,K	C
16.	Brahminy Kite <i>Haliastur indus</i>	B,S,K	C
17.	Egyptian Vulture <i>Neophron percnopterus</i>	S	R
18.	Crested Serpent-eagle <i>Spilornis cheela</i>	B,S,K	C
19.	Black Eagle <i>Ictinaetus malayensis</i>	B,S,K	C
20.	Eurasian Marsh-harrier <i>Circus aeruginosus</i>	S	R
21.	Crested Goshawk <i>Accipiter trivirgatus</i>	B,S,K	Fc
22.	Shikra <i>A. badius</i>	B,S,K	Fc
23.	Besra <i>A. virgatus</i>	B,S,K	R
24.	White-Eyed Buzzard <i>Butastur teesa</i>	S	R
25.	Bonelli's Eagle <i>Hieraetus fasciatus</i>	S	R
26.	Booted Eagle <i>H. pennatus</i>	S	R
27.	Rufous-bellied Eagle <i>H. kienerii</i>	K	
28.	Changeable Hawk Eagle <i>Spizaetus cirrhatous</i>	B,S,K	C
29.	Common Kestrel <i>Falco tinnunculus</i>	B,K	Fc
30.	Peregrine Falcon <i>F. peregrinus</i>	S,K	Fc
31.	Grey Francolin <i>Francolinus pondicerianus</i>	S	Fc
32.	Red Spurfowl <i>Galloperdix spadicea</i>	B,S,K	Fc
33.	Grey Junglefowl <i>Gallus sonneratii</i>	B,S,K	C
34.	Indian Peafowl <i>Pavo cristatus</i>	B,S,K	C
35.	Red-wattled Lapwing <i>Vanellus indicus</i>	B,S,K	C
36.	Nilgiri Woodpigeon <i>Columba elphinstonii</i> (V, E)	S,K	R
37.	Laughing Dove <i>Streptopelia senegalensis</i>	S	Fc
38.	Spotted Dove <i>S. chinensis</i>	B,S,K	C
39.	Eurasian Collared Dove <i>S. decaocto</i>	S	R
40.	Emerald Dove <i>Chalcophaps indica</i>	B,S,K	C

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No.	Species	Locality	Abundance
41.	Orange-breasted Green-pigeon <i>T. bicinctus</i>	S	R
42.	Pompador Green-pigeon <i>T. pompadora</i>	B,S,K	C
43.	Yellow-footed Green-pigeon <i>T. phoeniceus</i>	B,S,K	C
44.	Green Imperial-pigeon <i>Ducula aenea</i>	S	C
45.	Mountain Imperial-pigeon <i>D. badia</i>	B,K	C
46.	Vernal Hanging Parrot <i>Loriculus vernalis</i>	B,S,K	C
47.	Alexandrine Parakeet <i>Psittacula eupatria</i>	B,S,K	C
48.	Rose-ringed Parakeet <i>P. krameri</i>	B,S,K	C
49.	Plum-headed Parakeet <i>P. cyanocephala</i>	S,K	C
50.	Malabar Parakeet <i>P. columboides</i> (E)	B,S	C
51.	Pied Cuckoo <i>Clamator jacobinus</i>	S	R
52.	Common Hawk-cuckoo <i>Hierococcyx varius</i>	B,S,K	C
53.	Indian Cuckoo <i>Cuculus micropterus</i>	B,S,K	Fc
54.	Banded Bay Cuckoo <i>Cacomantis sonneratii</i>	S,K	C
55.	Dronko Cuckoo <i>Surniculus lugubris</i>	S	R
56.	Asian Koel <i>Eudynamis scolopacea</i>	B,S,K	C
57.	Blue-faced Malkoha <i>Phaenicophaeus viridirostris</i>	B,S	R
58.	Sirkeer Malkoha <i>P. leschenaultii</i>	B	R
59.	Greater Coucal <i>Centropus sinensis</i>	B,S,K	C
60.	Barn Owl <i>Tyto alba</i>	S	C
61.	Collared Scops Owl <i>Otus bakkamoena</i>	S	R
62.	Brown Fish Owl <i>Ketupa zeylonensis</i>	S	R
63.	Brown Wood Owl <i>Strix leptogrammica</i>	B,S	R
64.	Jungle Owlet <i>Glaucidium radiatum</i>	B,S,K	C
65.	Sri Lanka Frogmouth <i>Batrachostomus moniliger</i>	B	C
66.	Grey Nightjar <i>Caprimulgus indicus</i>	B,S	Fc
67.	Indian Swiftlet <i>Collocalia unicolor</i>	S	Fc
68.	White-rumped Needletail <i>Zoonavena sylvatica</i>	B,S,K	R
69.	Asian Palm Swift <i>Cypsiurus balasensis</i>	K	
70.	Alpine Swift <i>Tachymarptis melba</i>	K	
71.	House Swift <i>Apus affinis</i>	K	
72.	Crested Treeswift <i>Hemiprocne coronata</i>	B	Fc
73.	Malabar Trogon <i>Harpactes fasciatus</i>	B,S	C
74.	Common Kingfisher <i>Alcedo atthis</i>	B,S,K	C
75.	Blue-eared Kingfisher <i>A. meninting</i>	K	
76.	Stork-billed Kingfisher <i>Halcyon capensis</i>	B,S,K	C
77.	White-throated Kingfisher <i>H. smyrnenis</i>	B,S,K	C
78.	Black-capped Kingfisher <i>H. pileata</i>	B	R
79.	Pied Kingfisher <i>Ceryle rudis</i>	S	C
80.	Blue-bearded Bee-eater <i>Nyctornis athertoni</i>	B,S	R

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No.	Species	Locality	Abundance
81.	Green Bee-eater <i>Merops orientalis</i>	B,S,K	C
82.	Blue-tailed Bee-eater <i>M. philippinus</i>	B,S,K	C
83.	Chestnut-headed Bee-eater <i>M. leschenaulti</i>	B,S,K	Fc
84.	Indian Roller <i>Coracias benghalensis</i>	S	Fc
85.	Hoopoe <i>Upupa epops</i>	S	Fc
86.	Malabar grey Hornbill <i>Ocyroceros griseus</i> (E)	B,S,K	C
87.	Malabar pied Hornbill <i>Anthracoeros coronatus</i> (NT)	B,S	C
88.	Brown-headed Barbet <i>Megalaima zeylanica</i>	S	C
89.	White-Cheeked Barbet <i>M. viridis</i>	B,S,K	C
90.	Malabar Barbet <i>Xantholaema malabarica</i> (E)	B,K	C
91.	Coppersmith Barbet <i>Xantholaema haemacephala</i>	S, K	C
92.	Eurasian Wryneck <i>Jynx torquilla</i>	S	R
93.	Speckled Piculet <i>Picumnus innominatus</i>	B,S,K	Fc
94.	Brown-capped Pygmy Woodpecker <i>Dendrocopos nanus</i>	B,S	C
95.	Rufous Woodpecker <i>Ceelus brachyurus</i>	B,S,K	C
96.	White-bellied Woodpecker <i>Dryocopus javensis</i>	B,S,K	C
97.	Lesser Yellownape <i>Picus chlorolophus</i>	S	R
98.	Streak-throated Woodpecker <i>P. xanthopygaeus</i>	S	R
99.	Common Flameback <i>Dinopium javanense</i>	B	R
100.	Black-rumped Flameback <i>D. benghalense</i>	B,S,K	C
101.	Greater Flameback <i>Chrysocolaptes lucidus</i>	B,S,K	C
102.	Heart-spotted Woodpecker <i>Hemicircus canente</i>	B,S,K	C
103.	Indian Pitta <i>Pitta brachyura</i>	B,S	Fc
104.	Malabar Lark <i>Galerida malabarica</i>	S,K	C
105.	Oriental Skylark <i>Alauda gulgula</i>	S	R
106.	Eurasian Crag Martin <i>Hirundo rupestris</i>	K	
107.	Dusky Crag Martin <i>H. concolor</i>	S	R
108.	Barn Swallow <i>H. tahitica</i>	S	R
109.	Wire-tailed Swallow <i>H. smithii</i>	S	C
110.	Red-rumped Swallow <i>H. daurica</i>	S	Fc
111.	Streak-throated Swallow <i>H. fluvicola</i>	S	R
112.	White Wagtail <i>Motacilla alba</i>	S	R
113.	White-browed Wagtail <i>M. maderaspatensis</i>	B,S	R
114.	Grey Wagtail <i>M. cinerea</i>	B,S,K	C
115.	Tree Pipit <i>Anthus trivialis</i>	S	R
116.	Olive-backed Pipit <i>A. hodgsoni</i>	S	R
117.	Large Cuckooshrike <i>Coracina macei</i>	B,S,K	C
118.	Black-headed Cuckooshrike <i>C. melanoptera</i>	B,S	R
119.	Small Minivet <i>Pericrocotus cinnamomeus</i>	B,S	Fc
120.	Orange Minivet <i>P. flammeus</i>	B,S,K	C
121.	Bar-winged Flycatcher-shrike <i>Hemipus picatus</i>	B,S,K	C
122.	Malabar Woodshrike <i>Tephrodornis sylvicola</i> (E)	B,S,K	C
123.	Common Woodshrike <i>T. pondicerianus</i>	S	Fc
124.	Grey-headed Bulbul <i>Pycnonotus priocephalus</i> (NT, E)	B	R
125.	Flame throated Bulbul <i>P. gularis</i> (E)	B,S,K	C
126.	Red-whiskered Bulbul <i>P. jocosus</i>	B,S,K	C
127.	Red-vented Bulbul <i>P. cafer</i>	B,S,K	C
128.	White-browed Bulbul <i>Alophoxus flaveolus</i>	S	R
129.	Yellow-browed Bulbul <i>lale indica</i>	B,S,K	C
130.	Square-tailed Bulbul <i>Hypsipetes ganeesa</i> (E)	K	
131.	Common Iora <i>Aegithina tiphia</i>	B,S,K	C
132.	Blue-winged Leafbird <i>Chloropsis cochinchinensis</i>	B,S	Fc
133.	Golden-fronted Leafbird <i>C. aurifrons</i>	B,S,K	C
134.	Asian Fairy Bluebird <i>Irena puella</i>	B,S,K	C
135.	Brown Shrike <i>Lanius cristatus</i>	B,S	Fc
136.	Bay-backed Shrike <i>L. vittatus</i>	S	R
137.	Long-tailed Shrike <i>L. schach</i>	B,S	R
138.	Blue-headed Rock-thrush <i>Monticola cinclorhynchus</i>	B	R
139.	Blue Rock-thrush <i>M. solitarius</i>	S	R
140.	Malabar Whistling Thrush <i>Myophonus caeruleus</i>	B,S,K	C
141.	Orange-headed Thrush <i>Zoothera citrina</i>	B,S,K	C
142.	Indian Blackbird <i>Turdus simillimus</i>	B,S	R
143.	Indian Blue Robin <i>Luscinia brunnea</i>	K	
144.	Oriental Magpie-robin <i>Copsychus saularis</i>	B,S,K	C
145.	White-rumped Shama <i>C. malabaricus</i>	B,S,K	C
146.	Indian Robin <i>Saxicoloides fulcata</i>	S	R
147.	Pied Bushchat <i>Saxicola caprata</i>	S	R
148.	Puff-Throated Babbler <i>Pellorneum ruficeps</i>	B,S,K	C
149.	Indian Scimitar-babbler <i>Pomatorhinus horsfieldii</i>	B,S,K	C

## Appendix. Checklist of birds of the Sharavathy landscape

No.	Species	Locality	Abundance
150.	Dark-fronted Babbler <i>Rhopocichla atriceps</i>	B,S,K	C
151.	Rufous Babbler <i>Turdoides subrufus</i> (E)	K	
152.	Jungle Babbler <i>T. striatus</i>	S	C
153.	Grey-breasted Prinia <i>Prinia hodgsonii</i>	B,S	Fc
154.	Jungle Prinia <i>P. sylvatica</i>	S	Fc
155.	Plain Prinia <i>P. inornata</i>	S	R
156.	Ashy Prinia <i>P. socialis</i>	S	R
157.	Blyth's Reed-warbler <i>Acrocephalus dumetorum</i>	S	C
158.	Clamorous Reed-warbler <i>A. stentoreus</i>	S	R
159.	Common Tailorbird <i>Orthotomus sutorius</i>	B,S,K	C
160.	Greenish Warbler <i>Phylloscopus trochiloides</i>	B,S,K	C
161.	Large-billed Leaf-warbler <i>P. magnirostris</i>	S	R
162.	Western Crowned Leaf-warbler <i>P. occipitalis</i>	B,S	C
163.	Sulphur-bellied Warbler <i>P. griseolus</i>	S	R
164.	Asian Brown Flycatcher <i>Muscicapa dauurica</i>	B,S	R
165.	Brown-breasted Flycatcher <i>M. muttui</i>	B	C
166.	Red-breasted Flycatcher <i>Ficedula parva</i>	B,S	R
167.	Verditer Flycatcher <i>Eumyias sordida</i>	B,S,K	Fc
168.	Nilgiri Flycatcher <i>E. albicaudata</i> (NT, E)	S	R
169.	White-Bellied Blue Flycatcher <i>Cyornis pallipes</i> (E)	B,S,K	Fc
170.	Tickell's Blue Flycatcher <i>C. tickelliae</i>	B,S,K	C
171.	Grey-headed Canary-flycatcher <i>Culicicapa ceylonensis</i>	S	Fc
172.	Asian Paradise-flycatcher <i>Terpsiphone paradisi</i>	B,S,K	C
173.	Black-naped Monarch <i>Hypothymis azurea</i>	B,S,K	C
174.	Spot-breasted Fantail <i>Rhipidura albicollis</i>	B,S,K	C
175.	White-browed Fantail <i>R. aureola</i>	S	R
176.	Great Tit <i>Parus major</i>	S	R
177.	Indian Yellow Tit <i>P. xanthogenys</i>	K	
178.	Chestnut-bellied Nuthatch <i>Sitta castanea</i>	S	R
179.	Velvet-fronted Nuthatch <i>S. frontalis</i>	B,S	R
180.	Thick-billed Flowerpecker <i>Dicaeum agile</i>	B,S,K	C
181.	Pale-billed Flowerpecker <i>D. erythrorhynchos</i>	B,S,K	C
182.	Nilgiri Flowerpecker <i>D. concolor</i> (E)	B,S,K	C
183.	Purple-rumped Sunbird <i>Nectarinia zeylonica</i>	B,S	Fc
184.	Purple Sunbird <i>N. asiatica</i>	B,S,K	C
185.	Vigors's Sunbird <i>Aethopyga vigorsii</i>	B,S	R
186.	Crimson backed Sunbird <i>Leptocoma minima</i> (E)	B,S,K	C
187.	Loten's Sunbird <i>Cinnyris lotenia</i>	B,S	R
188.	Little Spiderhunter <i>Arachnothera longirostra</i>	B,K	C
189.	Oriental White-Eye <i>Zosterops palpebrosus</i>	B,S	C
190.	Common Rosefinch <i>Carpodacus erythrinus</i>	S	C
191.	White-rumped Munia <i>Lonchura striata</i>	B	Fc
192.	Scaly-Breasted Munia <i>L. punctulata</i>	S	C
193.	House Sparrow <i>Passer domesticus</i>	B,S,K	C
194.	Chestnut-shouldered Petronia <i>Petronia xanthocollis</i>	S	R
195.	Bay Weaver <i>Ploceus philippinus</i>	S	Fc
196.	Red Avadavat <i>Amandava amandava</i>	S	Fc
197.	Malabar White-headed Starling <i>Sturnia blythii</i> (E)	B,S,K	C
198.	Brahminy Starling <i>S. pagodarum</i>	B,S,K	Fc
199.	Common Myna <i>Acridotheres tristis</i>	B,S,K	C
200.	Jungle Myna <i>A. fuscus</i>	B,S,K	C
201.	Lesser Hill Myna <i>Gracula indica</i>	B,S,K	C
202.	Indian Golden Oriole <i>Oriolus kundoo</i>	B,S,K	C
203.	Black-naped Oriole <i>O. chinensis</i>	S	R
204.	Black-hooded Oriole <i>O. xanthornus</i>	B,S,K	C
205.	Black Drongo <i>Dicrurus macrocercus</i>	B,S,K	C
206.	Ashy Drongo <i>D. leucophaeus</i>	B,S,K	C
207.	White-Bellied Drongo <i>D. caerulescens</i>	S	C
208.	Bronzed Drongo <i>D. aeneus</i>	B,S,K	C
209.	Spangled Drongo <i>D. hottentottus</i>	B,S,K	Fc
210.	Greater Racket-tailed Drongo <i>D. paradiseus</i>	B,S,K	C
211.	Rufous Treepie <i>Dendrocitta vagabunda</i>	B,S,K	C
212.	White-bellied Treepie <i>D. leucogastra</i> (E)	B	R
213.	House Crow <i>Corvus splendens</i>	B,S,K	C
214.	Large-billed Crow <i>C. macrorhynchos</i>	B,S,K	C
215.	Ashy Woodswallow <i>Artamus fuscus</i>	B,S,K	R

Abbreviations: Locality: Bachchodi (B), Sagar (S), Kodachadri (K); Status: Least Concern (LC), Near-threatened (NT), Vulnerable (V), Endemic to Western Ghats (E); Abundance: Rare (<3 sightings) (R), Fairly common (3–10 sightings) (Fc), Common (>10 sightings) (C).