

AVIFAUNA OF KALAKAD WILDLIFE SANCTUARY,  
TAMIL NADU, INDIA

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INTRODUCTION

On the basis of a decision taken by the Tamil Nadu Wildlife Advisory Board, the Zoological Survey of India was requested by the Chief Wildlife Warden, Tamil Nadu Forest Department, Tirunelveli, to prepare a checklist of the lower invertebrates of Kalakad Sanctuary. This work was taken up in 1984 as part of the approved Annual Programme of Work of Southern Regional Station, Zoological Survey of India, Madras, with Dr. R. S. Pillai, the then Officer-in-Charge of the station as the Chief Coordinator. But it was decided to include inventorisation of birds as well as part of the programme.

Between August, 1984 and April, 1987 a party led by the present author conducted a total of eight survey tours to various parts of Kalakad Sanctuary. Dr. Pillai accompanied the party on all but one of its trips.

The present paper is the fruit of field studies made by the present author on the rich avifauna of the sanctuary. The list includes birds observed by him, and also those which he was unable to observe, but which find mention in the Management Plan of the sanctuary by Sri S. Ramanathan. The present list is by no means complete. Nevertheless, it indicates the richness of the bird fauna of Kalakad Sanctuary.

KALAKAD SANCTUARY

*Location and Area :*

Kalakad Sanctuary is located in the Nanguneri Taluk of the southwestern part of Tirunelveli District of Tamil Nadu, between 8°25' and 8°35' N latitudes, and 77°25' and 77°35' E longitudes. The sanctuary comprises the whole of the Kalakad Reserve Forest.

Covering an area of 22375.85 hectares, the sanctuary is easily approachable by road from Tirunelveli, about 45 Km. away. The nearest railway station is Cheranmadevi, 20 Km. away from Kalakad, a small town situated 4 Km. from the eastern boundary of the sanctuary. The nearest airport is Thiruvananthapuram (Trivandrum) Kerala, 140 Km. away.

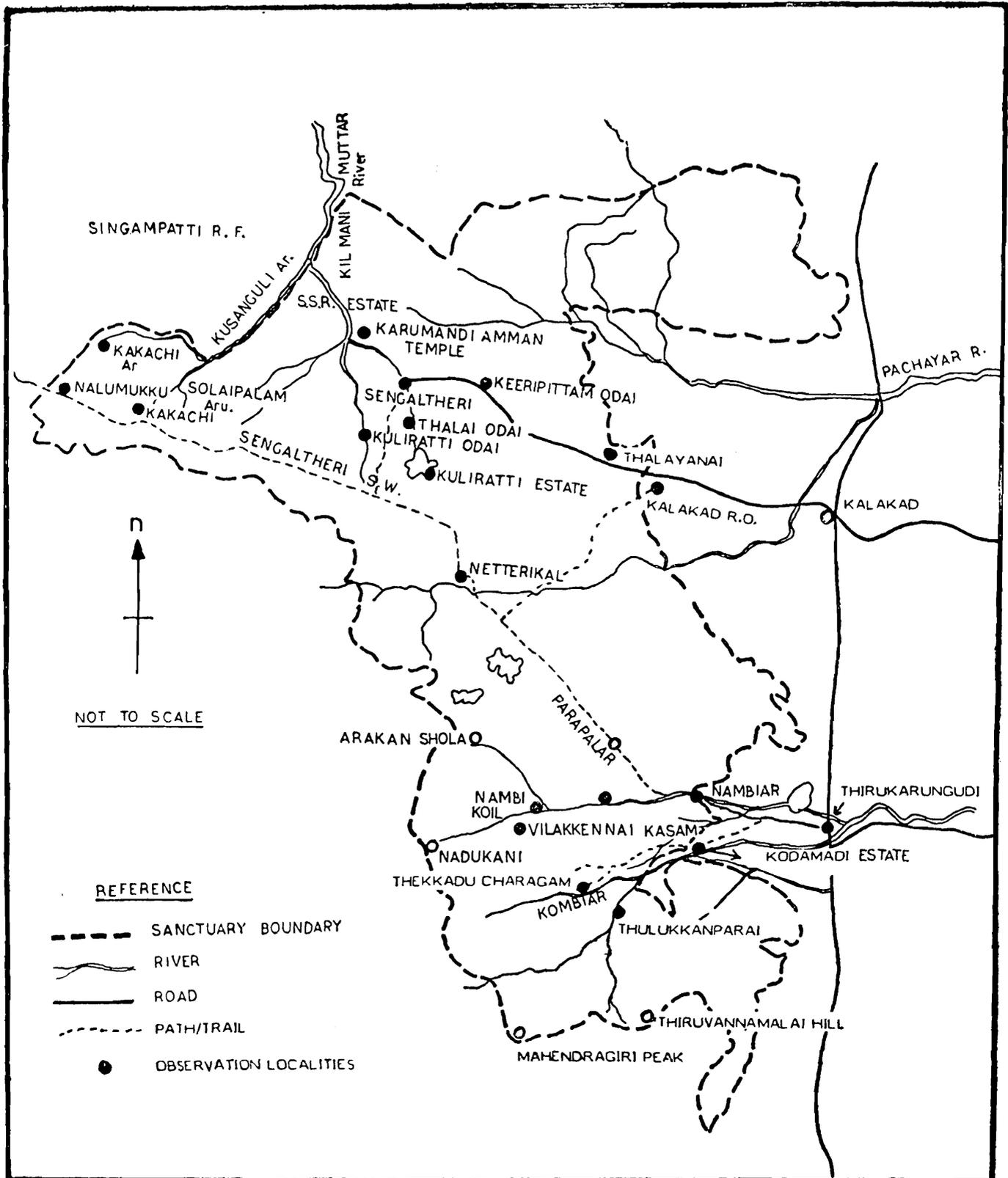
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**STUDY AREA-Physiography :**

The sanctuary is characterised by rugged, undulating, mountainous and inaccessible terrain. Only in its periphery, viz., in the Kalakad beat, is the terrain plain. However,

MAP OF KALAKAD WILDLIFE SANCTUARY



its extent is negligible, not extending to more than a square kilometer. The hills are not accessible to any kind of vehicle, except the Sengaltheri hills, which are accessible only by jeep.

Therkkuveeravanallur Reserve Forest forms the northern boundary of the sanctuary, while the mighty Mahendragiri peak and Reserve Forest form its southern boundary. To the eastern side lie vast stretches of private uncultivated lands. On the west, the sanctuary is contiguous with the Mundanthurai Tiger Reserve.

The lowest altitude within the sanctuary is about 100m along the eastern boundary. The highest peak—Kalakad Peak (1775m)—is on the southern boundary, in Veerapuli Reserve Forest. Other noteworthy peaks are Kuliratti (1396m), Thiruvannamalai (1387m), Netterikal (1350m), Kakachi (1233m) and Panchanhangimottai (1192m).

A few perennial rivers and streams, and several seasonal ones, traverse the sanctuary.

The rivers Kodumudiar, Nambiar, Netterikal and Pachayar flow eastwards across the sanctuary. The Keelamanimuthar, with its tributaries, the Kulirattiar and Kusanguliar, drain the western aspect of the sanctuary. These perennial rivers form the major sources of water for animals all through the year. Besides these, three artificial water holes have been dug within the sanctuary. There are, at present, no reservoirs, natural pools and tanks within the sanctuary.

There are three roads within the sanctuary : 1. Manimuthar—Upper Kodayar road, an all-weather road ; 2. Kalakad—Sengaltheri road, which is *pucca* most of the way ; and 3. Thirukarugudi—Nambikoil road, which needs further improvement.

Besides these, there is a bridle path—the Thirukarugudi—Netterikal—Sengaltheri—Kalachi bridle path—dividing the sanctuary into two almost equal halves, starting from the eastern boundary of the sanctuary and ending at the western one.

The sanctuary is divided into the following zones : 1. Wilderness zone ; 2. Buffer zone ; and 3. Tourism zone.

The *wilderness zone*—the core area of the sanctuary—is formed by the upper reaches, containing tropical wet evergreen forests. Forestry operations are prohibited in this zone. Only research studies are permitted to be undertaken in it. The forests surrounding the Panchanhangim peak also come under this zone as they contain populations of Nilgiri Tahr.

The *buffer zone* consists of the belt of evergreen forests devoid of the association of *Durio*, *Palaquium* and *Syzygium*, and the rest of the sanctuary not included in the tourism zone. Wildlife-oriented forestry operations are planned in this zone.

The *tourism zone*, where paths and trails will be cleared periodically, and where watch-towers and tree-top cabins will be built at suitable places, will be a zone where tourists can observe and learn about wildlife, without undue disturbance to the environment. Protection of wildlife is of primary concern in the management of the sanctuary. Promotion of tourism is only secondary.

The geological formations are, for the most part, of archaen age, represented by gneisses and granites. The granitoid gneiss is a pale grey rock banded with quartz and felspar, and contains narrow veins of black mica, and is intercalated with numerous small, pale red and pink garnets.

The following types of soil are met with in the sanctuary : 1. In the outer slope of the sanctuary, which is subjected to heavy wash on the surface due to sparse plant growth, the soil consists of reddish-yellow ferruginous sandy loam of very little depth, always intermingled with numerous boulders ; 2. in the upper reaches of the sanctuary, where the moist evergreen forests are met with, the soil is mostly loamy, assuming sandy or clayey character, depending on the accumulation of wash on the surface. In the valleys and low-lying areas the soil is fairly deep.

#### *Climate :*

The outer fringe of the hills is generally hot and dry upto an elevation of about 500m. The minimum and maximum annual temperatures in the plains are in the neighbourhood of 24°C and 43°C. The hills are cooler and drier in summer.

Kalakad Sancturay gets the benefit of both the southwest and northeast monsoons. The former begins in June and continues till the end of August, while the latter brings rain from October to December. The sanctuary receives the bulk of the rainfall from the northeast monsoon.

Two prevailing winds are noticed in the sanctuary, one usually accompanying the southwest monsoon, and the other accompanying the northeast monsoon. While the latter are seldom of high velocity, the former blowing from the western aspect, are strong. These winds have little impact on the eastern slopes.

Although thick mist is generally seen in the upper reaches of the hills during the winter and monsoon months, frost is not encountered anywhere in the sanctuary.

#### *Vegetation :*

Tropical wet evergreen forests cover the upper reaches of the Kalakad Reserve Forest from an elevation of 600m upto 1500m and extending nearly to the crest of the mountains. The wind-swept ridges exhibit poor growth. Tropical dry deciduous forests occur along the foot of the hills in Kalakad Reserve Forest. In the low

undulating hills in Vallioor and Parivarisurian beats carnatic imbrella thorn forests occur.

#### MATERIAL AND METHOD

Field observations were made with the aid of field binoculars of the power 8 × 21, field 7°. Notes were taken down on locality of sighting, habitat in which sighted, whether adult or juvenile, male or female (where the sexes are distinguishable), solitary, in a pair or gregarious. Notes on behavioural aspects were also jotted down, as well as associations with other birds, if any. Nesting details, where observed, were recorded.

#### ANIFAUNA

Kalakad Sanctuary offers a very wide range of habitats for a variety of birds. Consequently, the bird fauna is quite rich. Additionally, the inaccessible, undisturbed and protected nature of some areas of the sanctuary has resulted in the preservation of many species of birds. The thorn forests at the base of the hills, the tropical dry deciduous and tropical wet evergreen forests harbour several different species. Some, like the Jerdon's Imperial Pigeon (*Ducula badia* (Raffles)), the Drongo-cuckoo (*Surniculus lugubris* (Horsfield)), the Indian Great Black Woodpecker (*Dryocopus javensis* (Horsfield)), the Whitebellied Tree Pie (*Dendrocitta leucogastra* (Gould)), the Fairy Bluebird (*Irena puella* (Latham)), the Malabar Whistling Thrush (*Myiophonus horsfieldii* (Vigors)) and the Nilgiri Verditer Flycatcher (*Muscicapa albicaudata* Jerdon) were found to be highly restricted to the evergreen biotope. Others, including the Spotted Dove (*Streptopelia chinensis* (Scopoli)), the Little Brown Dove (*S. senegalensis* (Gmelin)), the Whiteheaded Babbler (*Turdoides affinis* (Jerdon)), the Indian Robin (*Saxicoloides fulicata* (Linn.)), the Small Green Bee-eater (*Merops orientalis* Latham) and the Indian Roller (*Coracias benghalensis* (Linn.)) frequented scrub, thorn and light forest, and even fallow land, at lower elevations. Two species, viz., the Paradise Flycatcher (*Terpsiphone paradisi* Linn.) and the Black Drongo (*Dicrurus adsimilis* (Bechstein)) were sighted in all kinds of forest upto about 900m. Six species each of Bulbul and Flycatcher were sighted during the present study. About 94% of the birds observed are resident birds.

#### SYSTEMATIC LIST

Order : PELECANIFORMES

Family : PHALACROCORACIDAE

#### 1. *Phalacrocorax niger* (Vieillot)

Little Cormorant

Dates of sighting : 8 & 9.1.1987

Flocks of these birds (one flock comprising at least 40 individuals) were seen

on wet grassy patches forming little islands near the edge of the tank at Periakulam on the road to Nambikoil from Thirukarungudi.

Order : CICONIFORMES

Family : ARDEIDAE

2. **Arodeola grayii** (Sykes)

Paddy Bird or Pond Heron

Dates of sighting : 22.8.1986 ; 8.1.1987

This bird was sighted in the paddy fields just outside the sanctuary boundary.

3. **Bubulcus ibis** (Linnaeus)

Cattle Egret

Dates of sighting : 8, 9 & 10.1.1987

Two or three of these egrets were seen attending on grazing cattle on the way to Karungal Kasam from Chidambarapuram village ; a few at Periakulam tank, with no cattle nearby.

4. **Egretta garzetta** (Linnaeus)

Little Egret

Dates of sighting : 15.2.1986 ; 8, 9 & 10.1.1987

The commonest of the egrets seen, the Little Egret was found in fair numbers at Periakulam tank and near Chidambarapuram village. A single bird was found near the Thalayanai dormitory, on a boulder in a stream that had only slow water movement.

Family : THRESKIORNITHIDAE

5. **Threskiornis melanocephala** (Latham)

White Ibis

Date of sighting : 9.1.1987

One bird was sighted at the Periakulam tank. This ibis is supposed to be of gregarious habits, so it was unusual to find a solitary bird.

6. **Platalea leucorodia** Linnaeus

Spoonbill

Date of sighting : 9.1.1987

This bird was recorded at the Periakulam tank along with the previous species. As a matter of fact, the two birds were sighted close to each other. The spoonbill is also known to be gregarious, but the present record is of one individual only.

Order : FALCONIFORMES

Family : ACCIPITRIDAE

7. **Milvus migrans** (Boddaert)

Pariah kite

A common kite sighted frequently only in the vicinity of human habitation at the base of the hills.

8. **Haliastur indus** (Boddaert)

Brahminy Kite

A kite that was more commonly seen than the previous species and which was not restricted to the vicinity of human habitation. This species was sighted flying over the forest on the way to Nambikoil at Sengaltheri, Vallioor R. F. and Manjolai. At Sengaltheri, these kites were seen soaring overhead on two cloudy afternoons in late April, 1987. One day only a solitary bird was sighted, while on the subsequent afternoon five birds were seen together. Every now and then a shrill squeal was heard from the birds on the wing.

9. **Accipiter badius** (Gmelin)

Shikra

Dates of sighting : 9.2.1986 ; 22.8.1986 ; 14.1.1987

Sighted in the open dry deciduous forest. In January, 1987 one bird was seen to pick and eat winged termites emerging from the ground in the Vallioor R.F. Range Office complex.

10. **Spizaetus cirrhatus** (Gmelin)

Crested Hawk-Eagle

Dates of sighting : 22.8.1986 ; 14.1.1987

This bird was sighted in deciduous and semi-evergreen forest on two occasions—once along the Kombaiar river in August, 1986, and a second time along the Nambiar river in January, 1987.

Family : FALCONIDAE

11. **Falco tinnunculus** Linnaeus

Kestrel

Date of sighting : 4.3.1985

Only one bird was sighted. This was seen hovering over the grassy slopes near the 'view-point' at Sengaltheri.

Order : GALLIFORMES

Family : PHASIANIDAE

12. **Gallus sonneratii** (Temminck)

Grey Junglefowl

Dates of sighting : 20.8.1984 ; 5.3.1985 ; 25.8.1986

Although apparently a very common bird in the sanctuary, found in all kinds of forest from dry-deciduous and moist-deciduous to evergreen, its presence is more easily known by its typical call and a rustling sound as it scurries through the leaf litter, than by visual sighting.

Order : CHARADRIIFORMES

Family : CHARADRIIDAE

Subfamily : CHARADRIINAE

13. **Vanellus indicus** (Boddaert)

Redwattled Lapwing

Date of sighting : 10.1.1987

A sighting of a solitary bird was made in an open grassy area in the vicinity of a water body to the west of Chidambarapuram village adjacent to the sanctuary boundary. The lapwing was seen in the company of Little and Cattle Egret and the Large Pied Wagtail.

Order : COLUMBIFORMES

Family : COLUMBIDAE

14. **Treron pompadora** (Gmelin)

Greyfronted Green Pigeon

Date of sighting : 18.11.1984

Five to six of these birds were seen in the well-wooded area about 3.5 Km. before Sengaltheri on the Kalakad-Sengaltheri road.

15. **Treron phoenicoptera** (Latham)

Green Pigeon

Date of sighting : 23.8.1986

Large flocks of green pigeon were sighted in the huge fruiting trees in the Vallioor R.F. in August, 1986.

16. **Ducula badia** (Raffles)

Jerdon's Imperial Pigeon

Dates of sighting : 18 & 20.8.1984 ; 20.11.1984

This bird of the evergreen biotope was seen only at Sengaltheri and Karumandi Amman temple areas. At the latter area, these birds were sighted flying at a great height in flocks of two to four birds.

**17. *Streptopelia chinensis* (Scopoli)**

Spotted Dove

Dates of sighting : 8 & 9.2.1986 ; 20 & 22.8.1986 ; 8-16.1.1987

A dove found abundantly in the scrub, thorn and mainly deciduous forest in the foothills and lower elevations. A large number of these birds was found to be present in the Vallioor R.F. and Keeripittam Odai.

**18. *Streptopelia senegalensis* (Linnaeus)**

Little Brown or Senegal Dove

Dates of sighting : 8 & 9.2.1986 ; 20.8.1986 ; 10 & 12.1.1987

The little brown dove is also a common species of dove in the sanctuary. Although co-existing with the previous species in some areas, the present species appears to be more abundant in scrub, thorn and dry-deciduous jungle than the previous one.

Order : PSITTACIFORMES

Family : PSITTACIDAE

**19. *Psittacula krameri* (Scopoli)**

Roseringed Parakeet

Dates of sighting : 8-15.2.1986 ; 20-27.8.1986 ; 8-16.1.1987

This parakeet is a common bird in the lower elevations, being found in deciduous forest. In February, 1986 a pair of this parakeet was observed trying to oust a spotted owl from its hollow in a margosa tree just outside the Forest Range Office at Kalakad. The female parakeet appeared to be the more active of the partners in annoying the spotted owl.

**20. *Psittacula columboides* (Vigors)**

Bluewinged Parakeet

Date of sighting : 5.3.1985

Only one bird of this species was sighted in the evergreen forest fringing the tea gardens of the Bombay Burmah Trading Corporation at Manjolai.

21. *Loriculus vernalis* (Sparrman)

Indian Lorikeet

Date of sighting : 27.2.1985

This bird was sighted just once in the moist-deciduous and semi-evergreen forest between the 11 Km. stone and Sengaltheri on the Kalakad-Sengaltheri road.

Order : CUCULIFORMES

Family : CUCULIDAE

22. *Surniculus lugubris* (Horsfield)

Drongo-Cuckoo

Date of sighting : 25.8.1986

The unmistakable call of this bird was first heard and the bird was sighted subsequently deep within the evergreen forest on the way to Nadukani. This was the only record of the bird in the sanctuary.

23. *Eudynamys scolopacea* (Linnaeus)

Koel

Dates of sighting : 8 &amp; 12.2.1986 ; 23.8.1986 ; 9, 13 &amp; 15.1.1987

The koel was seen only in the foothills and low elevations in the vicinity of human habitation.

24. *Rhopodytes viridirostris* (Jerdon)

Small Greenbilled Malkoha

Date of sighting : 21.8.1986

This bird was seen on one occasion only in the dense thickets bordering a canal in Vallioor R.F. close to Kodamadi Estate.

25. *Centropus sinensis* (Stephens)

Crow-Pheasant or Coucal

Dates of sighting : 9.2.1986 ; 23.8.1986

One bird was sighted in almost the same place where the previous species was seen. The call of the coucal was heard in the deciduous jungle at Ombadu Kal Sonai near the boundary of Vallioor R.F. and Kalakad R.F., indicating its presence there.

Order : STRIGIFORMES

Family : STRIGIDAE

Subfamily : STRIGINAE

26. *Bubo zeylonensis* (Gmelin)

Brown Fish Owl

Date of sighting : 10.2.1986

One bird was seen at night in a teak tree between Mudaliruppan and the point where the road to the Thalayanai dormitory branches off from the Kalakad-Sengaltheri road.

27. *Athene brama* (Temminck)  
Spotted Owlet

Dates of sighting : 8-15.2.1986

One bird of this species was found to be occupying a hole in a margosa (*Azadiarcta indica*) tree trunk just outside the Forest Range Office compound at Kalakad. A pair of roseringed parakeet, which was obviously keen on appropriating the hole for nesting, was observed annoying the owlet (as mentioned earlier) from morning to dusk. Although the latter vacated the hole once in a way, it perched in a tree about 10 m away, and swooped down on the parakeets whenever it found them approaching the hole too closely.

Order : CAPRIMULGIFORMES  
Family : CAPRIMULGIDAE

28. *Caprimulgus asiaticus* Latham  
Indian Little Nightjar

The typical call produced by this nightjar was heard at dusk in the scrub jungle adjacent to the Vallioor R.F. Range Office complex, although the bird itself was never sighted.

Order : APODIFORMES  
Family : APODIDAE

29. *Cypsiurus parvus* (Lichtenstein)  
Palm Swift

Dates of sighting : 20-28.8.1986 ; 8-15.1.1987

This swift was found in abundance in the foothills area where the land had numerous palmyra palm (*Borassus flabellifer*) trees.

Order : CORACIFORMES  
Family : ALCEDINIDAE

30. *Ceryle rudis* (Linnaeus)  
Pied Kingfisher

Date of sighting : 8.2.1986

This species of kingfisher was sighted only at Kalakad—not far from the Forest Office complex.

31. *Alcedo atthis* (Linnaeus)

## Small Blue Kingfisher

Dates of sighting : 12.2.1986 ; 23.8.1986

Two sightings of this bird were made, one at Pachayar, not very far from Thalayani dormitory, and the other at Thulukkanparai. The hill stream and the surrounding forest in the two locations were similar—swiftly-flowing stream with numerous rocks and boulders and moist-deciduous to semi-evergreen forest. In the Pachayar the bird was observed while it dived into the splashing, foaming waters of the stream and emerged with a fish in its bill. The latter was swallowed by the bird tail first.

32. *Halcyon smyrnensis* (Linnaeus)

## Whitebreasted Kingfisher

Dates of sighting : 8.2.1986 ; 25.8.1986 ; 9.1.1987

A commonly found kingfisher in the foothills area of the sanctuary. Not found in forests.

Family : MEROPIDAE

33. *Merops leschenaulti* Vieillot

## Chestnutheaded Bee-Eater

Date of sighting : 2.3.1985 ; 21.8.1986 ; 15.1.1987

This species of bee-eater was sighted at three places : one bird at Vallioor R.F. Range Office complex, one perched on an electric wire in a wooded section along the road to Nambikoil from Thirukarngudi, and four birds, two of them probably juveniles, seen for about a minute or so on a tree about 25m in front of the Forest R.H. at Sengaltheri. They flew away down a valley one after another.

34. *Merops orientalis* Latham

## Small Green Bee-Eater

A common, frequently-sighted resident bird confined chiefly to the plains and lower elevations. A good number was seen in the Vallioor R.F. and at Kalakad. The species shows a definite preference for scrub and open forest close to cultivation.

Family : CORACIIDAE

35. *Coracias benghalensis* (Linnaeus)

## Indian Roller

This bird was seen in biotopes where the previous species (34) was recorded.

Family : UPUPIDAE

36. **Upupa epops** Linnaeus  
Hoopoe

Dates of sighting : 8.2.1986 ; 22.8.1986

The hoopoe was sighted only in Vallioor R.F. and near the Kalakad Forest Range Office. It was not sighted in the former locality during January, 1987.

Order : PICIFORMES

Family : CAPITONIDAE

37. **Megalaima viridis** (Boddaert)  
Small Green Barbet

Dates of sighting : 1.3.1985 ; 7.9.1985

This bird was more easily heard than seen in various parts of the evergreen and moist-deciduous forest in the sanctuary. Although the call of this barbet is said to be very closely akin to that of the Large Green Barbet, *M. zeylanica* (Gmelin), at least two sightings—one near Kulirattiar on way to Kuliratti Estate from Sengaltheri, and another at Kakachi—confirmed the presence of *M. viridis*.

38. **Megalaima haemacephala** (P.L.S. Muller)  
Crimsonbreasted Barbet *or* Coppersmith

Dates of sighting : 27.2.1985 ; 23.8.1986

A barbet seen in dry and moist-deciduous forested parts of the sanctuary. Call similar to that of this species, heard in evergreen forest, were possibly those of the crimsonthroated barbet, *M. rubricapilla* (Gmelin). The latter species of barbet is said to be "restricted to evergreen biotope" and the "ecological counterpart" of *M. haemacephala*, according to Ali & Ripley, 1983. Since no sighting of either species was made in the evergreen forest in the sanctuary, the presence or absence of *M. rubricapilla* is, at the present time, mere conjecture.

Family : PICIDAE

Subfamily : PICINAE

39. **Dinopium benghalense** (Linnaeus)  
Goldenbacked Woodpecker

Dates of sighting : 3.3.1985 ; 9.2.1986 ; 22.8.1986

A woodpecker of light deciduous forest, the Goldenbacked woodpecker was sighted only in the foothills areas.

40. **Dryocopus javensis** (Horsfield)  
Indian Great Black Woodpecker

Dates of sighting : 23.11.1984 ; 26.4.1987

Sighting of this woodpecker were made in the dense evergreen forest near Sengaltheri, and on way to Kuliratti Estate from Sengaltheri.

Order : PASSERIFORMES  
Family : PITTIDAE

41. **Pitta brachyura** (Linnaeus)  
Indian Pitta

Date of sighting : 27.2.1985

Only once was this bird seen in this sanctuary. It was found on the ground close to a little trickle of water in the mixed evergreen and moist-deciduous biotope on the Sengaltheri-Kalakad road near about the 12 km. stone.

Family : HIRUNDINIDAE

42. **Hirundo rustica** Linnaeus  
Common Swallow

Dates of sighting : 7.9.1985 ; 8 & 9.1.1987

Several of these birds were seen flying over the water surface at Periakulam tank. A few were also seen at the Kakachi golf course, flying and hawking insects.

43. **Hirundo daurica** Linnaeus  
Striated or Redrumped Swallow

Date of sighting : 20.8.1986

Several of this species of swallow were found flying about, hawking insects on the wing, over a massive expanse of bare rock at Ombadu Kal Sonai in the foothills area.

Family : LANIIDAE

44. **Lanius cristatus** Linnaeus  
Brown Shrike

Date of sighting : 13.1.1987

One individual was sighted near the Kodamadi Estate at the base of the hills. This species is a winter visitor to India.

Family : ORIOLIDAE

45. **Oriolus oriolus** (Linnaeus)  
Golden Oriole

Date of sighting : 14.2.1986

One bird was seen on the Kalakad-Sengaltheri road between Thalayanai and the Forest Range Office at Kalakad. The Golden Oriole is a winter visitor to South India.

Family : DICRURIDAE

46. **Dicrurus adsimilis** (Bechstein)  
Black Drongo

Although this common resident was sighted frequently in various parts of the sanctuary, including the mixed moist-deciduous and evergreen forest, it was found more abundantly in the foothills and lower elevations, and was not seen at all elevations above 900 m or so. The bird shows a preference for scrub, cultivation, fallow land and open deciduous forest. It also frequents the neighbourhood of human dwellings.

Family : ARTAMIDAE

47. **Artamus fuscus** Vieillot  
Ashy Swallow-Shrike

Date of sighting : 7.9.1985

This species was sighted only in the golf course area at Kakachi, where the birds were seen making aerial sorties from their perch on electric wires, presumably to catch insects.

Family : STURNIDAE

48. **Acridotheres tristis** (Linnaeus)  
Indian Myna

A common resident of the foothills near human habitation.

Family : CORVIDAE

49. **Dendrocitta vagabunda** (Latham)  
Indian Treepie

Dates of sighting : 20 & 23.8.1986

The treepie was sighted mostly in light deciduous forest at the foot of the hills.

50. **Dendrocitta leucogastra** Gould  
Whitebellied Treepie

Date of sighting : 23.4.1987

Three of these treepie were recorded flying from tree to tree in the dense evergreen shola near the 16 Km stone on the Kalakad-Sengaltheri road.

51. **Corvus splendens** Vieillot  
Indian House Crow

Dates of sighting : 8-15.2.1986

The house crow was not seen anywhere in the hills. As a matter of fact, it was seen only in the vicinity of the Forest Range Office at Kalakad. It was not to be found in the Vallioor R.F. Range Office complex, where the Jungle Crow, *C. macrorhynchos* was seen.

52. **Corvus macrorhynchos** Wagler  
Jungle Crow

Dates of sighting : 8-15.2.1986 ; 28.8.1986

Like the House Crow, the Jungle Crow was also not found in the hills in the sanctuary. But, as mentioned earlier, this was the only crow sighted in the Vallioor R.F. Range Office complex, while both this crow and the previous species (51) co-existed in the vicinity of the Forest Range Office at Kalakad.

Family : CAMPEPHAGIDAE

53. **Hemipus picatus** (Sykes)  
Pied Flycatcher-Shrike

Dates of sighting : 3.3.1985 ; 4.9.1985

One male was seen in a cardamom estate (S.S.R. Estate), and about six birds near a stream passing through tea gardens at Nalumukku.

54. **Tephrodornis pondicerianus** (Gmelin)  
Indian Wood Shrike

Date of sighting : 9.2.1986

One individual of this species was sighted in the scrub and secondary jungle in the vicinity of a streamlet at Keeripittam Odai.

55. **Pericrocotus flammeus** (Forster)

Scarlet Minivet

Dates of sighting : 20.8.1984 ; 20 & 21.11.1984 ; 27.2.1985 ; 5.3.1985 ; 6.9.1985 ; 24.4.1987

This minivet was seen in several places—mostly in evergreen forest and also in moist-deciduous forest. It was sighted near the 11 Km stone on the Kalakad-Sengaltheri road, at Sengaltheri, Karumandi Amman temple, between Kusanguliar and Murunga mottai and near Nalummukku.

Family : IRENIDAE

56. **Aegithina tiphia** (Linnaeus)

Common Iora

Dates of sighting : 20-22.8.1986

The Iora was sighted in deciduous forest at several localities at low elevations viz., Vallioor R.F. Range Office complex, Ombadu Kal Sonai, along Nambiar on road to Nambikoil, and along Kombaiar at Thekkadu Charagam.

57. **Chloropsis aurifrons** (Temminck)

Goldfronted Chloropsis

Dates of sighting : 21 & 22.8.1986 ; 9.1.1987

Sighted in the deciduous forest in Vallioor R.F. and also on way to Nambikoil. Not sighted in evergreen forest.

58. **Irena puella** (Latham)

Fairy Bluebird

Dates of sighting : 24.8.1984 ; 21.11.1984 ; 2.3.1985 ; 22 & 23.4.1987

Sighted only in the evergreen forest around Sengaltheri and S.S.R. Cardamom Estate. In the latter half of April, 1987 this bird was easily observed close to the Sengaltheri Forest R.H. A pair was seen twice or thrice a day for two days on the top branches of some tree or other, uttering their typical calls.

59. **Pycnonotus melanicterus** (Gmelin)

Rubythroated Yellow Bulbul

Date of sighting : 23.8.1986

One individual was spotted in the dense forest at Thekkadu Charagam on the bank of Kombaiar. The bird appeared to be shy.

60. **Pycnonotus jocosus** (Linnaeus)  
Redwhiskered Bulbul

Dates of sighting : 19.8.1984 ; 19.11.1984 ; 27.2.1985 ; 5.3.1985 ; 4.9.1985 ; 23.4.1987

In the sanctuary these bulbuls were sighted only in the hills. Although they were found in the vicinity of evergreen forest, they were never sighted there ; they were found to be restricted to pockets of more open forest. This bulbul was seen around Sengaltheri, at Manjolai and near Nalumukku. In the first-named locality, a family group of four birds, two of them immature, was seen during November, 1984 in the overgrown grassy area in front of the Forest R.H. The immature birds lacked the red 'whiskers', and their colours were not as striking as those of the adults.

61. **Pycnonotus cafer** (Linnaeus)  
Redvented Bulbul

Dates of sighting : 8-15.2.1986 ; 20-28.8.1986 ; 8-15.1.1987

The Redvented Bulbul was sighted only at lower elevations and foothills. It was very abundantly present in the Vallioor R.F. Range Office complex in August, 1986 when they were seen feeding on the surfeit of margosa fruits. The numbers of this bulbul in the aforesaid locality had diminished greatly in January, 1987. In this season, the margosa trees had no fruit. The poorer numbers of the bulbul is probably related to the lack of fruits on the margosa trees. The redvented bulbul was a common bird in light deciduous forest, scrub and secondary jungle. In appropriate biotopes it was found to cohabit with the following species (62), but never was it found to eo-exist with *P. jocosus*.

62. **Pycnonotus luteolus** (Lesson)  
Whitebrowed Bulbul

Dates of sighting : 20-23.8.1986 ; 8 & 9.1.1987

A common resident, this bulbul was also found, like the previous species (61), at lower elevations in light deciduous forest. Very shy and retiring, unlike *P. cafer*, and not prone to come out in the open, this species makes its presence known by its typical call.

63. **Hypsipetes indicus** (Jerdon)  
Yellowbrowed Bulbul

Dates of sighting : 18 & 19.8.1984 ; 20-23.11.1984 ; 23.8.1986 ; 24.4.1987

A shy bulbul, found only in the evergreen forest and sholas. It was also sighted

in the shola below Thalai Odai, at Sengaltheri, near the S.S.R. Cardamom Estate and on the way to Kakachi.

64. **Hypsipetes madagascariensis** (P.L.S.Muller)

Black Bulbul

Dates of sighting : 19 & 21.8.1984 ; 20-23.11.1984 ; 27.2.1985 ; 1.3.1985 ; 4-11.9.1985

This was, by far, the commonest bulbul sighted in the evergreen hill forest. The birds showed a distinct liking for the sholas, cardamom and tea plantations, where they were seen in very large numbers in the canopy of the shade trees chasing one another and creating a din. They were seen at Sengaltheri and its neighbourhood, at Kakachi and Nalummukku.

Family : MUSCICAPIDAE

Subfamily : TIMALINAE

65. **Turdoides malcolmi** (Sykes)

Large Grey Babbler

Date of sighting : 12.2.1986

Recorded only once ; one sisterhood close to the dormitory at Thalayanai.

66. **Turdoides subrufus** (Jerdon)

Rufous Babbler

Dates of sighting : 24.8.1984 ; 26.11.1984 ; 27.2.1985.

Three sisterhoods, one of six birds in August, 1984, a second of at least four birds in November, 1984, and a third of at least two birds in February, 1985 were seen at the same site, viz., in the grassy, overgrown jungle in front of the Forest R. H. at Sengaltheri. They were found to be shy, flying and hopping away, at the first sign of danger, keeping very low all the time.

67. **Turdoides affinis** (Jerdon)

Whiteheaded Babbler

Dates of sighting : 9.2.1986 ; 20-28.8.1986 ; 8-15.1.1987.

A common resident found in several places in scrub and deciduous forest and also in hedgerows in the vicinity of cultivation.

Subfamily : MUSCICAPINAE

68. **Muscicapa latirostris** Raffles  
Brown Flycatcher

Date of sighting : 2.3.1985.

A pair was sighted near the Forest R. H. at Sengaltheri in early March, 1985. The birds were seen to make aerial sorties to catch insects in the typical flycatcher fashion.

69. **Muscicapa tickelliae** (Blyth)  
Tickell's Blue Flycatcher

Dates of sighting : 13 & 15.1.1987.

One female was seen on the shady bank of the Kombaiar river at Thekkadu Charagam. The forest in this area was of dense deciduous type. A pair of this flycatcher was also seen one evening at the boundary of the thorn forest at the Vallioor R. F. Range Office complex, where they were busy catching winged termites emerging from the soil.

70. **Muscicapa albicaudata** Jerdon  
Nilgiri Verditer Flycatcher

Dates of sighting : 21.11.1984 ; 3.3.1985 ; 8.9.1985.

This species of flycatcher was recorded only from dense evergreen forest—between Karumandi Amman Temple and S. S. R. Cardamom Estate, at Cholai Palam aru near Kakachi, and between Yaanai elumbu odai and Netterikal.

71. **Culicicapa ceylonensis** (Swainson)  
Greyheaded Flycatcher

Dates of sighting : 24.8.1984 ; 20 & 22.11.1984 ; 1.3.1985 ; 6 & 9.9.1985.

This is a fairly common resident species of flycatcher in the hill evergreen forest and sholas, particularly near streams. It was sighted at various places including S. S. R. Cardamom Estate and its neighbourhood, on way to Yaanai elumbu odai near Nalummukku, and on way to Kuliratti Estate. The birds were found in good numbers and did not appear to be shy of man.

Subfamily : MONARCHINAE

72. **Terpsiphone paradisi** (Linnaeus)  
Paradise Flycatcher

Dates of sighting : 23.11.1984 ; 10-15.1.1987.

The adult male of this flycatcher was observed only once in the dense shady shola below Thalai odai, where it was seen flitting about among the trees with a female. Females of this species were seen at Kodamadi Estate, at the boundary of the thorn forest with the Vallioor R. F. Range Office complex, and in the complex itself.

73. **Hypothymis azurea** (Boddaert)  
Blacknaped Monarch Flycatcher

Date of sighting : 1.3.1985.

This flycatcher was seen in the forest on way to Kulirattiar from Sengaltheri. As this male bird was turned away from the present author, the black crescentic marking on the throat could not be seen.

74. **Prinia hodgsonii** Blyth  
Franklin's Ashy-Grey Wren-Warbler

Dates of sighting : 8.2.1986 ; 20.8.1986.

This species was heard and sighted in the thorn and scrub forest in Vallioor R. F. on way to Ombadu Kal Sonai from the Range Office complex. The call of this bird was also heard in the open deciduous forest off Sengaltheri-Kalakad road, near about the 12 Km. stone, although the bird itself was unseen. This latter area had abundant wait-high grass in bloom and teak trees also in bloom.

75. **Orthotomus sutorius** (Pennant)  
Tailor Bird

Dates of sighting : 10.2.1986 ; 20 & 22.8.1986.

The tailor bird was seen in the mixed scrub and deciduous forest at Ombadu Kal Sonai and in the deciduous forest at Thekkadu Charagam (along Kombaiar) and between 6.5 and 9 Km. on Kalakad-Sengaltheri road.

76. **Acrocephalus dumetorum** Blyth  
Blyth's Reed Warbler

Dates of sighting : 21.11.1984 ; 27.2.1985 ; 8 & 9.2.1986 ; 8-15.1.1987.

An abundant winter visitor giving itself away by its short, sharp monosyllabic 'check' uttered every now and again. It was found in several places in the sanctuary, right from the plains and foothills, through the deciduous forest, to the evergreen forest in the higher elevations. Everywhere it was found restricted to tall grass, dense bushes and the lower branches of shrubs and trees.

77. **Phylloscopus trochiloides** (Sundevall)

Greenish Leaf Warbler

Dates of sighting : 21.11.1984 ; 2 & 5.3.1985 ; 8.2.1986 ; 8-15.1.1987.

Another common winter visitor found moving about restlessly among the branches of trees, rarely coming to the bushes. This leaf warbler was also sighted in several areas like *Acrocephalus dumetorum*.

Subfamily : TURDINAE

78. **Erithacus brunneus** (Hodgson)

Indian Blue Chat

Date of sighting : 21.11.1984.

A winter visitor to south India, this chat was sighted only once within a large dense shrub near a brook in the evergreen forest between Karumandi Amman temple and S. S. R. Cardamom Estate.

79. **Copsychus saularis** (Linnaeus)

Magpie-Robin

Date of sighting : 15.1.1987.

Only one record—of a pair—in the boundary of the thorn forest with the Vallioor R. F. Range Office complex. The pair was seen one evening feeding on winged termites emerging from the soil, in the company of other birds like the Tickell's Blue Flycatcher, the Black Drongo and the Redvented Bulbul.

80. **Saxicoloides fulicata** (Linnaeus)

Indian Robin

This bird is a fairly common and abundant resident in scrub and thorn forest, dry deciduous forest, fallow land with shrubs scattered here and there. It was sighted frequently in several places in the appropriate biotope.

81. **Myiophonus horsfieldi** (Vigors)

Malabar Whistling Thrush

Strangely, this whistling thrush was never sighted by the present author in the sanctuary, but its unmistakable whistling song was heard very many times in the neighbourhood of rocky hill streams in evergreen forest. From this, its occurrence in the sancturay is amply evident.

82. *Zoothera citrina* (Latham)

Orangeheaded Ground Thrush (Whitethroated Subspecies)

Date of sighting : 23.11.1984.

A solitary bird was recorded from the shola below Thalai odai on road to Kalakad. It was sighted first on a low branch of a tree from where it flew down to the ground.

Family : PARIDAE

Subfamily : PARINAE

83. *Parus xanthogenys* Vigors

Yellowcheeked Tit

Date of sighting : 21.11.1984.

A single bird was sighted in the evergreen forest between Karumandi Amman temple and S. S. R. Estate.

Family : SITTIDAE

Subfamily : SITTINAE

84. *Sitta frontalis* Swainson

Velvetfronted Nuthatch

Dates of sighting : 21-23.11.1984 ; 7-9.9.1985 ; 24.4.1987.

The Velvetfronted Nuthatch was sighted at several places in the evergreen biotope—in the shola near Thalai odai, at Sengaltheri, at and in the vicinity of S. S. R. Cardamom Estate, at Kakachi and Nalumukku.

Family : MOTACILLIDAE

85. *Motacilla cinerea* Turnstall

Grey Wagtail

Dates of sighting : 19-21.11.1984 ; 27.2.1985 ; 7-9.9.1985 ; 8 & 11.1.1987.

This winter visitor was seen always singly near hill streams at several places, mostly in evergreen forest (Sengaltheri, Karumandi Amman temple, Kakachi and its neighbourhood) and twice in moist-deciduous forest—at Vilakennai kasam near Nambikoil, and at Vaithupaarai.

86. *Motacilla maderaspatensis* Gmelin

Large Pied Wagtail

Dates of sighting : 9 & 10.1.1987.

A resident wagtail recorded from moist, grassy areas adjoining the Periakulam

tank and on the way to Karungal kasam from Chidambarapuram village. It was not sighted in the hills or forest.

Family : DICAEDIDAE

87. **Dicaeum erythrorhynchos** (Latham)  
Tickell's Flowerpecker

Dates of sighting : 8.2.1986 ; 20-23.8.1986.

Although this and the following species of flowerpecker, viz., *D. concolor* Hume, are both found to occur in several parts of the sanctuary, the present species appears to be the dominant one, if not the only one, in the lower elevations.

88. **Dicaeum concolor** Jerdon  
Nilgiri Flowerpecker

Dates of sighting : 21.8.1984 ; 22 & 23.11.1984 ; 27.2.1985 ; 1.3.1985.

This species of flowerpecker was sighted in the evergreen biotope in the higher elevations. One bird was seen in a nest built in a tree about 5m above the ground, close to the Sengaltheri Forest R. H. in the third week of August, 1984. It was also observed to bring nest-building materials every now and again.

It must be emphasized that distinguishing the present species from the previous one in the field, especially when the bird is sitting high up on a tree or is in flight, is impossible. Thus, several sightings of flowerpeckers in flight could not provide more revealing information on their specific identity.

Family : NECTARINIIDAE

89. **Nectarinia zeylonica** (Linnaeus)  
Purplerumped Sunbird

Dates of sighting : 21.11.1984 ; 27.2.1985 ; 1.3.1985 ; 5-7.9.1985 ; 8.2.1986 ; 21-23.8.1986.

A widely-distributed, common resident sighted in the plains, foothills, low and higher elevations in the hills, in scrub and thorn jungle, deciduous and evergreen forest and gradens.

90. **Nectarinia asiatica** (Latham)  
Purple Sunbird

Dates of sighting : 8.2. 1986 ; 20.8.1986

Although coexisting with the previous species in the foothills and lower eleva-

tions, the present species was found to be lacking in the evergreen forests above 600-650 m. Nichols (1944) has recorded it in the Nilgiris upto 240 m.

Family : ZOSTEROPIDAE

91. **Zosterops palpebrosa** (Temminck)

White Eye

Dates of sighting : 21.8.1984 ; 21.11.1984 ; 6-11.9.1985

In the Kalakad sanctuary this species was encountered only in evergreen forest. These birds were particularly abundant near the S.S.R. Cardamom Estate and Karumandi Amman temple in August, 1984.

Family : PLOCEIDAE

Subfamily : PASSERINAE

92. **Passer domesticus** (Linnaeus)

House Sparrow

Dates of sighting : 8-15.2.1986

Like the House Crow, the House Sparrow was sighted only around the Forest Range Office at Kalakad. The species was, however, present in good numbers in the nearby Kalakad town. It was also absent around the Vallioor R. F. Range Office complex. The sparrow is, undoubtedly, closely associated with man, and is never found far from him or in deep forest. Ali and Ripley (1983) have stated that in winter this sparrow is found in scrub jungle far from human dwellings. There was no evidence to corroborate this view during the present study.

93. **Petronia xanthocollis** (Burton)

Yellothroated Sparrow

Date of sighting : 8 & 9.2.1986

This species of sparrow was recorded from two localities only in the compound of the Forest Range Office at Kalakad, and in the deciduous forest at Keeripittam odai. At the latter locality two of these sparrow were seen sitting high up on a palmyra (*Borassus flabellifer*) palm tree.

Subfamily : ESTRILDINAE

94. **Lonchura malabarica** (Linnaeus)

Whitethroated Munia

Date of sighting : 9.2.1986

A flock of about five of these birds was sighted on a cactus plant in the neighbour

hood of Keeripittam odai. The general vegetation in this area was sparse, with small bushes here and there, and scattered trees.

95. **Lonchura kelaarti** (Jerdon)  
Rufousbellied Munia

Date of sighting : 11.9.1985

A flock of 6-8 birds was seen feeding on the grassy area at the boundary of the forest at Kakachi.

Apart from the 95 species of birds actually observed by the present author and close to the boundary of the Kalakad Sanctuary, another 32 species are reported to be occurring in the sanctuary as per the 'Management Plan' of the sanctuary by S. Ramanathan. The following is a systematic list of those species :

Order : FALCONIFORMES

Family : ACCIPITRIDAE

1. **Elanus caeruleus** (Desfontaines)  
Blackwinged Kite
2. **Pernis ptilorhyncus** (Temminck)  
Crested Honey Buzzard
3. **Accipiter trivirgatus** (Temminck)  
Crested Goshawk
4. **Ictinaetus malayensis** (Temminck)  
Black Eagle
5. **Spilornis cheela** (Latham)  
Crested Serpent Eagle

Order ; GALLIFORMES

Family : PHASIANIDAE

6. **Fracolinus pondicerianus** (Gmelin)  
Grey Partridge
7. **Perdicula asiatica** (Latham)  
Jungle Bush Quail

8. ***Galloperdix spadicea*** (Gmelin)  
Red Spurfowl  
Order : CHARADRIIFORMES  
Family : CHARADRIIDAE  
Subfamily : CHARADRIINAE
9. ***Vanellus malabaricus*** (Boddaert)  
Yellow-Wattled Lapwing  
Order : COLUMBIFORMES  
Family : COLUMBIDAE
10. ***Columba livia*** Gmelin  
Blue Rock Pigeon
11. ***Chalacophaps indica*** (Linnaeus)  
Emerald Dove  
Order : TROGONIFORMES  
Family : TROGONIDAE
12. ***Harpactes fasciatus*** (Pennant)  
Malabar Trogon  
Order : CORACIIFORMES  
Family : BUCEROTIDAE
13. ***Tockus griseus*** (Latham)  
Malabar Grey Hornbill
14. ***Anthracoceros coronatus*** (Boddaert)  
Malabar Pied Hornbill
15. ***Buceros bicornis*** (Linnaeus)  
Great Pied Hornbill  
Order : PASSERIFORMES  
Family : ORIOLIDAE
16. ***Oriolus xanthornus*** (Linnaeus)  
Blackheaded Oriole  
Family : DICRURIDAE
17. ***Dicrurus leucophaeus*** Vieillot  
Grey or Ashy Drongo

18. **Dicrurus paradiseus** (Linnaeus)  
Large Racket-Tailed Drongo  
Family : STURNIDAE
19. **Acridotheres fuscus** (Wagler)  
Jungle Myna
20. **Gracula religiosa** Linnaeus  
Hill Myna  
Family : CAMPEPHAGIDAE
21. **Pericrocotus cinnamomeus** (Linnaeus)  
Small Minivet  
Family : IRENIDAE
22. **Chloropsis cochinchinensis** (Gmelin)  
Jerdon's Chloropsis  
Family : MUSCICAPIDAE  
Subfamily : TIMALIINAE
23. **Pellorneum ruficeps** Swainson  
Kerala Spotted Babbler
24. **Rhopocichla atriceps** (Jerdon)  
Blackheaded Babbler
25. **Turdoides striatus** (Dumont)  
Jungle Babbler
26. **Alcippe poiocephala** (Jerdon)  
Nilgiri Quaker Babbler  
Subfamily : MUSCICAPINAE
27. **Muscicapa nigrorufa** (Jerdon)  
Black and Orange Flycatcher
28. **Muscicapa pallipes** Jerdon  
Whitebellied Blue Flycatcher  
Subfamily : SYLIINAE
29. **Prinia sylvatica** Jerdon  
Jungle Wren-Warbler

30. **Phylloscopus magnirostris** Blyth  
Largebilled Leaf Warbler

Family : MOTACILLIDAE

31. **Motacilla indica** Gmelin  
Forest Wagtail

Family : NECTARINIIDAE

32. **Nectarinia minima** (Sykes)  
Small Sunbird

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