

Birds of Mudumalai Wildlife Sanctuary, India

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The Mudumalai Wildlife Sanctuary, located between 11°30' and 11°39'N and 76°27' and 76°43'E, in the Nilgiris district of Tamil Nadu in the Western Ghats (Fig. 1), is mainly known for its larger wild animals such as Asian Elephant *Elephas maximus*, Sloth Bear *Melursus ursinus* and Tiger *Panthera tigris* but also harbours a good number of bird species. The sanctuary encompasses an area of 321 km² forming 14% of the Nilgiri Biosphere Reserve (with a core area of 72 km²), the first biosphere reserve of India established with the view of integration of development with conservation of biodiversity.

The sanctuary has an undulating terrain with low-lying areas and steep cliffs of about 1,250 m above MSL. It is drained mainly by the Moyar river with its several tributaries of smaller rivers and streams. The South-west and North-east monsoons provide about 600 to 2,000 mm rain, with an increasing gradient from east to west of the sanctuary, which is hence endowed with a high diversity of habitats, rich in variety of plants and animals.

The broad vegetation types are scrub forest and dry and moist deciduous forests. The scrub, dry and moist habitats cover an area of about 44, 98 and 104 km² respectively and about 16 km² is revenue land. The scrub is dominated by *Chloroxylon swietenia*, *Erythroxylon monogynum* and *Acacia sundra*. The dry deciduous forests have more of *Tectona grandis*, *Anogeissus latifolia* and *Terminalia tomentosa* and the moist deciduous forests have besides some *Syzygium cumini*, *Olea dioica* and *Persea macaranga*. The sanctuary, although contiguous with other protected areas, namely Bandipur Tiger Reserve and Wynaad Wildlife Sanctuary, has pressures from human populations settled inside and outside. The Nilgiris have been undergoing drastic changes in the landscape with the replacement of forests and grasslands by monoculture plantations and agriculture. The other developmental processes such as hydro-electric projects with construction of dams, reservoirs, canals and tunnels (Prabhakar and Gadgil 1994) has also changed the ecological landscape of this area. The human settlement, with the immigration of people to support the above-mentioned practices, kept on increasing pressure on the forest around to meet their ecological needs and greed. The impact of such pressure, exerted directly or indirectly on the biota, especially birds, has not been assessed in this region. While conducting such a study on the plants and birds of different habitats of this sanctuary, a status report on the birds, which have not been well documented, is prepared and presented based on the observations made during May 1994 to August 1995.

A total of 266 bird species was recorded, of which 213 were resident, 49 were migrants, three were local migrants and one was of unknown status (Appendix).

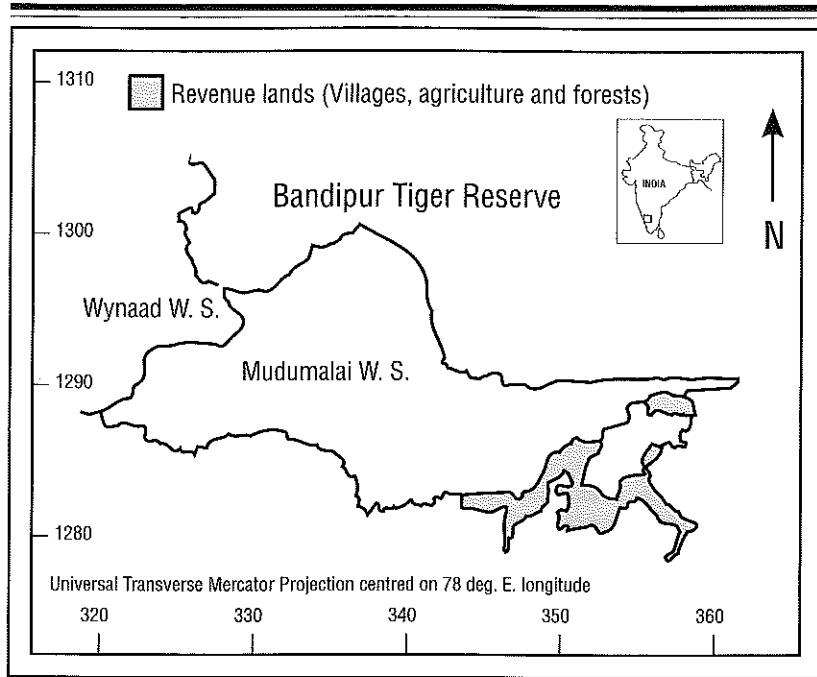


Figure 1. Map of Mudumalai Wildlife Sanctuary

There were rare sightings of four species from this sanctuary during winter. The species, with the number of birds and the month of sighting, are given below: the Long-eared Owl *Asio otus* (2 in January), Southern Grey Shrike *Lanius meridionalis* (3 in February), Common Stonechat *Saxicola torquata* (2 in January) and Singing Bushlark *Mirafra cantillans* (2 in January). The Grey-headed Fish Eagle *Ichthyophaga ichhyaetus*, although rare, was sighted in almost all seasons in particular riverine patches, and two pairs were involved. The Savanna Nightjar *Caprimulgus affinis* was recorded thrice by call during winter.

The number of species recorded was high in dry deciduous (142) and scrub forest (139), followed by moist deciduous forest (130), but this last figure may be because the birds were not so obvious in this habitat. However, the moist deciduous forest had a greater number of habitat-specific birds (56) than the scrub (40) and dry deciduous (10) habitats (Fig.2). Forty-one species of birds were generalists present in all the habitats. The dry deciduous habitat harboured a smaller number of habitat-specialists because of the affinity with scrub and moist deciduous habitats and its homogeneous nature. Moreover, *Tectona grandis* and *Anogeissus latifolia* which dominated dry deciduous habitat produced a structurally less

Figure 2. Number of bird species present in different forest types in Mudumalai WLS

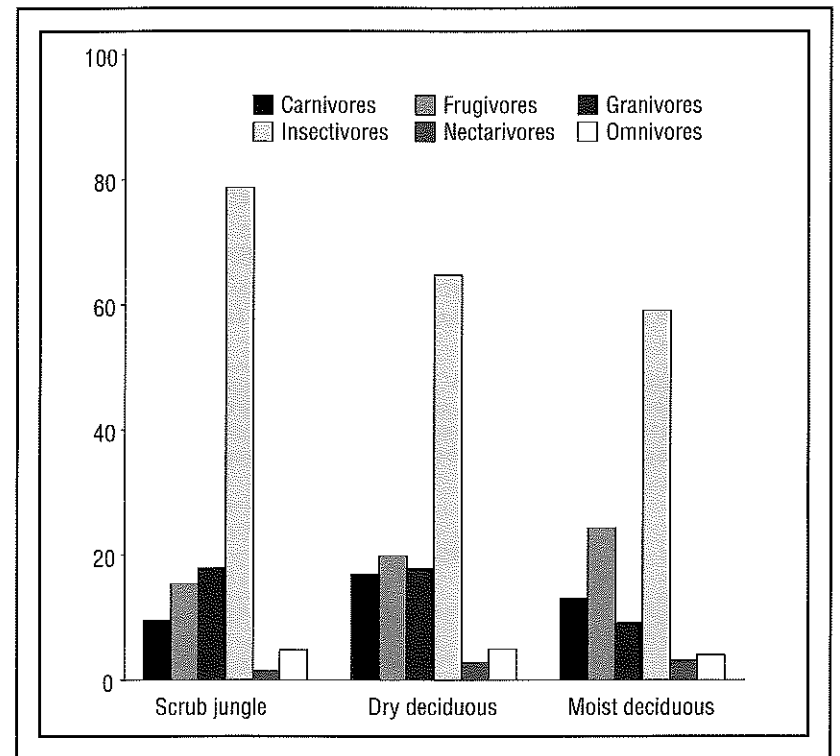
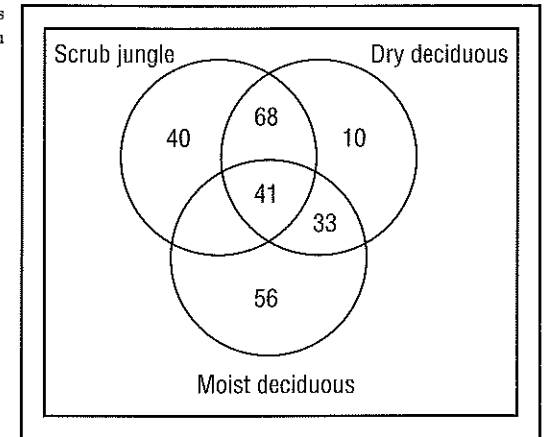


Figure 3. Feeding-guild of birds in different habitats in Mudumalai WLS

complex ecosystem and therefore supported a smaller number of bird species. The scrub forest is unique in the sense that many bird species occurring in this type do not occur elsewhere, whereas moist deciduous forests share a number of species with evergreen forests elsewhere.

Nine of the 15 species endemic to the Western Ghats (Ali and Ripley 1987) were observed in the moist deciduous forest. Only one of these was found in dry deciduous and scrub forest, while the rest of them were found in all habitats. Thirty-one near-threatened species occur in the Western Ghats (Collar *et al.* 1994), of which 20 were observed in the sanctuary. Two of these were aquatic while 18 were terrestrial. Here also moist deciduous habitat is more important, since 12 of the 18 species were observed with seven species specific to this habitat. Although there were eight and seven species occurring in dry deciduous and scrub forest, only two and three were specific to those habitats respectively. The feeding-guild structure of the bird community showed a lot of insectivores in all the habitats (Fig. 3) but with most in the scrub forest. Frugivores and nectarivores were observed more in the moist deciduous forest. Granivores preferred scrub and dry deciduous forest with more open areas.

Both the scrub and moist deciduous habitats have been subjected to severe reclamation in the form of plantation, urbanization etc.; still, they hold a considerable number of habitat specialists. The moist deciduous habitat thus needs special attention from the conservation point of view with respect to the habitat specialist, endemic and rare species. However, efforts are being made by the forest department to minimize the disturbances inside the protected areas. More observations on the species abundance and breeding requirements would bring out the impact of disturbances on the bird community of this area and also help to suggest some management measures for conservation.

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APPENDIX

BIRDS OF MUDUMALAI WILDLIFE SANCTUARY

In the Appendix the following codes are used

1 = Species endemic to Western Ghats and

2 = Globally Near-threatened

HAB = Habitat:

S = Scrub,

D = Dry Deciduous,

M = Moist deciduous,

A = Aquatic.

ST = Status:

R = Resident,

M = Migrant,

? = Not known,

R? = Probably resident,

M? = Probably migrant.

FG = Feeding Guilds:

G = Granivores,

A = Aquatic vegetarians,

F = Frugivores,

P = Piscivores,

C = Carnivores (animals and carrion),

O = Omnivores,

N = Nectarivores,

R = Feeding on Rodents and small animals,

I = Feeding on Invertebrates,

M = Feeding on Molluscs

SPECIES

| SPECIES | HAB | ST | FG |
|---|-------|----|----|
| GREY FRANCOLIN <i>Francoelinus pondicerianus</i> | S,D | R | G |
| JUNGLE BUSH QUAIL <i>Pendicula asiatica</i> | S,D | R | G |
| PAINTED BUSH QUAIL <i>Pendicula erythrorhyncha</i> | D | R | G |
| RED SPURFOWL <i>Galloperdix spadicea</i> | M | R | G |
| GREY JUNGLEFOWL <i>Gallus sonneratii</i> 2 | S,D,M | R | G |
| INDIAN PEAFOWL <i>Pavo cristatus</i> | S,D,M | R | G |
| COMB DUCK <i>Sarkidiornis melanotos</i> | A | M | AI |
| COTTON PYGMY-GOOSE <i>Nettapus coromandelianus</i> | A | M | AI |
| COMMON TEAL <i>Anas crecca</i> | A | M | AI |
| NORTHERN PINTAIL <i>Anas acuta</i> | A | M | AI |
| SPECKLED PICULET <i>Picumnus innominatus</i> | M | R | I |
| YELLOW-CROWNED WOODPECKER <i>Dendrocopos mahrattensis</i> | S,D | R | I |
| RUFIOUS WOODPECKER <i>Celeus brachyurus</i> | M | R | I |
| WHITE-BELLIED WOODPECKER <i>Dryocopus javensis</i> | M | R | I |
| COMMON FLAMEBACK <i>Dinopium javanense</i> | M | R | I |
| BLACK-RUMPED FLAMEBACK <i>Dinopium benghalense</i> | D,M | R | I |
| GREATER FLAMEBACK <i>Chrysocolaptes lucidus</i> | M | R | I |
| WHITE-NEPES WOODPECKER <i>Chrysocolaptes festivus</i> | S,D | R | I |
| HEART-SPOTTED WOODPECKER <i>Hemicircus canente</i> | M | R | I |

| SPECIES | HAB | ST | FG |
|--|-------|----|----|
| BROWN-HEADED BARBET <i>Megalaima zeylanica</i> | S,D,M | R | F |
| WHITE-CHEEKED BARBET <i>Megalaima viridis</i> | M | R | F |
| CRIMSON-FRONTED BARBET <i>Megalaima rubricapilla</i> | D,M | R | F |
| COPPERSMITH BARBET <i>Megalaima haemacephala</i> | S,D,M | R | F |
| MALABAR GREY HORNBILL <i>Ocyrocus griseus</i> 1,2 | D,M | R | F |
| INDIAN GREY HORNBILL <i>Ocyrocus birostris</i> | D,M | R | F |
| MALABAR PIED HORNBILL <i>Anthracceros coronatus</i> 2 | M | R | F |
| GREAT HORNBILL <i>Buceros bicornis</i> | M | R | F |
| EURASIAN HOOPOE <i>Upupa epops</i> | S,D,M | R | I |
| INDIAN ROLLER <i>Coracias benghalensis</i> | S,D | R | I |
| COMMON KINGFISHER <i>Alcedo arthis</i> | S,D | R | P |
| BLUE-EARED KINGFISHER <i>Alcedo meninting</i> | M | R | P |
| ORIENTAL DWARF KINGFISHER <i>Ceyx erithacus</i> | M | R | PI |
| STORK-BILLED KINGFISHER <i>Pelargopsis capensis</i> | D,M | R | P |
| WHITE-THROATED KINGFISHER <i>Halcyon smymonensis</i> | S,D | R | PI |
| PIED KINGFISHER <i>Ceryle rudis</i> | S,D | R | P |
| GREEN BEE-EATER <i>Merops orientalis</i> | S,D | R | I |
| BLUE-TAILED BEE-EATER <i>Merops philippinus</i> | S | M | I |
| CHESTNUT-HEADED BEE-EATER <i>Merops leschenaulti</i> | M | R | I |
| PIED CUCKOO <i>Clamator jacobinus</i> | D,M | M | I |
| LARGE HAWK CUCKOO <i>Hierococcyx sparverioides</i> | S,D | M | I |
| COMMON HAWK CUCKOO <i>Hierococcyx varius</i> | D,M | R | I |
| INDIAN CUCKOO <i>Cuculus micropterus</i> | S,D,M | R | I |
| BANDED BAY CUCKOO <i>Cacomantis sonneratii</i> | S | R | I |
| GREY-BELLIED CUCKOO <i>Cacomantis passerinus</i> | S | R | I |
| ASIAN KOEL <i>Eudynamis scolopacea</i> | S,D,M | R | I |
| BLUE-FACED MALKOHA <i>Phaenicophaeus viridirostris</i> | D,M | R | I |
| GREATER COUCAL <i>Centropus sinensis</i> | S,D | R | I |
| LESSER COUCAL <i>Centropus bengalensis</i> | S | R | I |
| VERNAL HANGING PARROT <i>Loriculus vernalis</i> | S,D,M | R | F |
| ALEXANDRINE PARAKEET <i>Psittacula eupatria</i> | D,M | R | F |
| ROSE-RINGED PARAKEET <i>Psittacula krameri</i> | S,D,M | R | F |
| PLUM-HEADED PARAKEET <i>Psittacula cyanocephala</i> | S,D,M | R | F |
| MALABAR PARAKEET <i>Psittacula columboides</i> 1 | M | R | F |
| INDIAN SWIFTLET <i>Collocalia unicolor</i> | S,D | R | I |
| BROWN-BACKED NEEDLETAIL <i>Hirundapus giganteus</i> | M | R | I |
| ASIAN PALM SWIFT <i>Cypsiurus balasensis</i> | S,D | R | I |
| LITTLE SWIFT <i>Apus affinis</i> | S | R | I |
| CRESTED TREESWIFT <i>Hemiprocne coronata</i> | S | R | I |
| BARN OWL <i>Tyto alba</i> | S | R | R |
| ORIENTAL SCOPS OWL <i>Otus sumia</i> | D,M | R | R |
| COLLARED SCOPS OWL <i>Otus bakkamoena</i> | M | R | R |
| EURASIAN EAGLE OWL <i>Bubo bubo</i> | D,M | R | R |
| SPOT-BELLIED EAGLE OWL <i>Bubo nipalensis</i> 2 | M | R | R |
| BROWN WOOD OWL <i>Strix leptogrammica</i> | M | R | R |
| JUNGLE OWLET <i>Glaucidium radiatum</i> | D,M | R | R |
| SPOTTED OWLET <i>Athene brama</i> | S,D | R | R |
| LONG-EARED OWL <i>Asio otus</i> | M | M | R |
| GREY NIGHTJAR <i>Caprimulgus indicus</i> | S,D,M | R | I |
| INDIAN NIGHTJAR <i>Caprimulgus asiaticus</i> | S,D | R | I |
| SAVANNA NIGHTJAR <i>Caprimulgus affinis</i> | D,M | R | I |
| ROCK PIGEON <i>Columba livia</i> | S,D | R | G |
| NILGIRI WOOD PIGEON <i>Columba elphinstoni</i> 1,2 | M | R | F |
| LAUGHING DOVE <i>Streptopelia senegalensis</i> | D | R | G |

| SPECIES | HAB | ST | FG |
|--|-------|----|----|
| SPOTTED DOVE <i>Streptopelia chinensis</i> | S,D,M | R | G |
| RED COLLARED DOVE <i>Streptopelia tranquebarica</i> | S,D | R | G |
| EURASIAN COLLARED DOVE <i>Streptopelia decaocto</i> | S,D | R | G |
| EMERALD DOVE <i>Chalcophaps indica</i> | M | R | G |
| POMPADOUR GREEN PIGEON <i>Treron pompadora</i> | M | R | F |
| YELLOW-FOOTED GREEN PIGEON <i>Treron phoenicoptera</i> | S,D,M | R | F |
| WHITE-BREASTED WATERLIE <i>Amaurornis phoenicurus</i> | A | R | I |
| COMMON MOORHEN <i>Gallinula chloropus</i> | A | R | AI |
| COMMON COOT <i>Fulica atra</i> | A | R | AI |
| CHESTNUT-BELLIED SANDGROUSE <i>Pterocles exustus</i> | S | R | GI |
| COMMON SNIPPE <i>Gallinago gallinago</i> | A | M | I |
| COMMON REDSHANK <i>Tringa totanus</i> | A | M | I |
| MARSH SANDPIPER <i>Tringa stagnatilis</i> | A | M | I |
| GREEN SANDPIPER <i>Tringa ochropus</i> | A | M | I |
| COMMON SANDPIPER <i>Actitis hypoleucos</i> | A | M | I |
| BRONZE-WINGED JACANA <i>Metopidius indicus</i> | A | R | AI |
| EURASIAN THICK-KNEE <i>Burhinus oediacornis</i> | S | R | I |
| YELLOW-WATTLED LAPWING <i>Vanellus malabaricus</i> | S,D | R | I |
| RED-WATTLED LAPWING <i>Vanelus indicus</i> | S,D | R | I |
| RIVER TERN <i>Sterna aurantia</i> | A | R | F |
| ORIENTAL HONEY-BUZZARD <i>Pernis ptilorhynchus</i> | D,M | R | NC |
| BLACK-SHOULDERED KITE <i>Elanus caeruleus</i> | S,D,M | R | C |
| BLACK KITE <i>Milvus migrans</i> | S,D | R | O |
| BRAHMINY KITE <i>Haliastur indus</i> | S,D | R | O |
| GREY-HEADED FISH EAGLE <i>Ichthyophaga ichthyaetus</i> 2 | D,M | R | P |
| EGYPTIAN VULTURE <i>Neophron percnopterus</i> | S,D | R | C |
| WHITE-RUMPED VULTURE <i>Gyps bengalensis</i> 2 | S,D | R | C |
| LONG-BILLED VULTURE <i>Gyps indicus</i> 2 | D | R | C |
| RED-HEADED VULTURE <i>Sarcogyps calvus</i> 2 | S,D,M | R | C |
| SHORT-TOED SNAKE EAGLE <i>Circus gallicus</i> | D,M | R | C |
| CRESTED SERPENT EAGLE <i>Spilornis cheela</i> | S,D,M | R | C |
| EURASIAN MARSH HARRIER <i>Circus aeruginosus</i> | S,D,M | M | C |
| PALID HARRIER <i>Circus macrourus</i> 2 | S,D | M | C |
| CRESTED GOSHAWK <i>Accipiter trivirgatus</i> | M | R | C |
| SHIKRA <i>Accipiter badius</i> | S,D,M | R | C |
| BESRA <i>Accipiter virgatus</i> | M | R | C |
| EURASIAN SPARROWHAWK <i>Accipiter nisus</i> | S,D | M | C |
| WHITE-EYED BUZZARD <i>Buteo teesa</i> | D | R | C |
| COMMON BUZZARD <i>Buteo buteo</i> | M | M | C |
| BLACK EAGLE <i>Ictinaetus malayensis</i> | D,M | R | C |
| TAWNY EAGLE <i>Aquila rapax</i> | D | R | C |
| BONELLI'S EAGLE <i>Hieraetus fasciatus</i> | D | R | C |
| BOOTED EAGLE <i>Hieraetus pennatus</i> | D,M | M | C |
| RUFIOUS-BELLIED EAGLE <i>Hieraetus kienersi</i> | M | M | C |
| CHANGEABLE HAWK EAGLE <i>Spizaetus cirrhatous</i> | D,M | R | C |
| COMMON KESTREL <i>Falco tinnunculus</i> | S | RM | C |
| LITTLE GREBE <i>Tachybaptus ruficollis</i> | A | R | P |
| DARTER <i>Anhinga melanogaster</i> 2 | A | R | P |
| LITTLE CORMORANT <i>Phalacrocorax niger</i> | A | R | P |
| INDIAN CORMORANT <i>Phalacrocorax fuscicollis</i> | A | R | P |
| GREAT CORMORANT <i>Phalacrocorax carbo</i> | A | R | P |
| LITTLE EGRET <i>Egretta garzetta</i> | A | R | P |
| GREY HERON <i>Ardea cinerea</i> | A | R | PI |
| GREAT EGRET <i>Casmerodius albus</i> | A | R | PI |

| SPECIES | HAB | ST | FG |
|---|-------|----|----|
| CATTLE EGRET <i>Bubulcus ibis</i> | A | R | I |
| INDIAN POND HERON <i>Ardeola grayii</i> | A | R | PI |
| BLACK-CROWNED NIGHT HERON <i>Nycticorax nycticorax</i> | A | R | PI |
| BLACK BITTERN <i>Dupetor flavicollis</i> | A | R | PI |
| ASIAN OPENBILL <i>Anastomus oscitans</i> 2 | A | LM | M |
| BLACK-NECKED STORK <i>Ephippiorhynchus asiaticus</i> | A | LM | P |
| INDIAN PITTA <i>Pitta brachyura</i> | S,D,M | M | I |
| GREY-HEADED CANARY FLYCATCHER <i>Culicicapa ceylonensis</i> | D,M | R | I |
| ASIAN FAIRY BLUEBIRD <i>Irena puella</i> | M | R | F |
| BLUE-WINGED LEAFBIRD <i>Chloropsis cochinchinensis</i> | D,M | R | I |
| GOLDEN-FRONTED LEAFBIRD <i>Chloropsis aurifrons</i> | D,M | R | I |
| BROWN SHRIKE <i>Lanius cristatus</i> | S,D,M | M | I |
| BAY-BACKED SHRIKE <i>Lanius vittatus</i> | S,D | R | I |
| LONG-TAILED SHRIKE <i>Lanius schach</i> | S | M | I |
| SOUTHERN GREY SHRIKE <i>Lanius meridionalis</i> | S,D | R | I |
| RUFOUS TREEPIE <i>Dendrocitta vagabunda</i> | S,D,M | R | O |
| WHITE-BELLIED TREEPIE <i>Dendrocitta leucogastra</i> 1,2 | M | R | O |
| HOUSE CROW <i>Corvus splendens</i> | S,D,M | R | O |
| LARGE-BILLED CROW <i>Corvus macrorhynchos</i> | S,D,M | R | O |
| EURASIAN GOLDEN ORIOLE <i>Oriolus oriolus</i> | S,D,M | LM | F |
| BLACK-NAPED ORIOLE <i>Oriolus chinensis</i> | M | R | F |
| BLACK-HOODED ORIOLE <i>Oriolus xanthornus</i> | D,M | R | F |
| LARGE CUCKOOSHRIKE <i>Coracina nacei</i> | S,D,M | R | F |
| BLACK-HEADED CUCKOOSHRIKE <i>Coracina melanoptera</i> | S,D | R | F |
| SMALL MINIVET <i>Pericrocotus cinnamomeus</i> | S,D | R | I |
| WHITE-BELLIED MINIVET <i>Pericrocotus erythropygus</i> 2 | D | R? | I |
| SCARLET MINIVET <i>Pericrocotus flammeus</i> | S,D,M | R | I |
| BAR-WINGED FLYCATCHER-SHRIKE <i>Hemipus picatus</i> | D,M | R | I |
| WHITE-THROATED FANTAIL <i>Rhipidura albicollis</i> | S | R | I |
| WHITE-BROWED FANTAIL <i>Rhipidura aureola</i> | S,D | R | I |
| BLACK DRONGO <i>Dicrurus macrocoerus</i> | S,D | R | I |
| ASHY DRONGO <i>Dicrurus leucophaeus</i> | M | R | I |
| WHITE-BELLIED DRONGO <i>Dicrurus caerulescens</i> | S,D,M | R | I |
| BRONZED DRONGO <i>Dicrurus aeneus</i> | M | R | I |
| GREATER RACKET-TAILED DRONGO <i>Dicrurus paradiseus</i> | D,M | R | I |
| BLACK-NAPED MONARCH <i>Hypothymis azurea</i> | S,D,M | R | I |
| ASIAN PARADISE-FLYCATCHER <i>Terpsiphone paradisi</i> | S,D,M | R | I |
| COMMON IORA <i>Aegithina tiphia</i> | S,D,M | R | I |
| LARGE WOODSHRIKE <i>Tephrodornis gularis</i> | M | R | I |
| COMMON WOODSHRIKE <i>Tephrodornis pondicerianus</i> | S,D | R | I |
| BLUE-CAPPED ROCK THRUSH <i>Monticola cinclorhynchus</i> | M | M | I |
| BLUE ROCK THRUSH <i>Monticola solitarius</i> | D | M | I |
| MALABAR WHISTLING THRUSH <i>Myophonus horsfieldii</i> | M | R | I |
| ORANGE-HEADED THRUSH <i>Zoothera citrina</i> | S,D | M | I |
| EURASIAN BLACKBIRD <i>Turdus merula</i> | M | R | FI |
| ASIAN BROWN FLYCATCHER <i>Muscicapa dauurica</i> | S,D | R | I |
| BLACK-AND-ORANGE FLYCATCHER <i>Ficedula nigrorufa</i> 1,2 | M | R | I |
| VERDITER FLYCATCHER <i>Eumyias thalassina</i> | M | M | I |
| WHITE-BELLIED BLUE FLYCATCHER <i>Cyornis pallipes</i> 1,2 | M | R | I |
| BLUE-THROATED FLYCATCHER <i>Cyornis rubeculoides</i> | M | M | I |
| TICKELL'S BLUE FLYCATCHER <i>Cyornis tickelliae</i> | M | R | I |
| BLUETHROAT <i>Luscinia svecica</i> | S | M | I |
| ORIENTAL MAGPIE ROBIN <i>Copsychus saularis</i> | S,D,M | R | I |
| WHITE-RUMPED SHAMA <i>Copsychus malabaricus</i> | M | R | I |

| SPECIES | HAB | ST | FG |
|--|-------|----|----|
| INDIAN ROBIN <i>Saxicoloides fulicata</i> | S,D | R | I |
| BLACK REDSTART <i>Phoenicurus ochruros</i> | S | M | I |
| COMMON STONECHAT <i>Saxicola torquata</i> | S,D | R | I |
| PIED BUSHCHAT <i>Saxicola caprata</i> | S | R | I |
| CHESTNUT-TAILED STARLING <i>Sturnus malabaricus</i> | D | R | F |
| BRAHMINY MYNA <i>Sturnus pagodarum</i> | S,D | R | F |
| ROSY STARLING <i>Sturnus roseus</i> | S | M | F |
| COMMON MYNA <i>Acridotheres tristis</i> | S,D | R | F |
| JUNGLE MYNA <i>Acridotheres fuscus</i> | S,D | R | F |
| HILL MYNA <i>Gracula religiosa</i> | M | R | F |
| CHESTNUT-BELLIED NUTHATCH <i>Sitta castanea</i> | S,D | R | I |
| VELVET-FRONTED NUTHATCH <i>Sitta frontalis</i> | M | R | I |
| GREAT TIT <i>Parus major</i> | S,D,M | R | I |
| BLACK-LORED TIT <i>Parus xanthogenys</i> | M | R | I |
| DUSKY CRAG MARTIN <i>Hirundo concolor</i> | S | R | I |
| BARN SWALLOW <i>Hirundo rustica</i> | S | M | I |
| PACIFIC SWALLOW <i>Hirundo domicola</i> | S | R | I |
| WIRE-TAILED SWALLOW <i>Hirundo smithii</i> | S,D | R | I |
| RED-RUMPED SWALLOW <i>Hirundo dauurica</i> | S,D | R | I |
| RED-WHISKERED BULBUL <i>Pycnonotus jocosus</i> | S,D,M | R | F |
| RED-VENTED BULBUL <i>Pycnonotus cafer</i> | S,D | R | F |
| YELLOW-THROATED BULBUL <i>Pycnonotus xantholaemus</i> 2 | S | R | F |
| YELLOW-BROWED BULBUL <i>Iole indica</i> | M | R | F |
| BLACK BULBUL <i>Hypsipetes leucocephalus</i> | M | R | FI |
| BRIGHT-HEADED CISTICOLA <i>Cisticola exilis</i> | S | R | I |
| GREY-BREASTED PRINIA <i>Prinia hodgsonii</i> | S,D | R | I |
| JUNGLE PRINIA <i>Prinia sylvatica</i> | S,D | R | I |
| ASHY PRINIA <i>Prinia socialis</i> | S | R | I |
| PLAIN PRINIA <i>Prinia inornata</i> | S,D | R | I |
| ORIENTAL WHITE-EYE <i>Zosterops palpebrosus</i> | S,D,M | R | I |
| BLYTH'S REED WARBLER <i>Acrocephalus dumetorum</i> | D,M | M | I |
| CLAMOROUS REED WARBLER <i>Acrocephalus stentoreus</i> | S | M | I |
| BOOTED WARBLER <i>Hippolais caligata</i> | S,D | M | I |
| COMMON TAILORBIRD <i>Orthotomus sutorius</i> | S | R | I |
| EURASIAN CHIFFCHAFF <i>Phylloscopus collybita</i> | S | M | I |
| TICKELL'S LEAF WARBLER <i>Phylloscopus affinis</i> | S | M | I |
| GREENISH WARBLER <i>Phylloscopus trochiloides</i> | D | M | I |
| LARGE-BILLED LEAF WARBLER <i>Phylloscopus magnirostris</i> | D,M | M | I |
| TYTLER'S LEAF WARBLER <i>Phylloscopus tyleri</i> 2 | S | M | I |
| BROAD-TAILED GRASSBIRD <i>Schoenicola platyura</i> 1,2 | S | R | I |
| WYNAAD LAUGHINGTHRUSH <i>Garrulax delesserti</i> 1,2 | M | R | I |
| PUFF-THROATED BABBLER <i>Pellorneum ruficeps</i> | S,D,M | R | I |
| INDIAN SCIMITAR BABBLED <i>Pellorneum horsfieldii</i> | S,D,M | R | I |
| DARK-FRONTED BABBLED <i>Rhopocichla atriceps</i> | M | R | I |
| YELLOW-EYED BABBLED <i>Chrysomma sinense</i> | S,D | R | IF |
| COMMON BABBLED <i>Turdoides caudatus</i> | S | R | IF |
| LARGE GREY BABBLED <i>Turdoides malcolmi</i> | S | R | IF |
| RUFOUS BABBLED <i>Turdoides subrufus</i> | D,M | R | IF |
| JUNGLE BABBLED <i>Turdoides stratus</i> | D,M | R | IF |
| YELLOW-BILLED BABBLED <i>Turdoides affinis</i> | S,D | R | IF |
| LESSER WHITETHROAT <i>Sylvia curruca</i> | S,D,M | M | I |
| ORPHEAN WARBLER <i>Sylvia hortensis</i> | S | M | I |
| SINGING BUSHLARK <i>Mirafra cantillans</i> | S | R | I |
| INDIAN BUSHLARK <i>Mirafra erythroptera</i> | S | R | I |

| SPECIES | HAB | ST | FG |
|---|-------|----|----|
| ASHY-CROWNED SPARROW LARK <i>Eremopterix grisea</i> | S | R | I |
| RUFOS-TAILED LARK <i>Ammomanes phoenicurus</i> | S | R | I |
| PALE-BILLED FLOWERPECKER <i>Dicaeum erythrorhynchos</i> | D,M | R | NF |
| PLAIN FLOWERPECKER <i>Dicaeum concolor</i> | D,M | R | NF |
| PURPLE-RUMPED SUNBIRD <i>Nectarinia zeylonica</i> | S,D | R | N |
| CRIMSON-BACKED SUNBIRD <i>Nectarinia minima</i> 1 | M | R | N |
| PURPLE SUNBIRD <i>Nectarinia asiatica</i> | S,D | R | N |
| LOTIEN'S SUNBIRD <i>Nectarinia lotenia</i> | M | R | N |
| LITTLE SPIDERHUNTER <i>Arachnothera longirostra</i> | M | R | NI |
| HOUSE SPARROW <i>Passer domesticus</i> | S,D | R | G |
| CHESTNUT-SHOULDERED PETRONIA <i>Petronia xanthocollis</i> | S,D | R | G |
| FOREST WAGTAIL <i>Dendronanthus indicus</i> | M | M | I |
| WHITE WAGTAIL <i>Motacilla alba</i> | S,D,M | M | I |
| WHITE-BROWED WAGTAIL <i>Motacilla maderaspatensis</i> | S,D | R | I |
| CITRINE WAGTAIL <i>Motacilla citreola</i> | S | M | I |
| GREY WAGTAIL <i>Motacilla cinerea</i> | M | M | I |
| PADDYFIELD PIPIT <i>Anthus rufidus</i> | S | R | I |
| TAWNY PIPIT <i>Anthus campestris</i> | S | M | I |
| LONG-BILLED PIPIT <i>Anthus similis</i> | D,M | R | I |
| TREE PIPIT <i>Anthus trivialis</i> | D,M | M | I |
| OLIVE-BACKED PIPIT <i>Anthus hodgsoni</i> | M | M | I |
| STREAKED WEAVER <i>Ploceus manyar</i> | M | R | G |
| BAYA WEAVER <i>Ploceus philippinus</i> | S,D | R | G |
| RED AVADAVAT <i>Amandava amandava</i> | M | R | G |
| INDIAN SILVERBILL <i>Lonchura malabarica</i> | S,D,M | R | G |
| WHITE-RUMPED MUNIA <i>Lonchura striata</i> | S | R | G |
| BLACK-THROATED MUNIA <i>Lonchura helaarti</i> | S,D,M | R | G |
| SCALY-BREASTED MUNIA <i>Lonchura punctulata</i> | S | R | G |
| BLACK-HEADED MUNIA <i>Lonchura malacca</i> | S,D,M | R | G |
| COMMON ROSEFINCH <i>Carpodacus erythrinus</i> | S,D | M | G |

Bird records from Similajau National Park, Sarawak

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Similajau National Park is a 71 km² coastal park in Sarawak, Borneo, consisting of mainly pristine lowland mixed dipterocarp forest, bounded north and south by rivers with small areas of mangroves at their mouths. Birds were surveyed in the park for six weeks in August - September 1986 and three weeks in September 1995. About 230 species were found, a total almost as high as for any surveyed site in Borneo, and reflects the joint presence of coastal and forest habitats, good habitat condition and the high survey effort. There was no evidence of major change in bird communities between the two years, although during the intervening nine-year period the park was opened for tourists and much of the surrounding Similajau Forest Reserve had been felled. The stationing of permanent park staff seems to have deterred hunting. Over 70 (30%) of the species were recorded in only one of the two years; for most of these a contributory factor to this pattern could be suggested. It is likely that many further species remain to be found.

Records of Grey-streaked Flycatcher *Muscicapa griseisticta* and Grey Imperial Pigeon *Ducula pickeringii* may be the first from Sarawak. Twenty species were considered Globally Threatened or Near-threatened by Collar *et al.* (1994). The only Globally Threatened species seen regularly in both years was Wrinkled Hornbill *Aceros corrugatus*; fireback sp. *Lophura*, Bornean Ground Cuckoo *Carpococcyx radiatus*, Grey Imperial Pigeon and Storm's Stork *Ciconia stormi* were seen once each. Among Near-threatened species, populations of Red-crowned Barbet *Megalaima rafflesii*, Black Hornbill *Anthracoeros malayanus*, Black Magpie *Platysmurus leucopterus*, Bornean Bristlehead *Pityriasis gymnocephala*, Hook-billed Bulbul *Setornis criniger* and Grey-breasted Babbler *Malacopteron albugulare* are all large. Malaysian Plover *Charadrius peronii* had apparently left the area, probably because of the greatly increased disturbance in the park's estuaries; Blue-rumped Parrot *Psittinus cyanurus* may also have declined. Various open-country species (none listed in Collar *et al.* 1994) had become more common. The park supports few endemics compared with other Bornean sites; this may be related to its very low altitude. Protection of the birds of the park is aided by the apparent historical absence of hunting and agriculture by local rural people.

INTRODUCTION

Similajau is a small (71 km²) National Park in Sarawak, Malaysian Borneo, located at 3°22'-31'N 113°10'-18'E, 30 km north of the town of Bintulu. It was surveyed for birds between 6 August and 15 September 1986 (Duckworth and Kelsh 1988). Since 1986, large areas of lowland forest have been cleared across Sarawak, increasing the importance of forest remaining in the state's protected areas. Furthermore, although few birds found in 1986 had then been assessed as Globally Threatened with extinction (King 1978-1979), the most recent Bird Red Data book (Collar *et al.* 1994) considered as Globally Threatened or Globally Near-Threatened many species found in Similajau in 1986. This change reflects both the recent and extensive habitat destruction in the Sundaic subregion and a more comprehensive listing of birds under threat: Wells (1985) pointed out that the species then listed in the Red Data