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# The birds of Gongoni Forest Reserve, South Coast, Kenya

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## Summary

Between November 2007 and February 2008, bird species composition, richness and abundance were assessed at Gongoni Forest Reserve (classified as a Key Biodiversity Area) using transect and timed-species counts. A total of 140 bird species in 51 families were recorded with species accumulation curves indicating that a few more species could be discovered with additional search efforts. Four Near Threatened species—Southern Banded Snake Eagle *Circaetus fasciolatus*, Sooty Falcon *Falco concolor*, Martial Eagle *Polemaetus bellicocus* and Fischer's Turaco *Tauraco fischeri*, 15 East Africa Coast biome species and 13 regionally threatened species were recorded. Owing to the presence of these species of conservation concern both globally and regionally, and past and ongoing threats, this site merits more attention than previously accorded.

## Introduction

The loss of tropical forests in Kenya has been dramatic. Over the last couple of decades the country has experienced intense reduction of forest cover, and today only less than 2% of the total land in Kenya is covered by forests (UNEP 2001). This area is below the internationally recommended minimum forest cover of 10% (IUCN 1995). Burgess *et al.* (2003) estimated that the coastal forests in Kenya have decreased in area since the early 1990s to about 650 km<sup>2</sup> currently, owing largely to human activities. While it is clear that this loss of forest cover and related threats to forest biodiversity should be stemmed, most of these coastal forests remain unstudied biologically, making prioritisation and drawing conservation recommendations difficult. Basic biodiversity surveys are necessary to provide this essential baseline information that can inform conservation and management interventions.

The coastal forests of Kenya are classified under the Coastal Forests of Eastern Africa biodiversity hotspot (Conservation International 2008; CEPF 2003; Myers *et al.* 2000) and host at least 105 globally threatened species, of which 64 are in the Kwale Forests (CEPF 2003). Overall, of the forest dependent and nationally threatened species in Kenya's forests, about 50% of the plants, 60% of the birds and 65% of the mammals are found in the coastal forests, which shows the importance of this region despite its relatively small area and its overall lack of forest cover (less than 0.1% of the national total area)

(Wass 1995). Threats to the coastal forests include encroachment, logging, and replacement of indigenous vegetation, forest fires, firewood collection and charcoal burning (WWF-EARPO 2006).

Gongoni Forest Reserve is recognised as a Key Biodiversity Area (KBA) (Eken *et al.* 2004) in Kenya, but there is scarcity of biological information about its biota. The forest has received little scientific attention in the past since biological research in coastal forests in Kenya has been concentrated in the major coastal forests including Arabuko-Sokoke and Shimba Hills forests. However, Gongoni is known to harbour several endemic and near-endemic plants and animals (Waiyaki 1995, Burgess *et al.* 2003), making it important for conservation. Between November 2007 and February 2008 surveys of bird species abundance and composition were conducted in Gongoni Forest Reserve. This paper describes the avifauna of Gongoni with emphasis on the species composition and relative abundance of different species.

## Methods

### *Study area*

Gongoni Forest Reserve (04°23'S, 39°29'E) lies on the South Coast of Kenya in Msambweni District. The reserve is adjacent to Gazi Bay and situated on one side of the Mombasa-Lungalunga Highway (Fig. 1). It is a moist semi-deciduous forest rising to an altitude of 40 m and covering an area of 824 ha (Waiyaki 1995). On site observations revealed that the forest is composed of characteristic indigenous tree species including *Cynometra webberi*, *Melicia excelsia*, *Mannlikara zanzibarensis*, *Hymenia verrocosa* and *Jubanedia magnitipulata*. These species form a mosaic of habitats in Gongoni comprising of grasslands, deciduous woodlands and bushlands. The habitats are characterised by the presence of forest wetlands (Fig. 1), most of which are small seasonal swamps that are seasonally flooded depending on the intensity of rainfall. During this study, most of the forest swamps had dried up leaving muddy water beds with little water. The most important mammal species in the reserve is Buffalo *Syncerus caffer*.

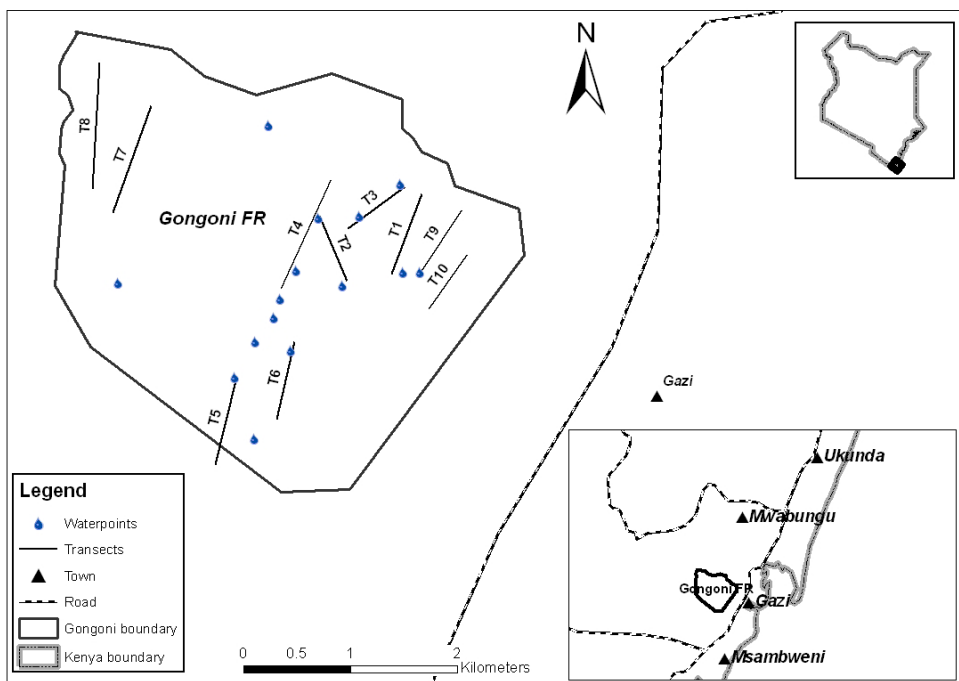
The area surrounding the forest reserve is an agricultural zone inhabited by the Mijikenda people who practice subsistence agriculture, generally practicing smallholder crop farming with limited livestock rearing. Other livelihood activities include fisheries and tourism (GOK 2008). As a result of crop and livestock farming in the area, the surrounding farms are usually subjected to burning of vegetation that often strays into the forest.

### *Bird surveys*

Ten line transects (Bibby *et al.* 1992, Pomeroy 1992) measuring approximately 1 km each, with an inter-transect distance of at least 500 m, were established in the forest for bird sampling (Fig. 1). Data were collected by walking slowly at a constant speed along transects in the mornings (between 08:00-11:00)

and evenings (between 16:00-18:00) when birds were active. All birds seen or heard up to 20 m on either sides of the transect lines were identified and their numbers counted. We used this cut-off point in order to minimise errors from inadequate bird identification, double counting and over-representation of conspicuous species. Two to three transects were surveyed on each day depending on the prevailing weather conditions. The transect counts were repeated four times along each transect over the entire study period, giving a total of 40 transect runs. Eight were found along three transects where waterbirds were counted.

In order to get a more complete species list, timed-species counts (TSC) (Bennun & Waiyaki 1993) were also conducted. A total of 27 TSCs were done during the study period throughout the entire reserve. One or two TSCs were conducted in the evenings (16:00-18:00) and in the mornings (08:00-11:00) by one or two observers. Each lasted 40 minutes and birds were recorded in 10-minute intervals, indicating the first time a bird species was seen or heard. Observers generally kept away from the transect lines in order to maximise the area surveyed.



**Figure 1.** Map of study area showing the distribution of transects and other features in Gongoni Forest Reserve; top inset shows the position of Gongoni in Kenya, while bottom inset shows the towns neighbouring Gongoni in South Coast.

### *Data analysis*

Records of new species in successive TSCs throughout the study period were used to draw a species accumulation curve. We used the TSC dataset only because we could easily construct a daily list based on it. We modelled the species accumulation curve by fitting an asymptotic model to our curve of observed data, using nonlinear regression procedures (Gaidet *et al.* 2005), adopting the exponential equation of the linear dependence model (Soberón & Llorente 1993).

All bird species recorded were categorised following Bennun *et al.* (1996) in terms of their known levels of forest dependence where: FF - forest specialists that are true forest birds characteristic of the interior of undisturbed forest; F - forest generalists that may occur in undisturbed forest but are regularly found in forest gaps, edges and strips; f - forest visitors that are often recorded in forests but are not dependent upon it; and s - birds associated with other habitats e.g. savannah/woodland and wetland areas. Relative abundance was calculated by dividing total number of each species recorded in the transect counts by the total birds recorded.

For TSCs species recorded in the first ten minutes received a score of 4; those recorded in the next ten minutes received a score of 3 and so on. TSC commonness index was calculated based on the assumption that common species are recorded earlier than the rare species during the survey. The index was calculated by averaging the mean scores for each count that varied between four (maximum value) and a minimum value of  $1/n$  (where  $n$  is the number of repeated surveys) (Bibby *et al.* 1992). Statistical analyses were performed using STATISTICA 6.0 (StatSoft 2005).

## **Results**

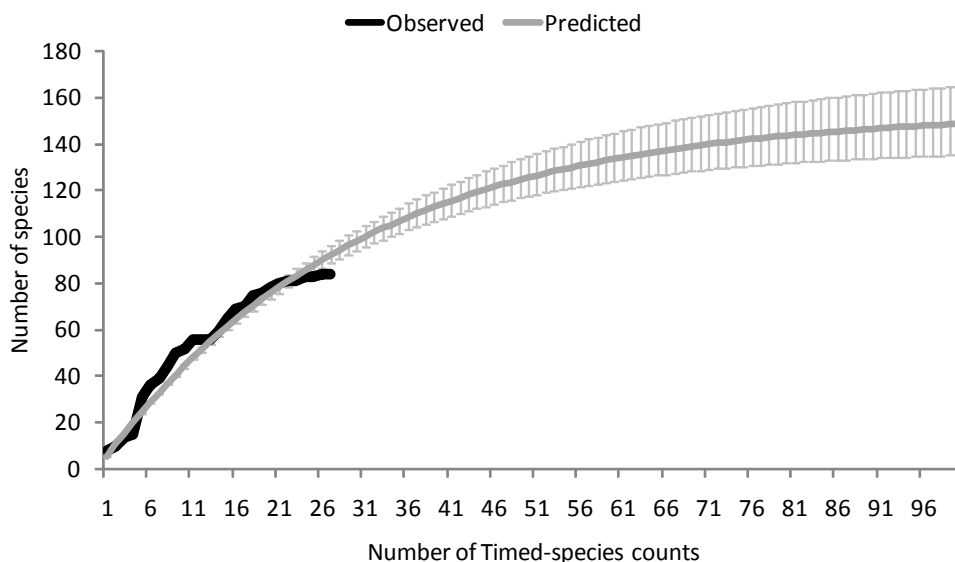
### *Bird species accumulation curve*

A total of 140 species belonging to 51 families were recorded from the forest reserve (Appendix 1). These numbers included all species recorded during the field survey from the two methods, as well as species recorded during opportunistic observations. Transect counts recorded a total of 83 species, TSCs 84 species, while 32 species were opportunistic observations. Several species were recorded by both transect counts and TSCs, but 25 species were recorded by TSCs alone. The bird species accumulation curve (based on the TSC data) did not attain a plateau (Fig. 2). Our model seemed to approach asymptote at  $149 \pm 15$  species (Fig. 2). Thus, at 140, we probably recorded most of the species one would expect in Gongoni Forest Reserve except for a few.

### *Bird species composition and richness*

Of the 140 species we recorded, 10 (or 7 %) were forest specialists (FF), 27 (19 %) forest generalists (F), 32 (23 %) forest visitors (f) and 71 (51 %) species associated with other habitats (e.g. savannah, woodland or wetlands). Four of

the species were listed as Near Threatened in the IUCN Red Data List (IUCN 2010): Southern Banded Snake Eagle *Circaetus fasciolatus*, Fischer's Turaco *Tauraco fischeri*, Sooty Falcon *Falco concolor* and Martial Eagle *Polemaetus bellicocus*. In addition, 13 were regionally threatened according to the East Africa Regional Red Data List (Bennun *et al.* 2000), 15 were East Africa Coast Biome species (Bennun & Njoroge 1999), 10 were Palaeartic migrants and 14 were Afrotropical migrants (Appendix 1).



**Figure 2.** Species accumulation curve for Gongoni Forest Reserve calculated as the cumulative number of species against all the TSCs conducted, and the modelled species accumulation curve.

### *Bird species relative abundance and commonness*

Commonness established by use of the TSC index revealed that the Collared Sunbird and Olive Sunbird were the most common species (Table 1). From the transects, 1720 individual birds were counted. Our data revealed that these two species were also the most abundant species in terms of numbers (Table 1). Considering the species of conservation interest, whilst the Southern-banded Snake Eagle and Malachite Kingfisher (both East African Coast Biome species) were among the least abundant, the Near-Threatened Fischer's Turaco was relatively common (Table 1).

**Table 1.** Common bird species in Gongoni Forest Reserve (based on TSC Index) with the mean number of individuals counted (per transect) and respective relative abundances (%).

Common name	Scientific name	TSC Index	Mean No. indls	Relative abundance
Collared Sunbird	<i>Hedydipna collaris</i>	4	40	9.2
Olive Sunbird	<i>Cyanomitra olivacea</i>	2.9	49	11.3
Common Bulbul	<i>Pycnonotus barbatus</i>	2.4	5	1.1
Black-bellied Starling	<i>Lamprotornis corruscus</i>	2.3	17	3.8
Crowned Hornbill	<i>Tockus nasutus</i>	2.2	12	2.9
Green Barbet	<i>Stactolaema olivacea</i>	2	36	8.3
Palm-nut Vulture	<i>Gypohierax angolensis</i>	2	10	2.3
African Palm Swift	<i>Cypsiurus parvus</i>	2	9	2.2
Silvery-cheeked Hornbill	<i>Bycanistes brevis</i>	2	20	4.7
Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	1.8	11	2.6
Tambourine Dove	<i>Turtur tympanistria</i>	1.6	5	1.2
White-throated Bee-eater	<i>Dendrocygna viduata</i>	1.6	34	7.9
Fischer's Turaco	<i>Tauraco fischeri</i>	1.3	9	2
Ring-necked Dove	<i>Streptopelia capicola</i>	1.3	1	0.2
Fischer's Greenbul	<i>Phyllastrephus fischeri</i>	1.2	31	7.1
Tropical Boubou	<i>Laniarius aethiopicus</i>	1.1	5	1.2
Black-and-white Mannikin	<i>Spermestes bicolor</i>	1	2	0.5
Eurasian Bee-eater	<i>Merops apiaster</i>	1	5	1.1
Emerald-spotted Wood Dove	<i>Turtur chalcospilos</i>	0.9	1	0.1
White-browed Coucal	<i>Centropus superciliosus</i>	0.9	3	0.6

## Discussion

Like most tropical coastal forests (Bennun & Njoroge 1999), our results show that Gongoni Forest Reserve supports a fairly rich avifauna. The species accumulation curve indicates that we recorded most of the species expected for the reserve, suggesting that extra sampling was likely to reveal only a few extra species. Since it is clear that neither method recorded all the species, use of multiple survey methods is encouraged in order to capture complete species lists.

The results indicate that some noisy species such as Green Barbet and Fischer's Greenbul recorded high overall species abundance. This according to Waiyaki (1995) could be true because some undergrowth species are extremely noisy and therefore are easily detected. There was a high proportion of forest generalist species (19 % of total species) in our checklist compared to forest specialists (7 %). This could be attributed either to the ability of forest generalists to persist and predominantly occupy modified forests (Bennun *et al.* 1996) or to the location of our sampling transects (Fig. 1) many of which were near the edges. However, we still believe we comprehensively surveyed the interior as well because the TSCs were conducted away from the transect

lines wherever possible to ensure we covered most of the Reserve.

Despite the clear importance of the site for bird (and biodiversity) conservation (e.g., from the presence of Near Threatened and regionally threatened bird species, as well as numerous biome characteristic species), human encroachment and other threats were common. For instance, there were many fresh tree stumps indicating ongoing logging activities, active saw-pits for timber processing, and forest fires were not uncommon. These activities could have explained the bird species composition we found, especially the low proportion of true forest specialists.

In conclusion, on the basis of the presence of species listed under the IUCN Red List and East Africa Regional Red List, Gongoni Forest Reserve deserves improved management. This could be both through enhancing the capacity of Kenya Forest Service (KFS) staff on the ground to help reduce the illegal activities, and building a positive perception of the local community towards forest conservation. In terms of research, more thorough avian scientific surveys including mistnetting may be necessary across different seasons, in order to get the entire checklist for Gongoni, and especially to ascertain the presence or absence of other bird species of conservation interest such as the Spotted Ground Thrush *Zoothera guttata*.

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**Appendix 1.** Taxonomic checklist of the birds recorded at Gongoni forest reserve showing forest dependence categories. The table shows all the bird species encountered in Gongoni Forest irrespective of the method of detection. Forest dependency status categories include: f- forest visitor species; F- forest generalist species; FF- forest specialist species; s- species associated with other habitats e.g. savannah, woodland and wetland. Other categories include NT- Near Threatened, RT - regionally threatened, AM- Afrotropical migrant, PM- Palaearctic migrant and MM-Malagasy migrant species with lowercase abbreviations representing migrants that occur alongside resident or non-migratory individuals (OS-c 2009).

\* EACB is the East Africa Coastal Biome.

Family	Common name	Scientific name	Status
Podicipedidae	Little Grebe	<i>Tachybaptus ruficollis</i>	s
Pelecanidae	Great White Pelican	<i>Pelecanus onocrotalus</i>	s, RT
Phalacrocoracidae	Reed Cormorant	<i>Phalacrocorax africanus</i>	s
Ardeidae	Dwarf Bittern	<i>Ixobrychus sturmii</i>	s, am
	Striated Heron	<i>Butorides striatus</i>	s, RT
	Cattle Egret	<i>Bubulcus ibis</i>	s, am
	Great White Egret	<i>Ardea alba</i>	s, RT
	Yellow-billed Egret	<i>Egretta intermedia</i>	s
Ciconiidae	Woolly-necked Stork	<i>Ciconia episcopus</i>	s, RT
Anatidae	White-backed Duck	<i>Thalassornis leuconotus</i>	s, RT
	White-faced Whistling Duck	<i>Dendrocygna viduata</i>	s
	African Pygmy Goose	<i>Nettapus auritus</i>	s
Accipitridae	Southern Banded Snake Eagle	<i>Circaetus fasciolatus</i>	F, NT*
	African Harrier Hawk	<i>Polyboroides typus</i>	f
	African Goshawk	<i>Accipiter tachiro</i>	F
	Shikra	<i>Accipiter badius</i>	f
	Great Sparrowhawk	<i>Accipiter melanoleucus</i>	F
	Little Sparrowhawk	<i>Accipiter minullus</i>	f
	Lizard Buzzard	<i>Kaupifalco monogrammicus</i>	f
	Ayre's Hawk Eagle	<i>Hieraaetus ayresii</i>	F, RT
	Eastern Chanting Goshawk	<i>Melierax poliopterus</i>	s
	Gabar Goshawk	<i>Micronisus gabar</i>	s
	Palm-nut Vulture	<i>Gypohierax angolensis</i>	s
	Crowned Eagle	<i>Stephanoaetus coronatus</i>	FF, RT
	African Fish Eagle	<i>Haliaeetus vocifer</i>	s
	Eurasian Sparrowhawk	<i>Accipiter n. nisus</i>	s, PM
	Tawny Eagle	<i>Aquila rapax</i>	s
	Wahlberg's Eagle	<i>Aquila wahlbergi</i>	s, am
Martial Eagle	<i>Polemaetus bellicoccus</i>	s, NT, RT	
Black Kite	<i>Milvus migrans</i>	s, am, pm	
Falconidae	Sooty Falcon	<i>Falco concolor</i>	s, PM, NT
Phasianidae	Harlequin Quail	<i>Coturnix delegorguei</i>	s, am
Numinidae	Crested Guinea-fowl	<i>Guttera pucherani</i>	F
	Helmeted Guinea-fowl	<i>Numida meleagris</i>	s
Rallidae	Black Crane	<i>Amuornis flavirostra</i>	s
Jacaniidae	African Jacana	<i>Actophilornis africanus</i>	s
Charadriidae	Senegal Plover	<i>Vanellus lugubris</i>	s
Scolopacidae	Common Greenshank	<i>Tringa nebularia</i>	s, PM
Columbidae	African Green Pigeon	<i>Treron calvus</i>	F
	Tambourine Dove	<i>Turtur tympanistria</i>	F
	Emerald-spotted Wood Dove	<i>Turtur chalcospilos</i>	f

Family	Common name	Scientific name	Status
	Red-eyed Dove	<i>Streptopelia semitorquata</i>	f
	Ring-necked Dove	<i>Streptopelia capicola</i>	f
Psittacidae	Brown-headed Parrot	<i>Poicephalus cryptoxanthus</i>	F*
Musophagidae	Fischer's Turaco	<i>Tauraco fischeri</i>	F, NT*
Cuculidae	Klaas's Cuckoo	<i>Chrysococcyx klaas</i>	f
	Yellowbill	<i>Ceuthmochares aereus</i>	F, am
	White-browed Coucal	<i>Centropus superciliosus</i>	s
Apodidae	African Palm Swift	<i>Cypsiurus parvus</i>	s
	Little Swift	<i>Apus a. affinis</i>	s
	Mottled Spinetail	<i>Telacanthura ussheri</i>	F
Coliidae	Blue-naped Mousebird	<i>Urocolius macrourus</i>	s
	Speckled Mousebird	<i>Colius striatus</i>	s
Trogonidae	Narina Trogon	<i>Apaloderma narina</i>	F
Alcedinidae	Grey-headed Kingfisher	<i>Halcyon leucocephala</i>	f, am
	Mangrove Kingfisher	<i>Halcyon senegaloides</i>	s
	Striped Kingfisher	<i>Halcyon chelicuti</i>	s
	Malachite Kingfisher	<i>Alcedo cristatagalerita</i>	s*
Meropidae	Eurasian Bee-eater	<i>Merops apiaster</i>	f, PM
	Northern Carmine Bee-eater	<i>Merops nubicus</i>	s, AM*
	White-throated Bee-eater	<i>Merops albicollis</i>	s, AM
	Little Bee-eater	<i>Merops pusillus</i>	s
Coraciidae	Broad-billed Roller	<i>Eurystomus glaucurus</i>	f, am, mm
	Lilac-breasted Roller	<i>Coracias caudata</i>	s, am
Phoeniculidae	Green Wood Hoopoe	<i>Phoeniculus purpureus</i>	s
	Common Scimitarbill	<i>Rhinopomastus cyanomelas</i>	s
Bucerotidae	Crowned Hornbill	<i>Tockus nasutus</i>	f
	Trumpeter Hornbill	<i>Bycanistes bucinator</i>	F
	Silvery-cheeked Hornbill	<i>Bycanistes brevis</i>	F, am
	Black-and-white Casqued Hornbill	<i>Bycanistes subcylindricus</i>	F
Capitonidae	White-eared Barbet	<i>Stactolaema leucotis</i>	F
	Red-fronted Tinkerbird	<i>Pogoniulus pusillus</i>	s
	Black-collared Barbet	<i>Lybius torquatus</i>	f
	Brown-breasted Barbet	<i>Lybius melanopterus</i>	f*
	Green Barbet	<i>Stactolaema olivacea</i>	FF, RT
	Green Tinkerbird	<i>Pogoniulus simplex</i>	FF, RT*
	Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	F
Indicatoridae	Lesser Honeyguide	<i>Indicator minor</i>	f
	Pallid Honeyguide	<i>Indicator meliphilus</i>	f
	Scaly-throated Honeyguide	<i>Indicator veriegatus</i>	f
Picidae	Mombasa Woodpecker	<i>Campethera mombassica</i>	F, RT*
Eurylaimidae	African Broadbill	<i>Smithornis capensis</i>	FF
Alaudidae	Flappet Lark	<i>Mirafra rufocinnamomea</i>	s
Hirundinidae	Sand Martin	<i>Riparia riparia</i>	s, PM
	Barn Swallow	<i>Hirundo rustica</i>	s, PM
	Wire-tailed Swallow	<i>Hirundo smithii</i>	s
Motacillidae	African Pied Wagtail	<i>Motacilla aguimp vidua</i>	s
	Yellow-throated Longclaw	<i>Macronyx croceus</i>	s
Pycnonotidae	Zanzibar Greenbul	<i>Andropadus importunus</i>	s
	Fischer's Greenbul	<i>Phyllastrephus fischeri</i>	FF, RT*
	Yellow-bellied Greenbul	<i>Chlorocichla flaviventris</i>	F

Family	Common name	Scientific name	Status
	Common Bulbul	<i>Pycnonotus barbatus</i>	f
	Eastern Nicator	<i>Nicator gularis</i>	F
Timaliidae	Rufous Chatterer	<i>Turdoides rubiginosus</i>	s
Turdidae	Red-tailed Ant Thrush	<i>Neocossyphus rufus</i>	FF*
	African Bare-eyed Thrush	<i>Turdus tephronotus</i>	s
Muscicapidae	Red-capped Robin Chat	<i>Cossypha natalensis</i>	F, am
	White-browed Robin Chat	<i>Cossypha heuglini</i>	f
	White-browed Scrub Robin	<i>Cercotrichas leucophrys</i>	s
	Bearded Scrub Robin	<i>Cercotrichas quadrivirgata</i>	f
	Collared Palm Thrush	<i>Cichladusa arquata</i>	s
	Isabelline Wheatear	<i>Oenanthe isabellina</i>	S, PM
	Ashy Flycatcher	<i>Muscicapa caerulescens</i>	F, am
	Pale Flycatcher	<i>Bradornis pallidus</i>	s
	Southern Black Flycatcher	<i>Melaenornis pammelaina</i>	s
	Spotted Flycatcher	<i>Muscicapa striata</i>	s, PM
Cisticolidae	Tawny-flanked Prinia	<i>Prinia subflava</i>	f
	Grey-backed Camaroptera	<i>Camaroptera brachyura</i>	f
	Black-headed Apalis	<i>Apalis melanocephala</i>	FF
Monarchidae	Blue-mantled Crested Flycatcher	<i>Trochocercus cyanomelas bivittatus</i>	FF*
	African Paradise Flycatcher	<i>Terpsiphone viridis</i>	f, am
Platysteiridae	Forest Batis	<i>Batis mixta</i>	FF*
	Black-headed Batis	<i>Batis minor</i>	s
Malaconotidae	Black-crowned Tchagra	<i>Tchagra senegalus</i>	s
	Grey-headed Bushshrike	<i>Malaconotus blanchoti</i>	s
	Tropical Boubou	<i>Laniarius aethiopicus</i>	f
	Black-backed Puffback	<i>Dryoscopus cubla</i>	F
	Slate-coloured Boubou	<i>Laniarius funebris</i>	s
Dicruridae	Common Drongo	<i>Dicrurus adsimilis</i>	s
Oriolidae	Black-headed Oriole	<i>Oriolus larvatus rolleti</i>	f
	Eurasian Golden Oriole	<i>Oriolus oriolus</i>	f, PM
	African Golden Oriole	<i>Oriolus auratus</i>	f, AM
Corvidae	Pied Crow	<i>Corvus albus</i>	s
Sturnidae	Black-bellied Starling	<i>Lamprotornis corruscus</i>	F*
Nectariniidae	Collared Sunbird	<i>Hedydipna collaris</i>	F
	Olive Sunbird	<i>Cyanomitra olivacea</i>	FF
	Amethyst Sunbird	<i>Chalcomitra amethystina</i>	f
	Mouse-coloured Sunbird	<i>Cyanomitra veroxiii</i>	f*
	Scarlet-chested Sunbird	<i>Chalcomitra senegalensis</i>	s
Passeridae	Grey-headed Sparrow	<i>Passer griseus</i>	s
Ploceidae	Village Weaver	<i>Ploceus cucullatus</i>	s
	Dark-backed Weaver	<i>Ploceus bicolor</i>	F
	Grosbeak Weaver	<i>Amblyospiza albifrons</i>	f
	Lesser Masked Weaver	<i>Ploceus intermedius</i>	s
	Zanzibar Red Bishop	<i>Euplectes nigroventris</i>	f, RT
Estrilidae	Peter's Twinspot	<i>Hypargos niveoguttatus</i>	F
	Black-and-white Mannikin	<i>Spermestes bicolor</i>	f
	Bronze Mannikin	<i>Spermestes cucullatus</i>	s
Viduidae	Pin-tailed Whydah	<i>Vidua macroura</i>	s
Fringillidae	Yellow-fronted Canary	<i>Crithagra mozambica</i>	s