

The birds of Uaso Narok Forest Reserve, Central Kenya

Wanyoike Wamiti, Philista Malaki, Kamau Kimani,
Nicodemus Nalianya, Chege Kariuki and Lawrence Wagura

Summary

The birds of the Uaso Narok Forest, Central Kenya, were surveyed between June 2008 and April 2009. We recorded 161 species representing 49 families in total. Of these species, 34 were representative of the Afrotropical Highland Biome, representing 51% of all Kenyan species of this biome; two species were representative of the Somali-Masai biome. In addition to the Lesser Kestrel *Falco naumanni* (listed as Vulnerable in the IUCN Red List), there were 27 species of regional conservation concern. Breeding activity was recorded for 39 species, while a new population of Black-billed Weaver *Ploceus melanogaster* was discovered here, thus extending the species' known range. The main human activities recorded in this forest included firewood collection, illegal logging and charcoal burning. This survey revealed that Uaso Narok Forest is important for the conservation of Kenya's montane forest avifauna and deserves immediate official protection, as well as further biological research.

Introduction

Uaso Narok Forest Reserve (N 00° 02', E 036° 22') is located in West Laikipia District and lies northeast of Nyahururu Town (Fig. 1) on the eastern escarpment of the Rift Valley. At 1973 ha it is the smallest amongst the five constituent and almost continuous forest blocks forming the larger Marmanet Forests (Fig. 1): Marmanet (20,446 ha), Ol'Arabel (9629 ha), Lariak (4957 ha) and Rumuruti (6519 ha) (Anonymous 2008). These forests are a mixture of exotic plantations and indigenous forests. The forests are an important water catchment for four main rivers that drain into two Rift Valley Lakes and to a major swamp i.e. Sandai River (Lake Bogoria), rivers Ol'Arabel & Mukutan (Lake Baringo) and Ewaso Nyiro River (North) draining into Lorian Swamp (Anonymous 2008). Uaso Narok Forest falls within the Kenyan Mountain Endemic Bird Area (Stattersfield *et al.* 1998). It is worth noting that the drainage basins into which the above rivers flow are key national conservation areas hosting a diversity of scenic beauty, gallery riverine forests, and plant and animal diversity. Notable among these are Lake Bogoria, Samburu, Buffalo Springs and Shaba National Reserves as well as Lake Baringo, all designated as Important Bird Areas (Bennun & Njoroge 1999, 2001).

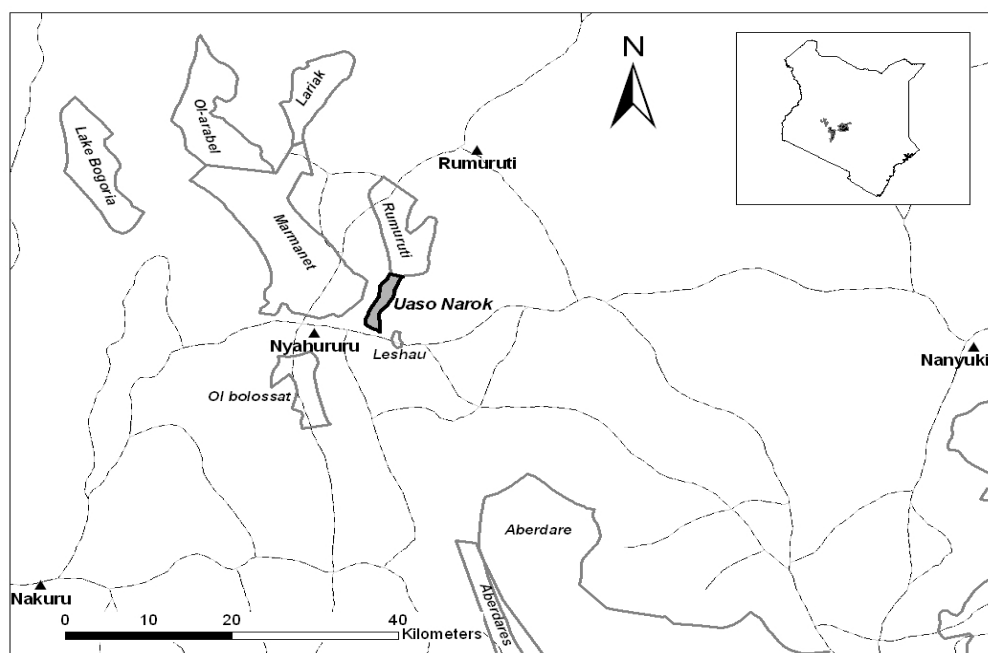


Figure 1. Location of Uaso Narok with respect to other forests of the Marmanet complex and neighbouring forests.

Uaso Narok Forest lies at an altitude ranging from 2200 m to 2450 m. Woody vegetation is dominated by trees such as Red Cedar *Juniperus procera*, Strangler Fig *Ficus thoningii*, East African Olive *Olea capensis* and Pillarwood *Cassipourea malosana*. There are also numerous herbs covering the forest floor and shrubs such as *Rhus natalensis* and *Scutia myrtina*. Scattered all over the forest are stumps of red cedar and olive, evidence of illegal logging which, alongside charcoal burning, are the main threats to avifauna. Some uses of the forest by the local community are licensed including harvesting of soil for tree nurseries, firewood collection and livestock grazing, but they are not well controlled or regulated. There is a need for long-term data on the status of bird species in the Uaso Narok Forest in order to assess the impact (if any) of these activities. This survey was designed as a starting point in order to collect baseline information on which future work can be planned and monitoring based on.

Methods

We systematically surveyed the birds of Uaso Narok Forest from June 2008 to December 2008, spending one week each month during this period. Sporadic birding visits to the forest were made between January and April 2009, which sometimes lasted only a few hours each month. During the intensive survey

period of 2008, we conducted various assessments of the bird communities as part of a broader exercise that assessed the avi-tourism potential for the area. Field surveys were coupled with training of nine bird guides from the local community, selected from around the forest reserve and the neighbouring Lake Ol'Bolossat Important Bird Area (Fig. 1). The locals were intensively trained in bird identification and professional guiding.

Two survey methods were used to assess the bird communities, namely general observations (through organised bird walks) and mist-netting. Bird walks involved splitting the group into two, each going in different directions using the existing forest trails. Additional observations were made while checking the mist nets and at the base camp. Mist netting is a suitable method for sampling skulking understorey species that may otherwise be overlooked (Gibbons *et al.* 1996). We ringed for two mornings during each fieldwork period, employing 90 meters of mistnet operated for 6 hours per day (06:30-12:30), producing a total of 540 metre-net-hours per monthly session and 3780 meter-net-hours over the entire study period. Nets were moved to a different micro-habitat during each session in order to maximise the species caught at different sites that included forest interior, forest edge and bush-scrub. All birds caught in the nets were ringed using uniquely numbered aluminium metal rings from the East African Ringing Scheme. Standard morphological measurements were taken in addition to assessments of moult status and brood patch. Ageing of birds followed Jackson (2001), while identification and taxonomy followed Zimmermann *et al.* (1996) and Ornithological Subcommittee (2009), respectively.

The forest-dependent characteristics of all species observed were determined following Bennun *et al.* (1996) where forest specialists (FF) are species that are dependent on an undisturbed and intact indigenous forest structure and are the true forest birds, indicative of a healthy forest; forest generalists may occur in undisturbed forests but are able to exist in modified and fragmented forests, while forest visitors (f) occur in forests but are typical of other habitats.

Breeding activities were recorded opportunistically. Breeding was inferred from observations of at least one of the following: (i) an active nest, i.e., contents seen, (ii) young seen accompanying adult and begging for food, (iii) brood patch observed in captured individuals, (iv) adult seen carrying food or nesting material to unknown nest, young or mate, and (v) juveniles, immature and sub-adults observed and/or captured.

Results

Mistnetting

Three hundred and seventy-eight (378) individuals representing 53 bird species were captured from the six netting locations that we set up across

the study area. Only four individuals were recaptured; three of them were recaptured at the same net positions as the original capture, while a Yellow-whiskered Greenbul *Andropadus latirostris* was recaptured approximately 300 m from the initial capture site. Sampling effort was evenly distributed across forest interior, forest edge and bush-scrub habitats, with the latter two producing most of the birds caught (87 %). The majority of the birds captured (85 %) were adults; 9 % were sub-adults/full-grown, 2 % immature and 4 % juvenile. The Yellow-whiskered Greenbul was the commonest bird caught in nets, accounting for almost 16 % of all captures (Fig. 2).

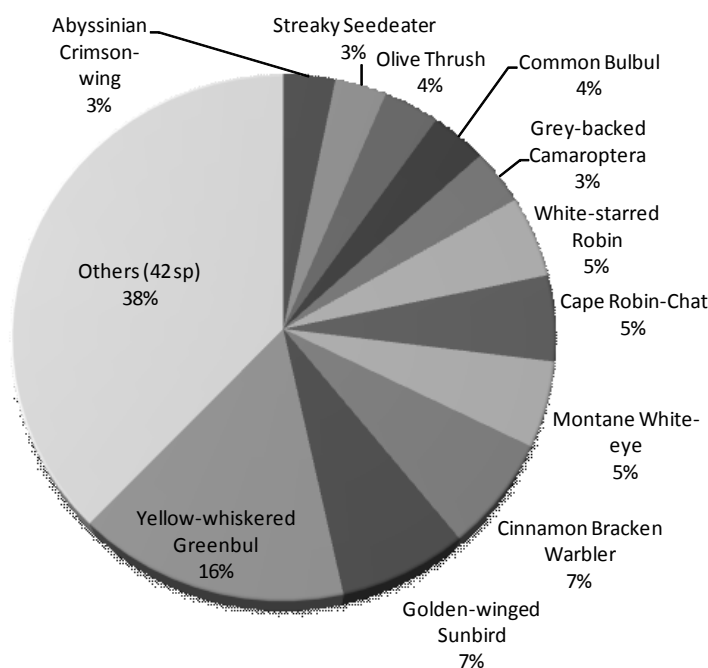


Figure 2. Most common birds captured in mist nets.

Species Richness and Composition

One hundred and sixty-one (161) species from 59 families were recorded during the entire sampling period. This included 12 species that are new for the Quarter Square Degree 50c (Lewis & Pomeroy 1989) bringing the total QSD's list to 532 species. In addition, 16 species listed in East Africa's Regional Red Data List (Bennun & Njoroge 1996) were recorded (Table 1). The forest dependency analysis revealed that 21 species were forest specialists (FF), 37 (24 %) were forest generalists (F) while 39 were forest visitors (f) (Appendix 1).

Table 1. Species observed in Uaso Narok Forest that are listed in East Africa's Regional Red Data List.

Common Name	Scientific Name	Red List Category
African Black Duck	<i>Anas sparsa</i>	Regionally Near-threatened
Giant Kingfisher	<i>Megaceryle maxima</i>	Regionally Near-threatened
Lesser Kestrel	<i>Falco naumanni</i>	Vulnerable
Crowned Eagle	<i>Stephanoaetus coronatus</i>	Regionally Threatened
Red-throated Wryneck	<i>Jynx ruficollis</i>	Regionally Near-threatened
Cinnamon-chested Bee-eater	<i>Merops oreobates</i>	Regional Responsibility
Moustached Tinkerbird	<i>Pogoniulus leucomystax</i>	Regional Responsibility
White-eyed Slaty Flycatcher	<i>Melaenornis fischeri</i>	Regional Responsibility
Hunter's Cisticola	<i>Cisticola hunteri</i>	Regional Responsibility
Chestnut-throated Apalis	<i>Apalis porphyrolaema</i>	Regional Responsibility
Hunter's Cisticola	<i>Cisticola hunteri</i>	Regional Responsibility
Grey-capped Warbler	<i>Eminia lepida</i>	Regional Responsibility
Mountain Yellow Warbler	<i>Chloropeta similis</i>	Regional Responsibility
Eastern Double-collared Sunbird	<i>Cinnyris mediocris</i>	Regional Responsibility
Kenya Rufous Sparrow	<i>Passer rufocinctus</i>	Regional Responsibility
Black-billed Weaver	<i>Ploceus melanogaster</i>	Least Concern
Golden-winged Sunbird	<i>Drepanorhynchus reichenowi</i>	Regional Responsibility

Breeding records

Thirty-nine (24 %) of these species were confirmed as breeding in the forest reserve during the period of this study. The majority of records were between November and December. The following list shows the species, type of breeding record, and age and dates of observations. Observations include records in the immediate neighbourhood of the forest as long as these species were also recorded in the forest.

Key to abbreviations used: Ad - Adult; SAd - Sub-adult; Imm - immature; Juv - juvenile; ♂ - male; ♀ - female; BP - brood patch

Helmeted Guineafowl *Numida meleagris* - nest observed with 7 eggs at AIC compound by the forest edge 18 December 2008. **Red-eyed Dove** *Streptopelia semitorquata* - Ad sitting on 2 eggs 17 December 2008. **Hartlaub's Turaco** *Tauraco hartlaubi* - pair seen building nest among a dense climber entangling a tree canopy 8-10m high, 4 December 2008. **Narina Trogon** *Apaloderma narina* - Imm ♂ observed in the forest interior, early January 2009. **Yellow-rumped Tinkerbird** *Pogoniulus bilineatus* - Ad BP 1 ringed 4 November 2008. **Yellow-whiskered Greenbul** *Andropadus latirostris* - Juv ringed 26.8.08; SAd ringed 26 June 2008; 3 SAd ringed 5 November 2008, 3 Imm ringed 30 December 2008, 18 September 2008 and 6 December 2008. **Common Bulbul** *Pycnonotus barbatus* - 2 Ads ringed BP 3 on 5 November 2008 and 6 December 2008; nest with 2 pullus at AIC on the forest edge 19 December 2008. **White-starred Robin** *Pogonocichla stellata* - 2 Juv observed in the forest Jun-Oct; 2 SAd ringed 23-24 August 2008; SAd ringed 6 December 2008. **Cape Robin Chat** *Cossypha caffra* - SAd ringed 26 June 2008; 2 Juv ringed 26 June 2008; Ad BP 2 26 June 2008; SAd ringed 31 July 2008. **Olive Thrush** *Turdus olivaceus* - SAd ringed 23 August 2008; 3 Ads BP 3 on 4-5 November 2008; Ad incubating

17 December 2008; Ad actively nest building at AIC 18 December 2008. **African Dusky Flycatcher** *Muscicapa adusta* – 2 Juv observed in June 2008; SAd ringed 26 August 2008; Juv observed 17 December 2008. **White-eyed Slaty Flycatcher** *Melaenornis fischeri* – Juv ringed 26 June 2008; SAd ringed 23 August 2008. **Brown Woodland Warbler** *Phylloscopus umbrovirens* – Ad BP 3 ringed 29 October 2008. **Cinnamon Bracken Warbler** *Bradypterus cinnamomeus* – SAd ringed 30 July 2008; Ad BP 2 5 December 2008; Juv ringed 6 December 2008. **Hunter's Cisticola** *Cisticola hunteri* – 2 Ads both with BP 3 ringed at AIC 15 December 2008, their nest had 3 eggs. **Montane White-eye** *Zosterops poliogaster* – 2 Ads BP 1 and 2 on 30 October 2008; Ad BP 3 ringed 5 November 2008. **Common Fiscal** *Lanius collaris* – SAd ringed 23 August 2008; Ad feeding Juv 15 February 2009; Ad feeding at nest AIC February 2009. **Tropical Boubou** *Laniarius aethiopicus* – Ad BP 3 ringed 5 December 2008. **Grey Cuckooshrike** *Coracina caesia* – Juv seen following Ad and begging for food inside the forest close to fire tower 13 April 2009. **Slender-billed Starling** *Onychognathus tenuirostris* – 2 Ads (probably a pair) seen taking nesting material to a hole nest on a Red Cedar *Juniperus procera* on 17 December 2008. **Superb Starling** *Lamprotornis superbus* – 2 Imm feeding among Ads flock near forest station Dec. 2008, young birds observed at town sewage ponds same period. **Sharpe's Starling** *Cinnyricinclus sharpie* – Imm ♂ ringed 5 December 2008; Pair seen entering hole nest on a dry but standing Red Cedar 17 December 2008 at gorge's edge near waterfalls. **Amethyst Sunbird** *Nectarinia amethystina* – SAd ♀ ringed 5 November 2008. **Northern Double-collared Sunbird** *Cinnyris reichenowi* – pair seen attending to a nest with both food and nesting materials near waterfall on the gorge's edge 17 December 2008. **Eastern Double-collared Sunbird** *C. mediocris* – 2 Imm ♂ ringed 4-5 November 2008; Ads entering nest near falls 17 December 2008. **Golden-winged Sunbird** *D. reichenowi* – SAd ♂ ringed 4 November 2008; SAd ♀ ringed 4 November 2008; Ad ♀ BP 1 4 November 2008; 2 pairs attending nest near falls 17 December 2008. **Malachite Sunbird** *N. famosa* – Imm ringed 26 June 2008. **Kenya Rufous Sparrow** *Passer motitensis* – pair actively building nest near the forest station in December 2008. **Grosbeak Weaver** *Amblyospiza albifrons* – pair building a nest in the papyrus swamp near the falls' footbridge 17 December 2008. **Baglafaecht Weaver** *Ploceus baglafaecht* – 2 Juv ringed 4-5 November 2008. **Black-billed Weaver** *P. melanogaster* – pair building nest on the tip of *Scutia myrtina* (family Rhamnaceae) shrub at altitude 2349m 27 October 2008. **Abyssinian Crimsonwing** *Cryptospiza salvadorii* – Imm ringed 18 September 2008; 3 Juv ♂ ringed 5 November 2008. **Red-cheeked Cordon-bleu** *Uraeginthus bengalus* – Ad incubating (contents not seen), Dec 2008. **Bronze Mannikin** *Lonchura cucullata* – 3 Juv ringed 4-5 November 2008. **Black-and-white Mannikin** *L. bicolor* – Ad with nesting materials attending nest; Juv observed in the field Nov-Dec 2008. **Pin-tailed Whydah** *Vidua macroura* – Imm ♂ ringed 5 November 2008. **Streaky Seedeater** *Serinus striolatus* – 2 Ads BP 3 on 5th and 15th November 2008; 2

Ads BP 2 at AIC 15 December 2008. **Thick-billed Seedeater** *S. burtoni* – SAd ringed 30 July 2008; 2 SAd ringed 17 September 2008; Ad BP 2 on 4 November 2008; Ad BP 3 on 5 November 2008.

Discussion and Conclusion

The avifauna of Uaso Narok Forest demonstrates a strong resemblance to the (not-too-distant) mountain forests of the Aberdares and Mt. Kenya. This is not surprising because of the 161 species recorded at Uaso Narok, 34 were characteristic of the Afrotropical highland biome, which represents 51 % of all Kenyan species from this biome (see Bennun & Njoroge 1999, 2001). Albeit lower than the number recorded in the Aberdares (n = 52) and Mt. Kenya (n = 53) (Bennun & Njoroge 1999, 2001), these two forests are much larger than the Uaso Narok.

Marmanet complex including Uaso Narok has not been spared from the indigenous forests' destruction that has been ongoing in many parts of the country (e.g., KIFCON 1992, Anonymous 2008). Furthermore, as the population of communities living adjacent to forest continues to increase, the forest birds come under increasing threat due to intensified human activities. The presence of a large number of remnant stumps of brown olive and red cedar over most of the forest testifies that it has suffered destruction in the past. The illegal activities observed during the study such as charcoal burning and logging place further pressure on the forest resources. Communities living around the reserve should not only be encouraged to plant on-farm woodlots, but facilitated to do so in order to ease pressure on the forest. Alternatively, regulated buffer zones in other larger blocks of Marmanet (Fig. 1) could be considered with woodlots for fuel supplementation as suggested by Cordeiro & Githiru (2000) for woodlands and mixed dry forests in northeast Tanzania.

Further research should not only focus on building upon this species list, but also assessing the relative abundance of species as well as finer scale analysis including the variation in feeding guild structure between different habitats. Such studies will require an even distribution of effort across all the forest blocks depending on the sizes and habitat types to allow comparisons e.g. species diversity and density. More (monitoring) data are also needed for selected forest specialist bird species that could act as indicators of the state of these forests. Lastly, conservation planning for these forests would also benefit from detailed ecological studies of particular species and their habitat requirements.

Acknowledgements

Rufford Small Grants for Nature Conservation kindly provided funding for this study. Permission to conduct research in the forest reserve was granted by Kenya Forest Service. The entire staff at South Marmanet Forest Station assisted with facilitation and logistics at the study site. Several organisations provided additional support in form of logistics and include National Museums of Kenya, Idea Wild (USA), Tropical Biology Association (Kenya), African Bird Club (UK), Africa Environmental Film Foundation (Kenya) and Royal Society for the Protection of Birds (UK). Thanks to the

founding members of Nyahururu Bird Club for their understanding, perseverance, enthusiasm and active participation in the project both as trainees as well as field assistants. Two reviewers provided useful comments to earlier versions of this manuscript.

References

- Anonymous. 2008. *Mau Complex and Marmanet forests: environmental and economic contributions - current state and trends*. Downloaded from <http://www.unep.org> on 20/5/08
- Bennun, L., Dranzoa, C. & Pomeroy, D. 1996. The Forest Birds of Kenya and Uganda. *Journal of East Africa Natural History*, 85: 23-48.
- Bennun, L. & Njoroge, P. (eds.) 1996. Birds to watch in East Africa: A preliminary Red Data List. *Research Reports of the Centre for Biodiversity, National Museums of Kenya: Ornithology*, 23.
- Bennun, L. A. & Njoroge, P. 1999. *Important Bird Areas of Kenya*. East Africa Natural History Society. Nairobi.
- Bennun, L. & Njoroge, P. 2001. Kenya. Pp 411-464 in L.D.C. Fishpool & M.I. Evans (Eds.) *Important Bird Areas in Africa and associated Islands: Priority sites for conservation*. Newbury and Cambridge, UK: Pisces Publications and BirdLife International (BirdLife Conservation Series No. 11).
- Cordeiro, N. J & Githiru, M. 2000. Conservation evaluation for birds of *Brachylaena* woodland and mixed dry forest in north-east Tanzania. *Bird Conservation International* 10:47-65.
- Gibbons, D.W., Hill, D. & Sutherland, W. J. (Eds.). 1996. *Birds*, in Sutherland, W. J. Ecological Census Techniques. Cambridge University Press.
- Jackson, C. 2001. Age codes for Afrotropical birds in the hand. *Ostrich* 15: 62-65.
- KIFCON. 1994. *Phase I Report*. KIFCON, February 1994. Karura Forest Station, Nairobi, Kenya.
- Lewis, A. & Pomeroy, D. 1989. *A Bird Atlas of Kenya*. Rotterdam: AA Balkema.
- OS-c. 2009. *Check-list of Birds of Kenya*. 4th Edition. Nairobi: East Africa Natural History Society Ornithological Sub-committee.
- Stattersfield, A. J., Crosby, M. J., Long, A. J., & Wege, D. C. 1998. *Endemic Bird Areas of the World: Priorities for Biodiversity Conservation*. BirdLife Conservation Series No. 7. Cambridge: BirdLife International.
- Zimmerman, D. A., Turner, D.A. & Pearson, D.J. 1996. *Birds of Kenya and Northern Tanzania*. Halfway House, South Africa: Russel Friedman Books.

Wanyoike Wamiti*, Philista Malaki, Kamau Kimani, Nicodemus Nalianya, Chege Kariuki & Lawrence Wagura

Dept. of Zoology, National Museums of Kenya, P.O. Box 40658-00100, Nairobi, Kenya

*Email for correspondence: wwamiti@gmail.com or wamsnarina@yahoo.com

Scopus 30: 12-25, October 2010

Received June 2009

Appendix 1. Complete list of the birds and their status recorded at Uaso Narok Forest Reserve during 2008–2009. Abbreviations used: AfthH- Afrotropical Highland Biome species; QSD- Quarter Square Degree; FF- Forest specialist; F- Forest generalist; f- Forest visitor; AM- Afrotropical Migrant; PM- Palaearctic Migrant. When these letters are in lower case, migrants of that category may occur alongside resident, non-migratory individuals of one of the other migrant categories.

Common Name	Scientific Name	Forest Category	Migration Status	Breeding	Afth Biome	New QSD	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-Apr-09
Helmeted Guineafowl	<i>Numida meleagris</i>			Br			†	†	†		†		†	
Scaly Francolin	<i>Francolinus squamatus</i>	F					†	†	†					
Common Quail	<i>Coturnix coturnix</i>		pm								†			
Harlequin Quail	<i>Coturnix delegorguei</i>		am								†			†
Egyptian Goose	<i>Alopochen aegyptius</i>							†	†	†	†		†	†
African Black Duck	<i>Anas sparsa</i>						†	†	†	†			†	†
Yellow-billed Duck	<i>Anas undulata</i>		am				†	†	†	†			†	†
Marabou Stork	<i>Leptoptilos crumeniferus</i>													
Hadada Ibis	<i>Bostrychia hagedash</i>						†	†	†	†			†	†
Black-headed Heron	<i>Ardea melanocephala</i>							†	†	†			†	†
Hamerkop	<i>Scopus umbretta</i>							†	†	†			†	†
Lesser Kestrel	<i>Falco naumanni</i>		PM										†	†
Black Kite	<i>Milvus migrans</i>		am, pm										†	†
Black-chested Snake Eagle	<i>Circaetus pectoralis</i>									†			†	†
African Harrier Hawk	<i>Polyboroides typus</i>	f						†	†				†	†
African Goshawk	<i>Accipiter tachiro</i>	F						†	†					
Little Sparrowhawk	<i>Accipiter minullus</i>	FF							†	†				
Rufous-breasted Sparrowhawk	<i>Accipiter rufiventris</i>	F					†	†	†	†				
Great Sparrowhawk	<i>Accipiter melanoleucus</i>	F							†	†				
Mountain Buzzard	<i>Buteo oreophilus</i>	FF			†	QSD			†	†				
Augur Buzzard	<i>Buteo augur</i>						†	†	†	†			†	†
Long-crested Eagle	<i>Lophaelus occipitalis</i>	f					†	†	†	†				†
Crowned Eagle	<i>Stephanoaetus coronatus</i>	FF					†	†	†	†			†	†

Common Name	Scientific Name	Forest Category	Migration Status	Breeding	Arth Biome	New GSD	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-Apr-09
White-headed Wood-hoopoe	<i>Phoeniculus bollei</i>	FF							+	+	+		+	+
Crowned Hornbill	<i>Tockus alboterminatus</i>	f					+	+	+	+	+		+	+
Silvery-cheeked Hornbill	<i>Bycanistes brevis</i>	F					+	+	+	+	+		+	+
Moustached Tinkerbird	<i>Pogoniulus leucomystax</i>	FF			†		+	+	+	+	+		+	+
Yellow-rumped Tinkerbird	<i>Pogoniulus bilineatus</i>	F		Br			+	+	+	+	+		+	+
Red-fronted Barbet	<i>Tricholaema diadematus</i>													
Spot-flanked Barbet	<i>Tricholaema lacrymosa</i>													
Lesser Honeyguide	<i>Indicator minor</i>	f							+		+			
Greater Honeyguide	<i>Indicator indicator</i>	f										+		
Red-throated Wryneck	<i>Jynx ruficollis</i>	f								+				
Fine-banded Woodpecker	<i>Campethera tullbergi</i>	FF			†			+		+			+	+
Cardinal Woodpecker	<i>Dendropicos fuscescens</i>	f								+				
Bearded Woodpecker	<i>Dendropicos namaquus</i>	f						+						
African Grey Woodpecker	<i>Dendropicos goertae</i>	f												
African Paradise Flycatcher	<i>Terpsiphone viridis</i>	f	am					+	+	+			+	
White-tailed Crested Flycatcher	<i>Trochocercus albonotatus</i>	FF			†		+	+	+	+			+	
Chin-spot Batis	<i>Batis molitor</i>	F							+	+			+	
Black-throated Wattle-eye	<i>Platysteira peltata</i>								+	+			+	
Brown-crowned Tchagra	<i>Tchagra australis</i>													
Black-backed Puffback	<i>Dryocopus cubla</i>	F								†				+
Northern Puffback	<i>Dryocopus gambensis</i>	F								†				
Tropical Boubou	<i>Laniarius aethiopicus</i>	f		Br				†	†	†	†		†	†
Grey Cuckooshrike	<i>Coracina caesia</i>	FF		Br	†			†	†	†	†		†	†
Black Cuckooshrike	<i>Campephaga flava</i>	f	am					†	†	†	†		†	†
Isabelline Shrike	<i>Lanius isabellinus</i>		PM											
Common Fiscal	<i>Lanius collaris</i>			Br				†	†	†	†		†	†
Pied Crow	<i>Corvus albus</i>							†	†	†	†		†	†
White-bellied Tit	<i>Parus albiventris</i>	f					†	†	†	†	†		†	†

Common Name	Scientific Name	Forest Category	Migration Status	Breeding	Arth Biome	New QSD	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-Apr-09
Black Saw-wing	<i>Psalidoprocne holomelas</i>	f					+		+	+	+		+	+
Plain Martin	<i>Riparia pallidicola</i>								+	+	+		+	+
Banded Martin	<i>Riparia cincta</i>							+						
Barn Swallow	<i>Hirundo rustica</i>		PM						+	+	+		+	+
Rock Martin	<i>Hirundo fuligula</i>									+	+		+	+
Red-rumped Swallow	<i>Hirundo daurica</i>									+	+		+	+
Hunter's Cisticola	<i>Cisticola hunteri</i>	F		Br	+		+			+	+		+	+
Buff-bellied Warbler	<i>Phylolais pulchella</i>	f								+	+		+	+
Yellow-breasted Apalis	<i>Apalis flavida</i>	F			+		+			+	+		+	+
Chestnut-throated Apalis	<i>Apalis porphyrolaema</i>	FF			+		+			+	+		+	+
Grey Apalis	<i>Apalis cinerea</i>	f								+	+		+	+
Grey-capped Warbler	<i>Erminia lepida</i>	f								+	+		+	+
Grey-backed Camaroptera	<i>Camaroptera brachyura</i>	f					+	+	+	+	+		+	+
Common Bulbul	<i>Pycnonotus barbatus</i>	f		Br			+	+	+	+	+		+	+
Mountain Greenbul	<i>Andropadus nigriceps</i>	FF			+		+			+	+		+	+
Yellow-whiskered Greenbul	<i>Andropadus latirostris</i>	F		Br			+			+	+		+	+
Cabanis's Greenbul	<i>Phyllastrephus cabanisi</i>	FF		Br						+	+		+	+
Little Rush Warbler	<i>Bradypterus baboecala</i>									+	+		+	+
Cinnamon Bracken Warbler	<i>Bradypterus cinnamomeus</i>	F		Br			+	+	+	+	+		+	+
Lesser Swamp Warbler	<i>Acrocephalus gracilirostris</i>									+	+		+	+
Dark-capped Yellow Warbler	<i>Chloropeta natalensis</i>					QSD	+							
Mountain Yellow Warbler	<i>Chloropeta similis</i>	F			+	QSD	+			+	+		+	+
Brown Woodland Warbler	<i>Phylloscopus umbrovirens</i>	F		Br	+		+			+	+		+	+
Willow Warbler	<i>Phylloscopus trochilus</i>	f	PM				+							
Blackcap	<i>Sylvia atricapilla</i>	F	PM										+	+
Garden Warbler	<i>Sylvia borin</i>	f	PM			QSD							+	+
African Hill Babbler	<i>Pseudoalcippe abyssinica</i>	FF			+		+	+					+	+
Montane White-eye	<i>Zosterops pollogaster</i>	F		Br	+		+	+					+	+

Common Name	Scientific Name	Forest Category	Migration Status	Breeding	Arth Biome	New QSD	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-Apr-09
Baglafaecht Weaver	<i>Ploceus baglafaect</i>	f		Br	†		†	†	†	†	†	†	†	†
Black-billed Weaver	<i>Ploceus melanogaster</i>	FF		Br	†									
Speke's Weaver	<i>Ploceus spekei</i>										†			
Chestnut Weaver	<i>Ploceus rubiginosus</i>		am									†		
Brown-capped Weaver	<i>Ploceus insignis</i>	FF			†				†					
Yellow Bishop	<i>Euplectes capensis</i>	F							†					
Grey-headed Negrofinch	<i>Nigrita canicapilla</i>	F							†					
Abyssinian Crimsonwing	<i>Cryptospiza salvadorii</i>	F		Br	†		†		†				†	†
Yellow-bellied Waxbill	<i>Coccygia quartinia</i>	f		Br		QSD	†		†					
Common Waxbill	<i>Estrilda astrild</i>						†		†					
Red-cheeked Cordon-bleu	<i>Uraeginthus bengalus</i>			Br			†		†					
Purple Grenadier	<i>Uraeginthus ianthinogaster</i>								†					
Red-billed Firefinch	<i>Lagonosticta senegala</i>								†					
Bronze Mannikin	<i>Lonchura cucullata</i>							†						
Black-and-white Mannikin	<i>Lonchura bicolor</i>	f		Br					†					
Pin-tailed Whydah	<i>Vidua macroura</i>			Br					†					
Yellow Wagtail	<i>Motacilla flava</i>													
Cape Wagtail	<i>Motacilla capensis</i>		PM						†					
African Pied Wagtail	<i>Motacilla aguimp</i>						†		†					
Mountain Wagtail	<i>Motacilla clara</i>	F						†						
Tree Pipit	<i>Anthus trivialis</i>	f												
African Citril	<i>Serinus citrinelloides</i>	f			†				†					†
Reichenow's Seedeater	<i>Serinus reichenowii</i>													
Brimstone Canary	<i>Serinus sulphuratus</i>													
Sireaky Seedeater	<i>Serinus striolatus</i>	f		Br					†					†
Thick-billed Seedeater	<i>Serinus burtoni</i>	FF		Br	†				†					†
			Total	39	34	12	63	62	92	95	77	77	93	58