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An updated overview of the birds of W National Park, southwest Niger

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Summary

We bring up to date information on birds in Parc National du W in SW Niger. For the 354 species recorded in the park (49 more than in previous publications), information is given on abundance (dry season and wet season), breeding, monthly occurrence, and occurrence by habitat or part of the Park. Seven new species for Niger are discussed at greater length, as are two threatened and four near-threatened species. Five species whose occurrence is in doubt are also treated.

Résumé

Mise à jour de l'ensemble de l'avifaune du Parc National du W au sud-ouest du Niger. Nous mettons à jour les données sur les oiseaux du Parc National du W au SO du Niger. Pour les 354 espèces notées dans le parc (49 de plus que dans les publications antérieures), nous apportons des données sur l'abondance (saison sèche et saison des pluies), la reproduction, la présence mensuelle ainsi que la présence par habitat ou par secteur du parc. Sept espèces nouvelles pour le Niger font l'objet d'un examen minutieux, de même que deux espèces menacées et quatre vulnérables. Cinq espèces dont la présence est douteuse sont aussi examinées.

Introduction

Parc National du W is the only National Park in Niger, and one of its 15 Important Bird Areas (Brouwer *et al.* 2001). A preliminary survey of the birds of Park W and a

subsequent update were published more than 15 years ago (Koster & Grettenberger 1983, Shull *et al.* 1986). A vast amount of data on birds in the Park has since been collected, and the park's species list now stands at 352. In addition, hundreds of new monthly records, locations and breeding records have been made. It therefore seems opportune to review available ornithological information from the Park. For the first time we also include seasonal estimates of abundance for all species.

The Park W in Niger lies 150 km south of Niamey, where Niger, Burkina Faso and Benin come together. Together with the contiguous parks of the same name in Burkina Faso and Benin, it forms the largest contiguous tract of protected savanna in West Africa. In the northeast, the Niger River forms the park boundary and makes several sharp turns, which together form the W from which the park takes its name, while the Tapoa River forms its northwest boundary (Fig. 1). The Mékrou River forms the southern boundary of the Niger park (with Benin on the south bank) and the international border with Burkina Faso is the park limit in the west.

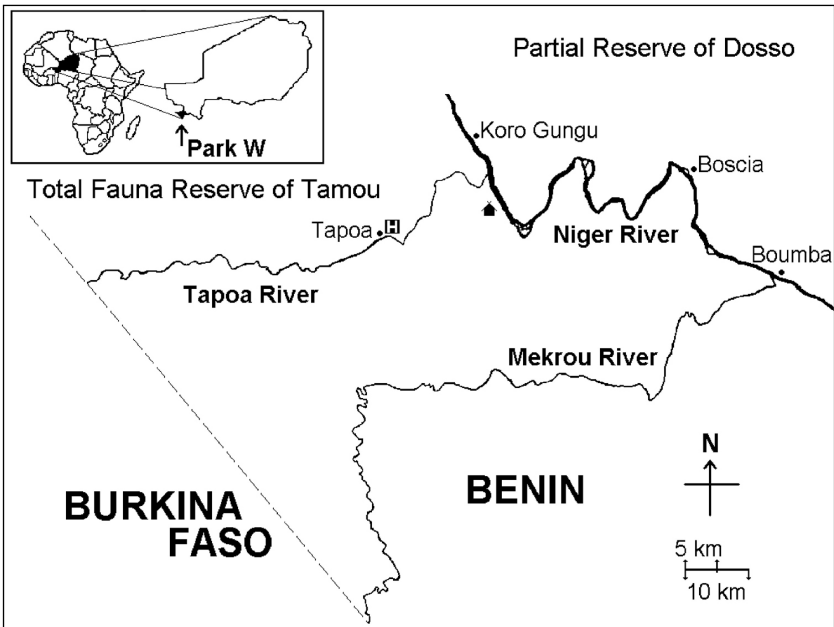


Figure 1. Park W, southwest Niger.

The Park lies within the northern sudan zone, and usually receives 500–800 mm of rainfall per year (average 1961–90 *c.* 700 mm, range 221–1178). The rain generally falls in the period May–October, with a marked peak in August. Virtually no rain falls

at all the rest of the year. This rainfall pattern and the underlying geology largely determine vegetation patterns in the park. Extensive areas are quite rocky, caused by outcropping metamorphic Precambrian rocks (e.g. quartzites, schists and gneisses). In places, these are overlain by Tertiary sediments, which give rise to widespread laterite-capped plateaux. Along the three rivers are Quaternary alluvial floodplains. The vegetation is predominantly wooded savanna and shrubland, transitional between sahelian and sudanian savanna, mostly deciduous but with a few (thorny) evergreens. There is also a small amount of grassland. In addition to the floodplains with some stands of palms along the Niger River, there are evergreen gallery forests along its main tributaries, and ephemeral pools and wetlands in the upland areas.

The area that is now occupied by the park was first identified as a future reserve in 1926. In 1937, it was the first reserve created in Niger, re-classified as a Total Fauna Reserve in 1953, and a National Park in 1954. The park is adjoined by two reserves: the Partial Reserve of Dosso (306,000 ha) across the Niger River to the northeast, and the Total Fauna Reserve of Tamou (presently 76,000 ha) north of the Tapoa River. Because of its floodplains, the park was designated a Wetland of International Importance under the Ramsar Convention, in 1987.

There is a large hotel and conference centre as well as a visitors' centre at the park entrance, overlooking the Tapoa River near Tapoa. During the tourist season (November–May approximately), there is one serviced tourist campsite (house symbol on Fig. 1) and other areas where tourists can camp privately. Tourists must be accompanied by a registered park guide at all times in the park. In the 1980–1 season there were 1700 paying visitors, in 1994–5 not quite 1000. The decline is probably related to the decreasing number of westerners living in Niamey, and to the negative effect of unrest in the north of the country during the early 1990s. For the year 1994–5, income from visitors was estimated at US\$ 25000.

Study areas and methods

New data are mostly from surveys carried out by TC and CJ between December 1994 and April 1997, when they were Peace Corps Volunteers working as wildlife biologists with park staff. During 1995, TC was based at Tapoa Village, on the north side of the park, which also serves as the main entry point for visitors (Fig. 1). At the same time CJ was based at Boscia just across the Niger River from the Park (Fig. 1). Beginning in January 1996, CJ replaced TC at Tapoa. During the course of their duties, TC and CJ visited many parts of the park together with Nigerian colleagues, and kept notes of all birds observed. Data collection was made from a car, a dugout canoe with an outboard motor, and a motorcycle. Very little walking was done in the park due to the presence of lions, with the exception of walking transects and short forays close to a vehicle. Official activities included an annual large mammal survey, prescribed burning, monthly waterhole surveys of both mammals and birds, monthly

river counts for water birds along the Niger River bordering the park and the lower 15 km of the Mékrou River (see Ambagis *et al.* 2003), walked transect counts for all birds in various vegetation types accessible from the river, and research for a Guidebook to Park W (Jameson & Crisler 1996). Night surveys were carried out twice a month during most of two years, once at full moon and once at new moon, over the same circular route (with occasional alterations due to weather or blocked routes). We drove slowly and used hand-held lights to locate eyeshine of both birds and mammals. A circuit lasted *c.* 4 h, from 20h00 to 24h00, covering 60–75 km. Observations were also made while off duty. Coverage was best in the northern, central (down to the Mékrou River), and eastern areas of the park. The southern and western parts, which are also the zones of heaviest poaching, were infrequently visited. In addition, some observations made by JB and Wim Mullié (WCM), during one- to three-day visits in 1990–4, and observations made Spike Millington (SM) in 1989–90, are also included.

Observations were noted separately for the following habitats or sections of the Park (see Koster & Grettenberger 1983 for detailed descriptions): on or along the Niger River; on or along the Mékrou River; on or along the Tapoa River; in woodland areas (including the isolated wetlands these contain); in shrubland areas (including the isolated wetlands these contain).

Estimates of abundance were made by JB and WCM, and later by TC and CJ. In this paper we give semi-quantitative estimates of abundance for the whole park, separately for the dry season (Nov–Apr) and wet season (May–Oct) as per Koster & Grettenberger (1983).

Indications of breeding were noted as follows: courting, building a nest, carrying nesting material, on a nest, eggs or young in a nest, or feeding fledged young.

Species list

The complete list of 352 species is presented in Appendix 1. Koster & Grettenberger (1983) reported 283 species but actually listed only 282 (due to a species repetition), and Shull *et al.* (1986) added 25 more. We add a further 49, and drop four of their species (*Gyps fulvus*, *Spizaetus africanus*, *Euplectes ardens* and *Vidua funerea*) plus *Ciconia ciconia* (see below).

Of the 352 species, 319 have been observed during the dry season and 252 during the wet season. Per month, most species were observed during November and December (234 and 239 respectively), fewest during September and October (174 and 183). Water adds considerably to species richness: the Niger River habitat has the most species (263), the shrubland (88) and woodland (194) the fewest. In total, 82 species have been found breeding in the Park, with a clear peak in Jun–Jul(–Aug) and a secondary peak in Dec–Jan.

Many of the species in Park W show seasonal differences in abundance and are at least partially migratory. According to our observations, and dividing the year into a

wet season and dry season only, 32 species show wet season, intra-African migration (from further south in Africa), 68 show dry season, intra-African migration (from nearer the Sahara or water-birds dispersing after breeding elsewhere), and 64 are at least partially dry-season migrants from the Palaearctic. In drawing these conclusions, we have not allowed for possible higher visibility during the dry season, *e.g.* due to congregation around waterholes. Certain Palaearctic migrants apparently overwinter in small numbers in the Park as well, or arrive early and/or depart late. The possible (partial) migratory status of many species cannot be reliably assessed, including some that have only been observed during one of the two seasons and have been classified as vagrant or rare for that season. Much remains to be discovered about seasonal movements of birds in Park W.

According to Brouwer *et al.* (2001), of the 25 species defined by Fishpool & Evans (in press) as characteristic of the sudano-guinean biome and also occurring in Niger, 21 have been observed in the park. The park forms the main Important Bird Area (IBA) for this biome in the country. Of these, the Blue-bellied Roller *Coracias cyanogaster* and Sun Lark *Galerida modesta* are vagrants observed only during the dry season, while the Moho *Hypergerus atriceps* is a rare dry season visitor. All 18 other species have been reported during both wet and dry seasons, and are proven or likely breeders. Of the 16 sahelian biome species in Niger, 6 (38%) have been observed in the park, mostly during the dry season and all only uncommonly to rarely. However, the park and the Makalondi district IBA are the only IBA's in the wintering range of some of the sahelian species (Brouwer *et al.* 2001). In addition, there are quite large colonies of egrets in the interior of the park, which have never been properly censused.

New species for Niger

We discuss here the seven new species for Niger, not mentioned by Giraudoux *et al.* (1988), nor in other refereed publications since then.

***Milvus milvus* Red Kite.** One seen at the Tapoa River on 14 Jun 1995, soaring with a group of Hooded Vultures (TC). Identified by the long wings with pale areas at the base of the primaries, and the very long, notched, rufous tail with black terminal band; the head was lighter than the rest of the body. There is a recent increase in observations south of the Sahara: Brown *et al.* (1982) mention reports only from South Africa and E Africa, but Barlow *et al.* (1997) add four records for The Gambia, and mention further observations in South Africa and E Africa.

***Francolinus coqui* Coqui Francolin.** Rare: observed in May (TC); seen several times in the neighbouring Reserve de Faune de Tamou (1990–4, JB); not uncommon in the Makalondi area 50 km northwest of the park (1967–97, P. Souvairan unpubl.); observed near Sabongari, on the Dosso-Gaya road, 80 km to the east of the park (JB). Holyoak & Seddon (1991) also mention it near Sabongari and note that, although Giraudoux *et al.* (1988) did not list the species for Niger, Snow (1978) did. Urban *et al.* (1986) also mention it as occurring in W Niger, possibly based on the same source.

***Chrysococcyx klaas* Klaas's Cuckoo.** Uncommon during the rainy season, May–Jun (TC); observed in the Makalondi area since 1969, but becoming less common (P. Souvairan unpubl.). Not mentioned for Niger by Giraudoux *et al.* (1988). Fry *et al.* (1988) map it as a breeding visitor in SW Niger, as part of a continuous sudano-sahelian distribution, but without mentioning any specific locality in Niger.

***Apus horus* Horus Swift.** At least five individuals seen, 3 Jul 1995, and subsequently in Aug–Sep at the same location along the Mékrou River (TC). Each time, excellent views were had of the extensive white rump and shallowly forked tails. Doubtful records near Sokoto (320 km ENE of the park) and Zaria (600 km ESE of the park) in NW Nigeria (closest observations) but almost certainly breeding N Cameroon to W Chad (Fry *et al.* 1988). Probably overlooked, in confusion with White-rumped Swift *A. caffer*, and doubtlessly more widespread (Fry *et al.* 1988). Chantler & Driessens (1995) also mention it occurring on the Mambilla Plateau, Nigeria (which is near the Cameroon border) but they probably meant the town of Mambilla, near Zaria, (P.J. Jones, pers. comm.).

***Galerida modesta* Sun Lark.** Three groups of two, four and five on bare soil patches in grassy shrubland, between the Tapoa and Mékrou rivers, 28 Aug 1993 (JB, WCM). Mapped in SW Niger by Keith *et al.* (1992), as part of a continuous sudanian and N guinean distribution in W Africa, though no locality in Niger is specified. Observed near Gaya, late Nov 1988 (Holyoak & Seddon 1991), but not recognized as a new species for Niger.

***Pseudhirundo griseopygia* Grey-rumped Swallow.** At least one in a group of *c.* six swallows flying over the Mékrou River 10 km upstream of the former full-service camping place (12°10'N, 2°25'E), 22 Dec 1993 (JB); small, pale below and with a grey rump, “dirtier” and longer-tailed than House Martin *Delichon urbica*. Not mentioned for central Benin (Claffey 1995) or Togo (Cheke & Walsh 1996), but Green & Sayer (1979) refer to it as rare Oct–Apr on dry floodplains in Arli and Pendjari National Parks. These two parks straddle the Mékrou River less than 100 km from the site of JB's observation. Closest record in Nigeria is at Kainji in the Niger valley, 250 km to the southeast (Elgood *et al.* 1994). Not uncommon in N Ghana, 300 km to the southwest (Grimes 1987).

***Pyrhurus scandens* Leaflove.** One seen 6–10 m above the ground in gallery forest along the Mékrou River (12°14'N, 2°24'E), 29 Aug 1993. It was the size of a *Turdus* thrush, with grey head, brown back and cinnamon-coloured underparts; medium-length, solid bill dark grey; eye reddish brown; ssp. *scandens* based on relatively brown upperparts and rich cinnamon underparts (JB, WCM). This is far from all previous records, but possibly overlooked in Park W due to its relative inaccessibility during the rainy season. The nearest observation in Benin appears to be near Parakou, 250 km to the south (Claffey 1995). In Togo, seen as far north as Aledjo, 300 km away (Cheke & Walsh 1996). Occurs in gallery forest in Nigeria, but no closer than Kainji, 250 km to the southeast (Keith *et al.* 1992, Elgood *et al.* 1994).

Globally threatened species

Two globally threatened species (Stattersfield & Capper 2000) have been observed in the Park. The Lappet-faced Vulture *Torgos tracheliotus* is uncommon throughout the year, breeding Nov–Jan. Lesser Kestrel *Falco naumanni* is rare during the dry season (Jan–Mar), near the three rivers and in woodland habitat.

Four near-threatened species (Stattersfield & Capper 2000), have been found in the Park. Pallid Harrier *Circus macrourus* is frequent during the dry season (Sep–Apr): based on frequency of sightings per area covered, it seems likely that the park regularly holds more than 30 individuals of this species, qualifying it as an Important Bird Area (Brouwer *et al.* 2001). Black Crowned Crane *Balearica pavonina* is rare during the rainy season and uncommon during the dry season (observed all months except Aug–Sep). Stanley’s Bustard *Neotis denhami* is uncommon during the dry season (Nov–Apr). African Skimmer *Rynchops flavirostris* is rare Mar–Aug, breeding Jun.

Doubtful records (excluded from Appendix 1)

***Ciconia ciconia* White Stork.** In their Discussion, Koster & Grettenberger (1983) mention this species as common along the Niger River floodplains, but it is not included in their species list. Walsh (1989) listed Koster & Grettenberger (1983) in the references he had consulted, but stated that there are no sightings of White Stork for the Park. We have never seen White Storks in the Park and believe that the mention in Koster & Grettenberger (1983) may have been in error for White Egret, which is common along the Niger River in the Park during the dry season.

***Gyps fulvus* European Griffon.** One mentioned by Shull *et al.* (1986) with no details provided. Uncommon Palaearctic migrant to The Gambia and Senegal (Barlow *et al.* 1997). Winter visitor in small numbers to northern sub-Saharan Africa and a recent record in E Africa (Clark 2001). Future sightings should be well documented to exclude other *Gyps* vultures.

***Spizaetus africanus* Cassin’s Hawk-Eagle.** Recorded by Shull *et al.* (1986), but is a strict dense forest species. Misidentification of Ayres’s Hawk-Eagle *Hieraetus ayresii* (not yet reported from the Park but seen 100 km further north by JB), a species of drier areas (Brown *et al.* 1982), seems likely (W. Clark pers. comm.). We include neither species in the Park list for now.

***Euplectes ardens* Long-tailed Black Whydah.** Giraudoux *et al.* (1988) noted that the single mention (Nov) by Koster & Grettenberger (1983) is 700 km from the closest known population (Jos Plateau, Nigeria) and that when not breeding it can easily be confused with related species. Future sightings should be properly documented.

***Vidua funerea* Dusky Indigobird.** Mentioned by Koster & Grettenberger (1983) and Shull *et al.* (1986), but considered unlikely to occur in the park by Giraudoux *et al.* (1988) because its host, Blue-billed Firefinch *Lagonosticta rubricata*, is not known there. See also Payne (1996).

Possible declines

***Scotopelia peli* Pel's Fishing Owl.** Previously noted by Koster & Grettenberger (1983) in every month of the year and in four of the five habitats in the park. We frequently attempted to locate this species, without success. It is here on the edge of its range and its rapid disappearance could be a sign of a regional range reduction.

Conservation status and threats

Poaching and disturbance, burning by poachers and pastoralists, illegal fishing, grazing, cutting of trees and collection of other natural products, and construction of new roads all constitute threats to the park. There are almost 500 km of unpaved roads in the park. Illegal grazing was made possible by eradication of the tsetse fly, and affects pasture availability for antelopes, vegetation composition, tranquillity, access to water for wildlife, and transmittance of diseases to wild animals. Up to 15000 cattle (as well as sheep and goats) are thought to be present illegally during the wet season.

Newer large-scale threats include dam building and rock phosphate mining. In January 1999, the Niger and Benin governments agreed to construct the Dyodyonga hydroelectric facility, at the gorge in the Mékrou River on the southern boundary of the Park (c. 12°18'N 2°37'E). The project will favour the development of industry and the exploitation of mineral resources in the Mékrou area. Possible hydrological and ecological consequences of dam construction, easier Park access (also for poachers), increased traffic, and environmental consequences of mining and industrial activities, appear not to have been considered in these plans.

Up until now Park W has managed to avoid the catastrophic consequences of unchecked poaching seen in some other W African parks, and represents by far the best, most extensive, relatively undisturbed upland area in the sudan zone of Niger and neighbouring countries. Together with the Park Ws in Benin and Burkina Faso, and with Arli NP in Burkina Faso and Pendjari NP in Benin, it makes up a huge contiguous block of protected land. The potential for coordinated environmental protection is enormous, but so are the obstacles due to problems of intergovernmental cooperation. A three-country program, funded by the European Union, is currently trying to overcome this, coordinate management and thereby improve protection for many regionally threatened species.

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Much of the new information presented in this paper was collected while TC and CJ were Volunteers of the US Peace Corps, based in the Park during 1994–5 and 1995–6 respectively. Support from the Management of the Park and Peace Corps-Niger is much appreciated. We would particularly like to mention Ibrahim Bello, Souley

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	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
<i>T. nebularia</i> Common Greenshank	P	R						x											x
<i>T. ochropus</i> Green Sandpiper	P	U	x	x	x	x									x	x	x		x
<i>T. glareola</i> Wood Sandpiper	P	R	x	x											x				x
<i>Actitis hypoleucos</i> Common Sandpiper	P	F	C	x	x	x	x	x							x	x	x		x
Laridae																			
<i>Larus cirrocephalus</i> Grey-headed Gull	W	U													x	x	x		x
Sternidae																			
<i>Gelochelidon nilotica</i> Gull-billed Tern		R	R	x	x	x									x				x
<i>Sterna caspia</i> Caspian Tern	P	U													x				x
<i>S. albifrons</i> Little Tern	W	U													x	x	x		x
* <i>Chlidonias niger</i> Black Tern	P	V													x				x
* <i>C. leucopterus</i> White-winged Black Tern		R													x				x
Rynchopidae																			
<i>Rynchops flavirostris</i> African Skimmer		R	R												x	x	x		x
Pteroclididae																			
<i>Pterocles exustus</i> Chestnut-bellied Sandgrouse	D	U	F	x	x	x	x	x							x	x			x
<i>P. quadricinctus</i> Four-banded Sandgrouse		F	F	x	x	x	x	x	x						B	x	x		x
Columbidae																			
<i>Treron calva</i> African Green Pigeon		V													x	x			x
<i>T. waalia</i> Bruce's Green Pigeon		F	F	x	x	x									B	x	x		x
* <i>Turtur afer</i> Blue-spotted Wood Dove		R													x				x
<i>T. abyssinicus</i> Black-billed Wood Dove		C	C	x	x	x									B	x	x		x
<i>Oena capensis</i> Namaqua Dove		F	C	x	x	x	x	x							B	B	B		x
<i>Columba guinea</i> Speckled Pigeon	D	C	C	B	B	B	B	B	B	B	B	B	B	B	B	B	B		x
<i>Streptopelia semitorquata</i> Red-eyed Dove	D	U	F	x	x	x	x	x	x						x	x			x
<i>S. decipiens</i> African Mourning Dove		C	C	x	x	B	x	x	x	x	x	x	x	x	x	x			x

	Migratory status	Abundance		Observed during												Habitat				
		status	rainy	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
<i>Scotopelia peli</i> Pel's Fishing-Owl		R	R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Glaucoideus perlatus</i> Pearl-spotted Owllet		F	F	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Caprimulgidae																				
<i>Caprimulgus climacurus</i> Long-tailed Nightjar	W	C	R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>C. inornatus</i> Plain Nightjar	W	U	R	x	x	x	x	x	x											
<i>Macrodipteryx longipennis</i> Standard-wing Nightjar	W	C	R	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>M. vexillarius</i> Pennant-winged Nightjar		V																		
Apodidae																				
<i>Telecanthura ussheri</i> Mottled Spinetail		R	R	x																
<i>Cypsiurus parvus</i> African Palm Swift		C	C	B	x	x	x	x	x	x	x	x	x	B						
<i>Apus apus</i> European Swift	P	U	R	x	x	x	x	x	x	x	x	x								
<i>A. caffer</i> White-rumped Swift	W	C	R	x	x	x	x	x	x	x	x	x								
* <i>A. horus</i> Horus Swift		R	R																	
<i>A. affinis</i> Little Swift	W	U	R	x	x	x	x	x	x	x	x	x	x	x						
Coliidae																				
* <i>Urocolius macrourus</i> Blue-naped Mousebird	D	R	R																	
Alcedinidae																				
<i>Halcyon leucocephala</i> Grey-headed Kingfisher	W	F	U	x	x	x	x	x	x	x	x	x								
<i>H. malimbica</i> Blue-breasted Kingfisher	D	R	U	x	x	x	x	x	x											
<i>H. senegalensis</i> Woodland Kingfisher		U	U	x	x	x	x	B	x	x	x	x	x	x						
<i>H. chelicuti</i> Striped Kingfisher		R	x																	
<i>Ceyx picta</i> African Pygmy Kingfisher		U	U	x	x	x	x	x	x	x	x	x	x	x						
<i>Corythornis cristata</i> Malachite Kingfisher		F	F	x	x	x	x	B	x	x	x	x	x	x						
<i>Megaceryle maxima</i> African Giant Kingfisher		U	U	x	x	x	x	x	x	x	x	x	x	B						
<i>Ceryle rudis</i> Pied Kingfisher	D	C	A	B	B	B	x	x	x	x	x	x	x	B						

Motacillidae										
	P	C	x	x	x	x	x	x	x	x
<i>Motacilla flava</i> Yellow Wagtail										
<i>M. alba</i> White Wagtail	P	R	x	x	x	x	x	x	x	x
<i>M. aguimp</i> African Pied Wagtail	D	U	x	x	x	x	x	x	x	x
<i>Anthus trivialis</i> Tree Pipit	P	R	x							
<i>Macronyx croceus</i> Yellow-throated Longclaw		V	x							
Campephagidae										
<i>Campephaga phoenicea</i> Red-shouldered Cuckoo-Shrike	W	U	R	x	x	x	x	x	x	x
Pycnonotidae										
* <i>Pyrrhurus scandens</i> Leaf-love		V								x
<i>Pycnonotus barbatus</i> Common Bulbul		C	B	x	x	x	x	x	x	B
Turdidae										
<i>Luscinia megarhynchos</i> Nightingale	P	R								x
<i>Cossypha niveicapilla</i> Snowy-crowned Robin-Chat	W	U	R							x
<i>C. albicapilla</i> White-crowned Robin-Chat		U	x	x	x	x	x	x	x	B
<i>Cercotrichas galactotes</i> Rufous Scrub-Robin	D	U	x	x	x	x	x	x		
<i>C. podobe</i> Black Scrub-Robin	D	U	x	x	x	x	x			
<i>Phoenicurus phoenicurus</i> Common Redstart	P	R	x	x	x					
* <i>Saxicola rubetra</i> Whinchat	P	V								x
<i>Oenanthe oenanthe</i> Northern Wheatear	P	C	x	x	x					x
<i>O. hispanica</i> Black-eared Wheatear	P	F	x	x	x					x
<i>Myrmecocichla aethiops</i> Northern Anteater-Chat	D	U	F	x	x	x	x	x	x	x
<i>M. albigrons</i> White-fronted Black Chat		R	R	x	x	x	x	x		
<i>Turdus pelios</i> African Thrush	W	U	R							x
Sylviidae										
<i>Acrocephalus schoenobaenus</i> Sedge Warbler	P	R								x
* <i>A. scirpaceus</i> Reed Warbler	P	R								x
* <i>A. arundinaceus</i> Great Reed Warbler	P	V	x							x

	Migratory Abundance		Observed during												Habitat				
	status	rains dry	J	F	M	A	M	J	J	A	S	O	N	D	N	M	T	W	S
Viduidae																			
<i>Vidua macroura</i> Pin-tailed Whydah	W	U			x	x	x	x	x	x					x	x	x	x	x
<i>V. chalybeata</i> Senegal Indigo Finch		F	x		x	x	x	x	x	x	x	x			x	x	x	x	x
<i>V. orientalis</i> Broad-tailed Paradise Whydah	D	U	C	x											x	x	x	x	x
Fringillidae																			
<i>Serinus mozambicus</i> Yellow-fronted Canary		F	F	B	x	x	x	x	x	x	B	B	B		x	x	x	x	x
<i>S. leucopygius</i> Grey Canary		U	U	x	x	x									x	x	x	x	x
<i>S. gularis</i> Streaky-headed Seed-eater		V																	x
Emberizidae																			
<i>Emberiza flaviventris</i> Yellow-bellied Bunting		R	R	x	x	x	x	x											x
<i>E. forbesi</i> Nigerian Little Bunting		R							x										x
<i>E. tahapisi</i> Rock Bunting	D	F	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Totals		319		225	218	218	206	205	197	203	202	174	183	234	263	234	226	194	88
Breeding totals (total of 82 species)		35		15	9	10	4	10	29	18	13	6	6	7	16				