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AVIFAUNA OF YANKARI RESERVE, NIGERIA:
NEW RECORDS & OBSERVATIONS

by Arthur A. Green

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INTRODUCTION

Many persons have reported on the avifauna of Yankari Reserve, from Sikes (1964) to Crick (1986), including Dyer & Gartshore (1975, 1976), Geerling (1976), Pettet (1976) Skilliter (1976) and Sharland (1978). The most comprehensive paper, giving new records and summarizing old, is that of Crick & Marshall (1981).

Yankari Game Reserve is centered at 9°50'N and 10°30'E and covers 2244 km² in the Sudan Savanna Zone in Bauchi State, Nigeria. The 950 mm isohyet passes through the centre of the reserve. Biogeographical features have been covered in earlier papers and in Green & Amance (1987). Figure 1 is a sketch map of the Reserve showing locations mentioned in the text and other significant topographical features.

This paper reports 21 bird species new to the reserve and gives additional information on many previously reported species. The observations were made during my residence from 1985-1987 at Wikki in the centre of the reserve, where I served as Research Officer for the Nigerian Conservation Foundation, whilst preparing a management plan for the reserve (Green & Amance, 1987).

RESULTS

Crick & Marshall (1981) compiled a list of 337 species of birds for Yankari Reserve. I have followed White (1960-65) in combining two races of *Circaetus gallicus*, reducing this list to 336 species. To this can now be added 21 new species, bringing the reserve total to 357 species. The new records are given in Appendix A.

Three years' observations have brought in supplemental information about many of the birds reported by Crick & Marshall (1981). They divide the reserve into three bird habitats; savanna, riparian forest and open floodplain. I would add two more habitats: Tonglong Canyon and human occupation zone (farmland & village). These are described below. Some villages are within 2 km of reserve boundary, and cultivations in several areas come right to the boundary. I have included birds found here in the reserve list. Appendix B contains supplemental information on bird species reported previously by Crick & Marshall (1981).

DISCUSSION

In their list of birds, Crick & Marshall (1981) indicated the habitats where the birds were recorded. This is not repeated here, except that in the Remarks column of the list in Appendix B, I have indicated cases where certain species are particularly attached to Tonglong Canyon, human occupation zone (farmland), or to one of a few special locations in the reserve described below.

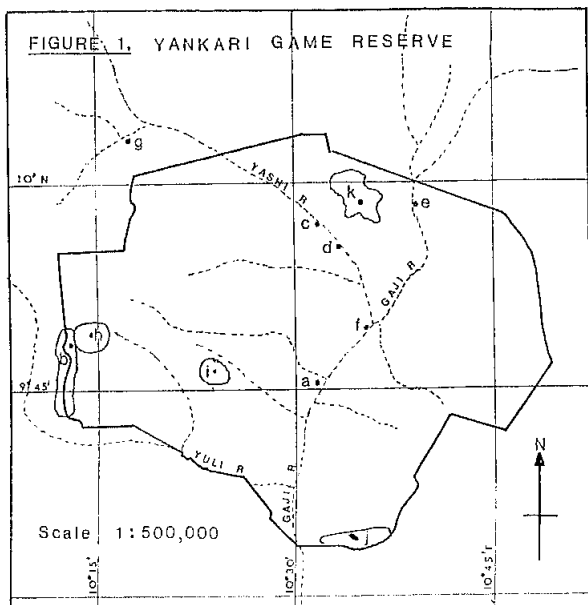


FIGURE 1. Yankari Game Reserve.

KEY

- | | |
|-------|--|
| | river or intermittant stream |
| ————— | boundary (hills, canyon, reserve) |
| . a | Wikki Spring and Hotel |
| . b | Tonglong Canyon |
| . c | Dabankuka Pond |
| . d | Galala Pool |
| . e | Dalamiri Pond |
| . f | Padama Muazu Lamido (floodplain grassland) |
| . g | Mainamaji Base Camp for Reserve |
| . h | Sha'aman Hills |
| . i | Faliyaram Hills |
| . j | Rimi Hills |

Tonglong Canyon extends about 4 km in breadth E-W and 12 km in length N-S along the western boundary of the reserve. Depths are 50 to 150 m. Flat-topped hills are stoney, open shrub savannas or have patches of dry forest. Steep cliffs drop into the canyon. Areas of dense, tall woodland savanna are interspaced with open Borassus palm tree savannas, and there are bamboo thickets and gallery forests in gorges.

Bird species which are uncommon elsewhere in the reserve but more common here include fox kestrel Falco alopex, kestrel Falco tinnunculus, red-chested cuckoo Cuculus solitarius, mottled swift Apus squatorialis, white-crowned cliff chat Myrmecocichla coronata, and black-winged red bishop Euplectes hordeaceus.

The farmlands at the reserve boundary are open fields for cultivation of maize, sorghum, millet and ground nuts. Sheep, cattle and goats are grazed in fallow land. The villages are small and of traditional style with a straw or metal roofing. Wikki, in the centre of the reserve, is a village with many modern buildings. Hooded vultures Neophron monachus, laughing doves Streptopelia senegalensis, little swifts Apus affinis, Ethiopian swallows Hirundo aethiopica and buffalo weavers Bubalornis albirostris are all common in villages. Crested larks Galerida cristata, yellow-mantled widow-birds Euplectes macrourus and pied crows Corvus alba are common in farmland, but seldom seen in the reserve.

Three ponds in the north of the reserve deserve special mention as they attract certain storks, ducks and waders uncommon or absent elsewhere in the reserve. Dabankuka is in the Yashi floodplain 22 km north of Wikki. The pond is 100 x 300 m and is adjacent to a vast floodplain grassland. Several kilometres down stream is Galala Pool, of similar size but bordered by swamp forest. Dalamiri is a series of ponds in the upper Gaji River, 27 km NE of Wikki. The main pond is nearly a kilometre long, bounded by floodplain grassland and swamp forest. Smaller ponds continue on upstream another kilometre.

Long-tailed cormorants Phalacrocorax africanus are frequent at Dalamiri, rare elsewhere. Black storks Ciconia nigra and marabou storks Leptoptilus crumeniferus come to Dabankuka and Galala Pool each dry season in groups of 2 or 3 dozen. Only the odd pair shows up farther downstream on the Gaji floodplain. Ducks, geese and waders are very uncommon anywhere in the reserve. They do occur more frequently at these ponds than elsewhere.

The ostrich Struthio camelus has been extinct in the reserve since the late 1970's. Some 70 of the reserve's 357 bird species are rare, having been recorded less than a dozen times in the past quarter century. Some species are conspicuously abundant, such as black-billed wood-dove Turtur abyssinicus, grey hornbill Tockus nasutus, and red-billed fire-finch Lagonosticta senegalensis.

About 140 species are resident in the reserve. Some of them have migrant populations, so that at certain seasons they are uncommon and at others they are common. The broad-billed roller Eurystomus glaucurus exemplifies this. The small resident population is greatly augmented during May-Aug., declines again in Sep., and becomes abundant during the annual passage migration (5-20 Oct.).

There are about 75 species subject to local movements, intra-African migrations or trans-equatorial migrations.

Another 50 species or so are Palaearctic migrants. A few species have resident African races as well as the Palaearctic race, causing a swelling of numbers in the dry season.

Some birds, after a period of absence from the reserve, have a clearly observed arrival time. Table 1 compares arrival dates of 7 species over a 3 year period.

TABLE 1. Arrival dates of seven migratory bird species over a 3 year period, Yankari Reserve, Nigeria.

Species	1985	1986	1987
<i>Ardeola ibis</i>	23/9	20/10	mid-10
<i>Ardea cinerea</i>	1/10	3/10	--
<i>Butastur rufipennis</i>	7/10	20/10	12/10
<i>Milvus migrans</i>	30/9	15/10	5/10
<i>Pterocles quadricinctus</i>	--	18/10	11/10
<i>Coracias abyssinica</i>	8/10	9/10	11/10
<i>Upupa epops</i>	8/10	15/10	1/10

Northward migrations in the early rains tend to be less clear cut. Grasshopper buzzards *B. rufipennis* gradually disappear around 25-30 June, after having been uncommon in March and April and frequent from 20 May to 20 June during their northward migration. Black kites *M. migrans* gradually disappear at the end of June. A few Abyssinian rollers *Coracias abyssinica* linger on through July. Grey hornbills *Tockus nasutus* are in passage migration north in small parties all through June and often until mid-July.

The main passage of grey hornbills south occurs between 5 and 20 October, with flocks of 50 to 100 sometimes passing over. Small flocks of white-throated bee-eaters *Merops albicollis* are in passage south the first or second week of November and passage north in mid-May. In mid-dry season the African oriole *Oriolus auratus* is uncommon, but in late March there is a sudden influx which lasts through April. Some birds remain, augmenting the rainy season population, while others are in passage north. The hoopoe *U. epops* shows a similar influx lasting from mid-March until the end of April.

Nesting records have been given in the Breeding column of the bird list in Appendix B.

CONCLUSION

In travelling around Nigeria, I became aware that it is only in forests and game reserves that there are any large areas of natural habitat for birds. But many of these reserves are undergoing ecological degradation which will soon render them useless. Yankari has suffered 30 years of

intensive dry season bush fires, has suffered many consecutive years of drought, and is presently suffering from herdsmen who bring hundreds of head of sheep and cattle into the reserve from March through to July. They cut branches of Azelia africana, Pterocarpus erinaceus, etc. to feed their livestock until the grasses begin to grow in June. From fire, drought, and cutting, the Azelia savanna woodlands are rapidly being destroyed. Perennial grasses have already been replaced by forbs over vast areas. Large game mammals are being slaughtered by poachers. Many species of bird will be at risk if these trends continue. The State Government has received a management plan for salvaging the reserve (Green & Amance 1987) but has not acted upon it yet. The hope for the avifauna of Yankari Reserve lies in proper reserve management.

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SUMMARY

From 1985-88 21 new species of birds were recorded in Yankari Game Reserve, Nigeria, bringing the reserve list to 357 species. New information was gathered about abundance, movements and nesting of previously recorded species. About 40% of the species were resident throughout the year. Another 20% exhibited local movements or migrations, and were absent from the reserve for certain periods. About 15% were Palaearctic migrants. 20% of species were rare, and half of these were only recorded once. Due to fire, drought, destruction of trees by herdsmen and poaching, the ecosystem with its avifauna is at risk.

RESUME

Pendant trois ans (1985-1988), alors qu'il résidait dans la Réserve de Faune de Yankari au Nigéria, l'auteur enregistra 21 nouvelles espèces d'oiseaux, portant la liste de la Réserve à 357 espèces. De nouvelles données furent rassemblées sur l'abondance, les mouvements et la nidification des espèces déjà connues. Environ 40% des espèces sont résidentes tout l'année; 20% font des mouvements locaux ou des migrations et sont absentes de la Réserve un certain temps; 15% environ sont des migrateurs paléarctiques; 20% des espèces sont rares et la moitié n'a été notée qu'une seule fois. Du fait des feux de brousse, de la sécheresse, de la destruction des arbres par les bergers, du braconnage et notamment à cause de l'inaction des autorités compétentes cet écosystème et son avifaune sont menacés de disparition.

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APPENDIX A. Annotated list of 21 new bird records for Yankari Game Reserve, Nigeria

Sequence and scientific nomenclature follow Serle & Morel (1977) in order to conform to the list of Crick & Marshall (1981).

Botaurus stellaris: One at Gaji River 14/2/87.

Anas querquedula: A pair on pond at Dabankuka, Yashi River floodplain, 22 km north of Wikki, on 15/12/87.

Neophron percnopterus: A juvenile (photographed) with other vultures at Gaji River floodplain on 30/6/86.

Circus macrourus: A male over shrub savanna 30/11/85, two more sightings in Jan. & Feb. 1986, and two sightings at Duke Wells (north of reserve) on 14/2/87 & 7/1/88.

Circus pygargus: One over Gaji River floodplain 30/4/86, and a male there again on 15/12/87.

Gallinula chloropus maridionalis: Recorded by Geeerling (1976), but rejected by Crick & Marshall (1981). Two pairs at Makka floodplain on Yashi River 13 km NE of Wikki and another pair on a pond near Guruntun Bridge 6 km south of Wikki from 19/11/85 to 18/2/86.

Charadrius forbesi: One in the Shau Shau Hills, 24 km north of Wikki on 27/1/86.

Cursorius temminckii: One on football field at Wikki on 3/4/87.

Glareola cinerea: One at flooded Gaji River floodplain at Muazu Lamido 11 km NE of Wikki during 14-15/7/85.

Larus cirrocaphalus: One at flooded Gaji River floodplain at Muazu Lanido 11 km NE of Wikki during 14-15/7/85.

Turnix sylvatica: Appearing in mid-May, common July-Nov., a few Dec., and not seen after mid-Jan. each year. Breeding with fledglings July-Aug. 86 & 87. Probably a local migrant.

Bubo lacteus: One in a baobab tree at noon 7/1/87 in north of the reserve, 30 km north of Wikki, near Yashi River.

Lybius leucocephalus: One in tree savanna between Debankuka and the Shau Shau Hills on 8/6/87.

Hirundo abyssinica: A dozen in a tree on Sha'aman Hill 29 km NW of Wikki on 9/7/86. A pair along the Gaji River on 29/7/87.

Hirundo fuligula: Pairs or groups of 6 or 8 frequent in Tonglong Canyon on western edge of the reserve during June-Sep. each year. (Tonglong was seldom visited in the dry season.)

Psalidoprocne obscura: A pair soaring over tree savanna beneath western escarpment of Sha'aman Hill 9/7/85.

Myrmecocichla nigra: Occasional sightings throughout the year in Afzelia woodland savanna and at Tonglong Canyon.

Prinia erythroptera: A pair in shrub savanna in northeast of the reserve near Jada village on 12/7/85.

Bubalornis albirostris: Nesting July-Sep. each year in villages adjacent to southeast boundary of reserve.

Euplectes macrourus: Frequent, in breeding dress July-Sep. each year in farmland adjacent to southeast boundary of the reserve.

Amandava subflava: A large flock in shrubs in ironstone capped Faliyaram Cave Hill 11 km west of Wikki on 9/8/87.

APPENDIX B. Annotated list of birds previously reported for Yankari Game Reserve, Nigeria, giving new information supplement that of Crick & Marshall (1981)

This list contains only those species reported by Crick & Marshall (1981) for which new information is available from observations 1985-88. See their paper for the complete bird list. Appendix A to this paper contains an additional 21 species previously unrecorded.

Sequence and scientific nomenclature follow Serle & Morel (1977) unless indicated otherwise in the Remarks column.

Relative abundance and presence are indicated by symbols in the Months columns. A = abundant (10+ obs. daily), C = common (1+ obs. daily), F = frequent (likely obs. daily), O = occasional (few obs. monthly), and R = rare.

Breeding is indicated by numerals indicating month of year (1 = Jan, etc.) in Breed column.

Status is given in Remarks column. RES = resident, PM = palaeartic migrant, TM = trans-equatorial migrant, LM = local movement and intra-African migrant.

A numeral in parantheses in the Remarks column indicates a note at the end of the list.

Species	Months												Breed	Remarks
	Wet season						Dry season							
	M	J	J	A	S		O	N	D	J	F	M		
<i>Phalacrocorax africanus</i>	F	F	F				F	F	F	F				Frequent Dalamiri
<i>Ixobrychus sturmii</i>		0	0							0				--
<i>Ardeola ibis</i>	A	C	F	O	R		F	C	A	A	A	A	7-8	(1), nest villages
<i>Butorides striatus</i>	0	0	0	0	0		0	0	0	0	0	0	8-9	RES, Chick 16/10/86
<i>Egretta intermedia</i>	0	0	0						0	0	0	0		--
<i>Egretta garzetta</i>	0	0	R		R		0	0	0	0	0	0		PM
<i>Ardea cinerea</i>	0	0	0	R	R		0	0	0	0	0	0	7-8	RES/PM nest village
<i>Ardea melanocephala</i>	0	0	0	0	0		0		R	0	0	0	7-8	LM, nest village
<i>Ciconia nigra</i>							0	0	0	0	0	0		PM, Dabankuka and Galala
<i>Ciconia abdimii</i>	C	C	C	C	C		C	0			0	C	6-9	(2) TM nest village
<i>Anastomus lamelligerus</i>							0	0	0	0	0	0		LM, absent 87 & 88
<i>Leptoptilus crumeniferus</i>								0	0	0	0	0		LM, Dabankuka and Galala
<i>Plectropterus gambensis</i>			R					R	R	R	R	R		LM, Dabankuka
<i>Aegyptius tracheliotus</i>	0	0	0	0	0		0	0	0	0	0	0	11-3	RES, nest 87-88
<i>Trigonoceps occipitalis</i>	0	0	0	0	0		0	0	0	0	0	0	11-3	LM, 3-4 nests/year
<i>Gyps rueppellii</i>	0	0	0				0	0	0	0	0	0		LM, absent 6/85 - 11/87
<i>Gyps benegalensis</i>	C	C	C	C	C		C	C	C	C	C	C	12-5	(3), RES
<i>Circus aeruginosus</i>								R	R	R	R	R		PM, absent 86-88
<i>Circaetus gallicus</i>					0			0	0	0	0	0		(4), RES & PM
<i>Circaetus cinereus</i>	F	0	0	0	R		F	F	F	F	F	F		RES
<i>Circaetus cinerascens</i>				R			0	0	0	0	0			Near Gale 27/8/85
<i>Accipiter badius</i>	0	F	F	F	0		0	0			0	0		--
<i>Accipiter ovampensis</i>	R	R							R					LM
<i>Melierax metabates</i>	0	F	F	F	F		F	F	0	0	0	0	3-4	RES & LM
<i>Melierax gabar</i>	F	F	0	0	R		0	F	F	F	F	F		RES & LM
<i>Butastur rufipennis</i>	F	F					F	F	F	F	F	F		LM
<i>Buteo auguralis</i>	0	F	F	0	R		R	0	0	0	0			LM passage migrant
<i>Lophoaeetus occipitalis</i>	R							R	R	R	R	R		--
<i>Hieraetus spilogaster</i>	0	0					0		0	0	0	0		--
<i>Milvus migrans</i>	C	0		0			C	C	C	C	C	C	1	LM C farm/O reserve
<i>Elanus caeruleus</i>	0	0	0	0	0		0	0	0	0				LM
<i>Machaerhamphus alcinus</i>	R						R			R				--
<i>Pandion haliaetus</i>							R	R	R	R	R			PM
<i>Falco biramicus</i>								R	R	R				LM
<i>Falco cuvieri</i>	0	0	0				0	0	0	0	0	0		--
<i>Falco ardosiaceus</i>	F	F	F	0			0	F	F	F	F	F		LM
<i>Falco tinnunculus</i>				R				0	0	0				PM & RES Tonglong
<i>Falco alopex</i>	C	C	C	C	C		C	C	C	C	C	C	1,4-6	RES, C Tonglong
<i>Sagittarius serpentarius</i>				R				R	R	R	R			--
<i>Francolinus albobularis</i>	0	0	0	0	0		0	0	0	0	0	0	1	RES
<i>Francolinus bicalcaratus</i>	C	C	C	C	C		C	C	C	C	C	C	10-12	RES, chicks 10-1
<i>Ptilopachus petrosus</i>	C	C	C	C	C		C	C	C	C	C	C	rains	RES

<i>Numida meleagris</i>	A A A A A	A A A A A A A	rains	RES, chicks 8-11
<i>Limnocorax flavirostra</i>	F F F F F	F F F F F F F	5&9-10	RES
<i>Porphyrio alleni</i>	C C O	O O	O	LM
<i>Eupodotis senegalensis</i>	R			(5)
<i>Eupodotis melanogaster</i>	F C C C C	F F F F F F F	rains	RES juveniles 10-12
<i>Burhinus capensis</i>	O	O O O O	O	--
<i>Vanellus spinosus</i>	C C C F O	F C C C C C C	3-4	LM
<i>Vanellus senegallus</i>	C C C F O	F C C C C C C	4-6	LM
<i>Tringa nebularia</i>		O O		(5), PM
<i>Tringa hypoleucos</i>	R	O O O O O O O		PM
<i>Gallinago gallinago</i>		O O O O		PM
<i>Cursorius chalcopterus</i>	O O O O O	O O O O O O O	4	RES, chicks 2/5/86
<i>Pterocles quadricinctus</i>	F F O O	A F F F F F F	11-1	LM, migration Oct.
<i>Columba guinea</i>	C C C C C	C C C C C C C		RES, C Tonglong/ O Gaji
<i>Treron waalia</i>	F F F F F	F F F F F F F		RES
<i>Psittacula krameri</i>	O O O O O	O O O O O O O		RES
<i>Musophaga violacea</i>	O O O O O	O O O O O O O		RES
<i>Clamator glandarius</i>	R R	R		--
<i>Clamator levaillantii</i>	O O O O		O	LM
<i>Cuculus solitarius</i>	C C C C C	C		C Tonglong/O Gaji
<i>Otus leucotis</i>		O O O O O O O		RES
<i>Bubo africanus</i>	C C C C C	C C C C C C C	2-5	RES
<i>Glaucidium perlatum</i>	C C C C C	C C C C C C C		RES
<i>Caprimulgus inornatus</i>	O F F O		O	LM
<i>Caprimulgus climacurus</i>	F O	O	F	LM, passage migrant
<i>Macrodipteryx longipennis</i>	F C	A C C C C C C	3-4	(6), LM, juvenile May
<i>Macrodipteryx vexillarius</i>	O O O			TM, passage 20/6 - 20/7
<i>Apus aequatorialis</i>	O O O O		R	O Tonglong/R Reserve
<i>Apus apus</i>		R		PM 24 Wikki 9/10/86
<i>Apus affinis</i>	F F F F F	F F F F F F F		PM & RES, F Farm/ O Res
<i>Apaloderma narina</i>	O O O	R	R	--
<i>Ceryle maxima</i>	O O O	O O O O O O O		LM
<i>Alcedo quadibrachys</i>	R R R R R			--
<i>Alcedo cristata</i>	O O O O	O O O O O O O		RES
<i>Ceyx picta</i>	F F F F F	F F F F F F F		RES
<i>Halcyon senegalensis</i>	O O C C C	C C O O O O		LM
<i>Halcyon malimbica</i>	O C C C C	C C O O O O		LM
<i>Halcyon chelicuti</i>	C C C C C	C C C C C C C		RES
<i>Merops orientalis</i>	O	O O O		shrub savanna
<i>Merops hirundineus</i>	O O F	O	O O	LM
<i>Coracias abyssinica</i>	A F O R	C A A A A A A		LM
<i>Coracias cyanogaster</i>	O O O O O	O O O O O O O	8	RES, nest Gale
<i>Eurystomus glaucurus</i>	C C C C O	A O O O O O O		RES/LM migrate 5&10
<i>Upupa epops</i>	F O	A F F F F A A		PM/LM, migrate 3-4 & 10
<i>Phoeniculus aterrimus</i>	O C C C C	C C C O O O O		RES/LM influx 6&10
<i>Dendropicos fuscescens</i>	O O	O O O		--
<i>Dendropicos obsoletus</i>		O O	O	--
<i>Eremopterix leucotis</i>	F	F C C	F F	--
<i>Galerida cristata</i>	F F F F F	F F F F F F F	12	RES, F farm/R res

<i>Riparia riparia</i>				0 0 0 0		PM, 50 Gaji 10/4/87
<i>Hirundo rustica</i>	R		0 0	0 0 0		PM/LM, 500+ 18/4/87
<i>Hirundo aethiopica</i>	C C C C C	C C C C C C C			6-7	RES, C farm/O res
<i>Hirundo semirufa</i>	F F F F O	F O O O O				LM
<i>Hirundo senegalensis</i>	0 0 0 0 0	0 0	0 0 0 0		6-8	LM nest Wikki, Fali
<i>Hirundo daurica</i>	0	0	0 0 0 0			--
<i>Anthus leucophrys</i>	0		0 0 0			--
<i>Prionops plumata</i>	C C C C F	F F F F F F F				RES
<i>Nilaus afer</i>	0 0 0 0	0	0 0 0 0			RES
<i>Tohagra senegala</i>	C C C C C	F F F F F F F				RES
<i>Malaconotus blanchoti</i>	F F F F F	F F F F F F F				RES
<i>Oriolus auratus</i>	F F F F F	F F F F F F F				LM, influx late 3-4
<i>Corvus albus</i>	C C C C C	C C C C C C C				RES, C farm/R res
<i>Cercomela familiaris</i>	F F F	F	F F F			--
<i>Myrmecocichla aethiops</i>	C C C C C	C C C C C C C				RES, C farm/F res
<i>Myrmecocichla coronata</i>	0 0 0 0	0				(7), Tonglong F/O
<i>Phoenicurus phoenicurus</i>			0 0 0 0			PM
<i>Cossypha niveicapilla</i>	F C C C C	C F F F F F F				RES
<i>Luscinia megarhynchos</i>		C C				PM
<i>Turdus pelios</i>	F F F F F	F F F F F F F				RES
<i>Acrocephalus rufescens</i>	0			0		Galala Pool
<i>Phylloscopus trochilus</i>		C C				PM
<i>Phylloscopus sibilatrix</i>		F F				PM
<i>Cisticola rufiges</i>	0 0		0			--
<i>Prinia subflava</i>	C C C C C	C C C C C C C				RES
<i>Hypergerus atriceps</i>	0 0 0 0 0	0 0 0 0 0 0 0			7-8	RES
<i>Cameroptera brachyura</i>	F F F F F	F F F F F F F				RES
<i>Sylvietta brachyura</i>	F F F F F	F F F F F F F				RES
<i>Bradornis pallidus</i>	0 0	0 0 0 0 0 0				RES
<i>Nectarinia senegalensis</i>	0 F F F O	0 0 0 0 0 F O				RES & LM
<i>Nectarinia pulchella</i>	F C C C F		F F F F			LM
<i>Emberiza forbesi</i>	C C C C F	F	F F			--
<i>Emberiza tahapisi</i>	C C C C C	C C C C C C C				RES, Tonglong hills
<i>Serinus mozambicus</i>	C C C C C	C C C C C C C				RES, Wikki & farm
<i>Serinus leucopygius</i>	F F F F F	F F F F F F F				RES
<i>Serinus gularis</i>	0	0	0			--
<i>Ploceus velatus</i>	R R R				6-8	12 nests Mai-ari
<i>Quelea erythroptus</i>	0 0 0					Gaji River
<i>Quelea quelea</i>	C C C C					C farm/O reserve
<i>Euplectes afer</i>	F F F F F	F F		F	7-8	RES
<i>Euplectes hordeaceus</i>	C C C C	C C			8-9	C Tonglong/F Gaji
<i>Euplectes orix</i>	C C C C	C C			8-9	RES
<i>Plocepasser superciliosus</i>	0 0 0	0 0		0		--
<i>Sporopipes frontalis</i>	0 0	0 0	0 0			RES
<i>Vidua macroura</i>	C C C C	C C				C farm/O reserve
<i>Nesocharis capistrata</i>	R R			R		attempt nest Wikki
						85
<i>Pytilia melba</i>	R R R	R				--
<i>Estrilda melpoda</i>	F F F F F	F F F F F F F				RES
<i>Estrilda troglodytes</i>	R R R	R R				--
<i>Lonchura malabarica</i>	F F F F F	F F F F F F F				RES

(1) *Ardeola ibis*: Nesting in villages SE of reserve July-August, but along Gaji River only occasional in July and disappearing by mid-August. Return to reserve 23/9/85 and 20/10/86 and mid-October

1987.

- (2) *Ciconia abdimii*: Occasional in reserve March through July, absent August-September, returning October. In farmland common March-October, disappearing late October or early November. Twenty birds at Wikki 4/3/87. Largest flock, 200 over Wikki 3/5/86. Latest in reserve, 60 at Gaji River 19/10/85.
- (3) *Gyps bengalensis*: Very common and nesting at Tonglong, widespread and less common elsewhere in the reserve. Up to 660 birds at elephant and hippo carcasses 87 & 88.
- (4) *Circaetus gallicus*: Both *C. g. gallicus* and *C. g. beaudouini* occur. Marshall & Crick (1981) listed these as separate species, but I have followed White (1960-65) in considering them unispecific.
- (5) *Eupodotis senegalensis* & *Tringa nebularia*: Recorded by Geerling (1976) without specifying dates.
- (6) *Macrodipteryx longipennis*: Passage migration mid-October each year. One bird per kilometre on roads in reserve night of 15/10/86. Standard remigers growing: 2 cm on 3/10/85, 19 cm on 30/10/85, fully developed 27/11/85. Many young birds on reserve roads 10-20 May indicate breeding March-April each year.
- (7) *Myrmecocichla coronata*: I prefer to consider the white-crowned cliff chat to be a separate species from cliff chat *M. cinnomeiventris*, in accordance with observations by Green (1980) and by Cheke (1982).