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February / février 2010

# THE BIRDS OF YANKARI GAME RESERVE, NIGERIA:

# THEIR ABUNDANCE AND SEASONAL OCCURRENCE

by H. Q. P. Crick and P. J. Marshall

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## INTRODUCTION

The avifauna of Yankari, Nigeria's foremost Game Reserve, has already received some attention in print, with reports in this journal (Dyer & Gartshore 1975, 1976, Pettet 1976, Skilliter 1976, Geerling 1978, Sharland 1978) and elsewhere (Fry 1964, Geerling 1976). We are now able to provide considerably more comprehensive information, as a result of our 2½ years residence in the Reserve from 1979 to 1981. P.J.M. was employed there as Wildlife Officer and H.Q.P.C. was investigating the biology of the bee-eater *Merops bullocki*; our observations of the avifauna were incidental to these employments and are thus of an *ad hoc* nature. Very few observations were made in August.

Yankari Game Reserve, about 100 km south-east of Bauchi, is situated between 10°15' and 10°45' East and between 9°30' and 10°00' North. It consists of 2240 km$^2$ set in Northern Guinea Savanna (Geerling 1973) and the River Gaji flows perennially from north to south through the reserve. The altitude varies from about 240 m in the river valley rising gradually to about 400 m on either side. The average annual rainfall is about 1000 mm, occurring mainly between April and October.

In the following tabulation, which includes all previous records as well as about 50 new species, nomenclature and sequence follow Serle & Morel (1977: pp. 295f. rather than 263f. where the sequences are slightly different).

X indicates the months in which a species has been recorded; or
B if breeding.
*br* indicates a species known to breed, but season not recorded.

Habitat : S savanna.
R riparian and evergreen forest.
F floodplain (locally called *fadama*) including open sections of the River Gaji.
U ubiquitous - no clear habitat preference.

Status : *c* common *u* uncommon *o* occasional *r* rare

Ratings signify probable real abundance. For example, we give *Ephippiorhynchys senegalensis* as uncommon because it is frequently seen although there are probably no more than ten in the whole reserve; *Malaconotus blanchoti* is also rated as uncommon because it is difficult to observe although probably numbering hundreds. Species recorded by only a single observer are not given an abundance rating.

Observers: initials show the observer who first recorded each species - RC R. Coulthard, HC H.Q.P. Crick, AD A. Demeter, JE J.H. Elgood, HF C.H. Fry, CG C. Geerling, DG M. Dyer & M.E. Gartshore (M.E. Dyer), JJ J. Jia, JL J. Lang, PM P.J. Marshall, JN J. Noel, AP A. Pettet, RP R.B. Payne, MS M. Skilliter, RS R.E. Sharland, SS S.K. Sikes, JW J.B. Wood, RW R. Wilkinson.

| SPECIES | MONTHS J F M A M J J A S O N D | REMARKS |
|---|---|---|
| *Struthio camelus* | X X | S,r,JJ,(Note 1) |
| *Pelecanus rufescens* | | F,r,JE/JW |
| *Phalacrocorax africanus* | X | F,r,CG |
| *Anhinga rufa* | | F,r,JE |
| *Ixobrychus minutus* | X X X X X X | F,r,CG |
| *I. sturmii* | X | F,r,CG |
| *Nycticorax nycticorax* | X X | F,r,SS |
| *Ardeola ralloides* | X X X X X X X X X X X | F,c,CG |
| *A. ibis* | X X X X X X X X X X | U,c,SS |
| *Butorides striatus* | X X X X X X X B X X X | br,F/R,u,CG |
| *Egretta alba* | X X X X X X X X X X X | F,u,HF |
| *E. intermedia* | X X X X X X | F,o,DG |
| *E. ardesiaca* | X X X | F,o,CG |
| *E. garzetta* | X X X X X X X X X X | F,u,SS |
| *Ardea cinerea* | X X X X X X X X X | F,u,RC |
| *A. melanocephala* | X X X | U,o,CG |
| *A. goliath* | X X X X X X X X X | F,u,HF |
| *A. purpurea* | X X X X X X X X X | F,u,CG |
| *Scopus umbretta* | X X X X X X X X X X X X | br,F/R,c,SS |
| *Ciconia nigra* | X X X X X X | F,o,CG |
| *C. abdimii* | X X X X X | S/F,u,RC |
| *C. episcopus* | X X X X X X X X X X | F,u,SS |
| *Ephippiorhynchus senegalensis* | X X X X X X X X X X X X | F,u,SS |
| *Anastomus lamelligerus* | X | F,r,DG |
| *Leptoptilos crumeniferus* | X X X X X | U,o,SS |
| *Ibis ibis* | X X X X X | F,r,JE/JW |
| *Threskiornis aethiopica* | X X X X X X X | F,u,RC |
| *Bostrychia hagedash* | X X X X B B X X X X X X | br,F,c,HF |
| *Plegadis falcinellus* | X X X X | F,r,SS |
| *Platalea alba* | | F,MS |
| *Dendrocygna viduata* | X X X X X X X X X X | F,u,CG |
| *Plectropterus gambensis* | X X X | F,r,CG |
| *Sarkidiornis melanota* | X X X | F,r,CG |
| *Nettapus auritus* | X | F,r,JN |

| SPECIES | MONTHS J | F | M | A | M | J | J | A | S | O | N | D | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Aegypius tracheliotus* | B | | | | | X | | | | X | | X | *br,U,o,CG,* (Note 2) |
| *Trigonoceps occipitalis* | B | X | B | | X | X | X | | X | X | X | B | *br,U,o,RC,* (Note 2) |
| *Gyps rüppellii* | X | | X | X | X | | X | | | | | | U,*o*,CG, (Note 2) |
| *G. bengalensis* | X | X | X | B | B | X | X | X | X | X | X | X | *br,U,c,*RC |
| *Neophron monachus* | B | X | X | X | X | X | X | X | X | X | X | X | *br,U,c,*RC |
| *Gypohierax angolensis* | B | X | X | X | X | X | X | X | X | X | X | X | *br,U,c,*HF |
| *Circus aeruginosus* | X | X | X | | | | | | | | | X | F,*r*,HF |
| *Polyboroides radiatus* | X | X | X | X | X | X | X | X | X | X | X | X | U,*u*,HF |
| *Terathopius ecaudatus* | B | X | X | X | X | X | X | X | X | X | X | X | *br,S,u,*RC |
| *Circaetus gallicus* | | | | X | | | | | | | | | *r*,DG |
| *C. beaudouini* | | | | X | | | | | X | | X | | *r*,HF |
| *C. cinereus* | | X | X | X | X | X | | | X | X | X | X | U,*o*,CG |
| *C. cinerascens* | X | X | | | | | | | | | X | | *r*,DG |
| *Accipiter melanoleucus* | X | X | X | | | | | | | | X | | *r*,CG |
| *A. badius* | | X | X | X | X | X | | X | X | X | X | | U,*o*,HF |
| *A. erythropus* | | X | | | | | | | | | | | R,*r*,CG |
| *A. ovampensis* | | | | | | | | | | | X | | *r*,CG |
| *Melierax metabates* | X | X | B | X | X | X | X | X | X | X | X | X | *br,U,u,*HF |
| *M. gabar* | X | X | X | X | | | | | | X | X | X | U,*u*,CG |
| *Kaupifalco monogrammicus* | X | X | X | X | X | X | X | X | | X | X | X | R,*u*,HF |
| *Butastur rufipennis* | X | X | X | X | X | | | | | | X | X | F,*u*,RC |
| *Buteo auguralis* | X | X | | | X | X | | X | | | X | X | U,*o*,CG |
| *Lophaetus occipitalis* | | X | | | | X | | | | | | X | U,*r*,PM |
| *Polemaetus bellicosus* | X | | X | X | X | | | X | | X | X | X | U,*o*,SS |
| *Hieraaetus spilogaster* | | X | | X | X | | | | | X | | | U,*o*,DG |
| *Aquila rapax* | | X | | | X | | X | X | | X | | | U,*o*,CG |
| *A. wahlbergi* | X | | | | X | X | X | | | X | X | X | R/F,*o*,CG |
| *Haliaetus vocifer* | B | X | X | X | X | X | X | X | X | X | X | X | *br*,F/R,*o*,SS |
| *Milvus migrans* | B | X | X | X | X | X | | | | X | X | X | *br,U,o,*RC |
| *Aviceda cuculoides* | | | | X | | X | X | | | | X | | F/R,*o*,DG |
| *Elanus caeruleus* | | | | | | X | | | | | X | X | F,*r*,CG |
| *Macheirhamphus alcinus* | | | | | | X | | | | | X | | U,*o*,DG |
| *Pandion haliaetus* | X | | X | | | | | | | | | | F,*r*,PM |
| *Falco biarmicus* | X | | | X | | | | | | | | | U,*r*,CG |
| *F. peregrinus* | | | | | | | | | | | X | | U, HC |
| *F. cuvieri* | | X | X | X | | X | X | | | | | X | U,*o*,CG |
| *F. subbuteo* | | | X | | | | | | | | | | *r*,DG |
| *F. chicquera* | X | B | | | X | | | | | X | X | X | *br,U,o,*CG |
| *F. ardosiaceus* | X | X | X | X | X | X | X | | | X | X | X | F,*o*,HF |
| *F. vespertinus* | X | | | | | | | | | | | | CG |
| *F. tinnunculus* | | X | | | | | | | | | | | JL |
| *F. alopex* | B | X | X | B | X | B | B | | | | | X | *br,S,o,*RC |
| *Sagittarius serpentarius* | X | | X | X | | | | | | | | X | F/S,*o*,CG |
| *Francolinus albogularis* | | | | | | | | | | | | X | S,*r*,CG |
| *F. bicalcaratus* | X | X | X | X | X | X | X | X | X | X | X | X | U,*c*,HF |
| *Ptilopachus petrosus* | X | X | X | X | X | X | X | | X | X | X | X | S/R,*u*,RC |
| *Numida meleagris* | X | X | X | X | X | B | X | X | X | X | X | X | *br,U,c,*RC |

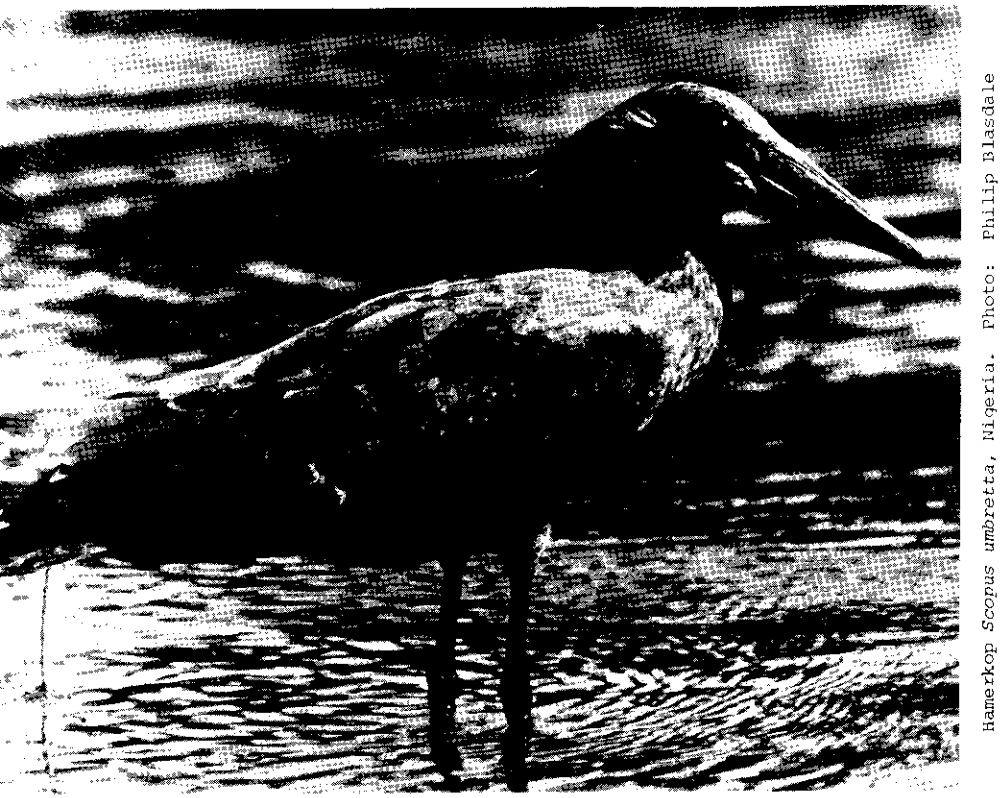
| SPECIES | MONTHS J F M A M J J A S O N D | REMARKS |
|---|---|---|
| *Crex egregia* | X X X | F,r,RC |
| *Limnocorax flavirostra* | X X X X B X X X X X X | br,F,u,CG |
| *Sarothrura pulchra* | X | F/R,r,DG |
| *G. angulata* | X X X X X X X | F,o,SS |
| *Porphyrio alleni* | X X X X X | F,o,JN |
| *Podica senegalensis* | X X X X | F/R,r,SS |
| *Balearica pavonina* | X X | F,r,SS |
| *Otis arabs* | X | S,r,JE/JW |
| *Neotis denhami* | X X X B X X | br,S,o,RC |
| *Eupodotis senegalensis* | | S,r,CG |
| *E. melanogaster* | X X X X X X | S,u,RC |
| *Actophilornis africana* | X X X X B X X X X X X X | br,F,c,SS |
| *Burhinus senegalensis* | X X X X B X X X X X X X | br,F,u,HF,(Note 3) |
| *B. capensis* | X X X | br,S,u,CG,(Note 3) |
| *Vanellus spinosus* | X X X X X X X X X X X | S/F,c,CG |
| *V. tectus* | X B X X X | br,S,o,CG |
| *V. albiceps* | X X X X X | S/F,o,DG |
| *V. lugubris* | X | CG |
| *V. senegallus* | X X X X X B X X X X X X | br,S/F,c,SS |
| *Charadrius dubius* | X X | F,HC |
| *C. tricollaris* | X | F,r,HC/PM |
| *Tringa nebularia* | | F,CG |
| *T. glareola* | X X X X X X X X | F,u,CG |
| *T. ochropus* | X X X X X X | F,o,CG |
| *T. hypoleucos* | X X X X X X | F,u,CG |
| *T. totanus* | X | F,r,HC/PM |
| *T. erythropus* | X X | F,r,HC/PM |
| *Gallinago gallinago* | X X X | F,o,CG |
| *G. media* | X X X X | F,o,DG |
| *Calidris minuta* | X X | F,r,HC |
| *Philomachus pugnax* | X X X | F,o,HC |
| *Himantopus himantopus* | X X X X X X | F,o,CG |
| *Rostratula benghalensis* | X X X X | F,o,CG |
| *Pluvianus aegyptius* | | F,PM |
| *Cursorius chalcopterus* | X X | S,r,CG |
| *Sterna hybrida* | X | F,r,HC/PM |
| *S. leucoptera* | X X X X X X | F,o,DG |
| *Pterocles quadricinctus* | B X X X X X B X | br,S,u,RC |
| *Columba guinea* | X X X X X X X X | U,u,HF |
| *Streptopelia semitorquata* | X X X X X X X X X X X X | R,c,HF |
| *S. turtur* | X | r,CG |
| *S. lugens hypopyrrhus* | X X X X X | R,o,JW |

| SPECIES | MONTHS J F M A M J J A S O N D | REMARKS |
|---|---|---|
| *S. decipiens* | X | AP |
| *S. vinacea* | X X X X X X X X X X X X | U,*c*,HF |
| *S. senegalensis* | X X X X X X X X X X X X | U,*u*,CG |
| *Oena capensis* | X X X X X X X X | U,*o*,CG |
| *Turtur afer* | X | R,*r*,HC |
| *T. abyssinicus* | X X X X X X X X X X X X | R,*c*,HF |
| *Treron australis* | X X X X X X | R,*o*,DG |
| *T. waalia* | X X X X X X X X X X | R,*u*,HF |
| *Poicephalus senegalus* | X X X X X X X X X X X X | *br*,U,*u*,SS |
| *Psittacula krameri* | X X X X X X X X X X | S/R,*o*,HF |
| *Tauraco persa* | X | R,*r*,CG |
| *Musophaga violacea* | X X X X X X X X X X | R,*u*,HF |
| *Crinifer piscator* | X X X X X X X X X X X X | U,*u*,SS |
| *Clamator glandarius* | X | *r*,HC |
| *C. jacobinus* | X X X | *r*,HC |
| *C. levaillantii* | X X X | *r*,AP |
| *Cuculus solitarius* | X | R,*r*,DG |
| *C. clamosus* | X X | *r*,DG |
| *C. canorus* | X X X X X X X | U,*o*,CG |
| *Chrysococcyx klaas* | X X X X X | R,*o*,CG |
| *C. caprius* | X X X X X X | R,*u*,CG |
| *C. cupreus* | X X | R,*o*,RS |
| *Ceuthmochares aereus* | X X X X | R,*o*,HC |
| *Centropus monachus* | | F,DG |
| *C. senegalensis* | X X X X X X X X X X X X | F/R,*c*,SS |
| *Tyto alba* | X X X | U,*r*,AD |
| *Otus scops* | X X X X X X X X X X X X | S/R,*c*,SS |
| *O. leucotis* | X X X | S/R,*o*,HF |
| *Bubo africanus* | X X X X X X X X X X | S,*c*,CG |
| *Scotopelia peli* | X X X X X | R,*o*,DG |
| *Glaucidium perlatum* | X X X X X X X X X X | S,*c*,CG |
| *Caprimulgus inornatus* | X X | S,*r*,DG/HC |
| *C. climacurus* | X X | S/F,*u*,AD |
| *Macrodipteryx longipennis* | X X X X X X | S,*c*,SS |
| *M. vexillarius* | X X | S,*r*,AD |
| *Apus melba* | | U,AP |
| *A. aequatorialis* | X | U,*r*,AP |
| *A. apus* | | U, DG |
| *A. affinis* | X X X X X X X | U,*u*,CG |
| *Cypsiurus parvus* | X X X X X X X X X X X X | *br*,F,*c*,HF |
| *C. ussheri* | X X X | U,*r*,HF |
| *Apaloderma narina* | X X X | R,*u*,AD |
| *Ceryle maxima* | X X X X X X X X X | F/R,*o*,SS |

| SPECIES | MONTHS J | F | M | A | M | J | J | A | S | O | N | D | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *C. rudis* | X | X | X | X | X | X | X | X | | X | X | X | F,u,SS |
| *Alcedo quadribrachys* | | | | | X | | | X | X | | | | R,r,HC |
| *A. cristata* | X | X | X | X | X | X | X | X | | X | X | X | F/R,u,HF |
| *Ceyx picta* | X | | | X | X | X | X | X | X | X | X | X | br,U,c,SS |
| *Halcyon senegalensis* | X | X | | | X | X | X | X | X | X | X | X | U,u,CG |
| *H. malimbica* | X | X | X | X | X | X | X | X | X | X | X | X | R,u,SS |
| *H. chelicuti* | | X | | X | X | X | | X | X | X | | X | R,u,SS |
| *H. leucocephala* | X | X | X | B | X | X | X | X | X | X | X | X | br,U,c,HF |
| *Merops orientalis* | | X | X | | | | | | | | | X | S/F,r,HF |
| *M. nubicus* | X | X | X | X | X | | | | | X | X | X | U,c,CG |
| *M. albicollis* | | | | X | X | X | | | | X | X | | U,u,CG |
| *M. pusillus* | X | X | X | X | X | X | X | X | X | X | X | X | F,u,CG |
| *M. bullocki* | B | B | B | B | X | X | X | X | X | X | X | X | br,U,u,HF |
| *M. hirundineus* | | | X | X | X | | | | | X | | | U,o,CG |
| *Coracias abyssinica* | X | X | X | X | X | B | X | | X | X | X | X | br,S,c,RC |
| *C. naevia* | X | X | X | B | X | X | X | X | X | X | X | X | br,S,u,SS |
| *C. cyanogaster* | X | X | X | X | X | X | X | X | | X | X | X | S,o,HF |
| *Eurystomus glaucurus* | | | | X | X | X | X | X | | X | X | | U,c,CG |
| *Upupa epops* | X | X | X | X | X | | | | | X | X | X | br,S,o,RC |
| *Phoeniculus purpureus* | X | X | X | X | X | X | X | X | X | X | X | X | br,S/R,c,HF |
| *P. aterrimus* | B | X | X | X | X | X | X | | X | X | X | X | br,S,u,HF |
| *Tockus nasutus* | X | X | X | X | X | X | X | X | X | X | X | X | U,c,SS |
| *T. erythrorhynchus* | X | X | X | X | X | X | X | X | X | X | X | X | U,c,SS |
| *Bucorvus abyssinicus* | X | X | X | X | B | B | X | X | X | X | X | X | br,S,o,RC |
| *Lybius dubius* | X | X | X | X | X | X | X | X | X | X | X | X | R,u,HF |
| *L. vieilloti* | | X | X | X | X | X | X | X | | X | X | X | R/S,o,HF |
| *Pogoniulus chrysoconus* | X | X | X | X | X | X | X | X | X | X | X | X | S,u,HF |
| *Indicator indicator* | X | X | X | X | X | X | X | X | X | X | X | X | U,u,HF |
| *I. minor* | | | | X | X | X | X | | | | | | R,r,JN |
| *Jynx torquilla* | X | | | | | | | | | | | | U,HC |
| *Campethera punctuligera* | X | X | X | X | X | X | X | | | | | X | S/R,u,DG |
| *Dendropicos fuscescens* | | | | | X | X | X | | | | X | | S/R,o,DG |
| *Dendropicos obsoletus* | | | | | | | | | X | X | | | S,o,AD |
| *Mesopicos goertae* | X | X | | X | X | X | X | X | | X | | X | S/R,u,CG |
| *Mirafra rufocinnamomea* | | | | X | X | | | X | | | X | X | S,u,HF |
| *M. nigricans* | | X | X | | | | | | | | | | CG |
| *Eremopteryx leucotis* | | | X | | | | | | | X | X | X | S,u,HF |
| *Galerida cristata* | | | | | | | | | | | | B | br,RC |
| *Riparia riparia* | X | | X | | | | | | | | | | S/F,o,DG/HC |
| *Hirundo rustica* | | X | X | X | | | | | | X | X | | S/F,o,CG |
| *H. smithii* | X | X | | | | | | | | | | | F,r,DG |
| *H. aethiopica* | | | | | | | | | X | X | | X | F,o,HF |

| SPECIES | MONTHS J F M A M J J A S O N D | REMARKS |
|---|---|---|
| *H. leucosoma* | X X X X X X X X X X X X | F,u,CG |
| *H. semirufa* | X X X X X X X X X X X X | br,F,u,DG |
| *H. senegalensis* | X X X X X X X X | F,o,JN |
| *H. daurica* | X X X X X X | F,o,JL |
| *H. spilodera preussi* | X | S/F,r,HF/HC |
| *Delichon urbica* | X | U,r,DG/HC |
| *Motacilla flava* | X X X X X X X X X | F,u,CG |
| *M. alba* | X | CG |
| *Anthus leucophrys* | X X | F,o,DG |
| *A. cervinus* | X | S,o,HF |
| *Macronyx croceus* | X | S/F,HC |
| *Prionops plumata* | X X X X X X X X X X X X | S,u,HF |
| *Nilaus afer* | X X X X X X X X X | S,o,HF |
| *Dryoscopus gambensis* | X X X X X X X X X X X X | S/R,u,DG |
| *Tchagra minuta* | X | CG |
| *T. senegala* | X X X X X X X X X | S,u,HF |
| *Laniarius ferrugineus* | X X X X X X X X X X X X | R,JL |
| *L. barbarus* | X X X X X X X X X X X X | R/S,u,CG |
| *Malaconotus sulfureopectus* | X X X X X X X X X X X X | R,u,DG |
| *M. blanchoti* | X X X X X X X X X | R,u,CG |
| *Corvinella corvina* | X X X X X X X X X X | S/R,u,CG |
| *Lanius collurio isabellinus* | X | S,DG |
| *L. gubernator* | X | S,r,DG |
| *L. senator* | X X | S,r,HC/RW |
| *Oriolus auratus* | X X X X X X X X X X X X | S/R,u,HF |
| *Dicrurus adsimilis* | X X X X X X X X X X X X | S/R,u,HF |
| *L. purpureus* | X X X X X X X X X X X X | U,c,CG |
| *L. chloropterus* | X | ?,RW, (Note 4) |
| *L. chalcurus* | X X | ?,HF/JE, (Note 4) |
| *L. chalybaeus* | X | ?,CG, (Note 4) |
| *L. caudatus* | X X X X X X X X X X X X | U,c,HF |
| *Cinnyricinclus leucogaster* | X X X X X X | U,u,SS |
| *Spreo pulcher* | X | CG |
| *Buphagus africanus* | X X X X X X X X X X X X | U,c,CG |
| *Ptilostomus afer* | X X X X X X X X X X X X | br,U,c,RC |
| *Corvus albus* | X X X X X X X | U,r,SS |
| *Coracina pectoralis* | X X X X | R,o,HF |
| *Campephaga phoenicea* | X X X X X X X | R,u,DG |
| *Pycnonotus barbatus* | X X X X X X X X X X X X | U,c,HF |
| *Chlorocichla flavicollis* | X X X X | R,o,DG |
| *Saxicola rubetra* | X X X X | U,r,HF |
| *Oenanthe oenanthe* | X X X X X | S,u,CG |

| SPECIES | MONTHS J F M A M J J A S O N D | REMARKS |
|---|---|---|
| *Cercomela familiaris* | X X X X X | S,u,JL |
| *Myrmecocichla aethiops* | X X X X X X X X X | S,u,HF |
| *M. cinnamomeiventris* | | JL |
| *M. albifrons* | X X X X X X X | S,u,HF |
| *Phoenicurus phoenicurus* | X | CG |
| *Cossypha albicapilla* | X X X X X X X | R,o,DG,(Note 5) |
| *C. niveicapilla* | X X X X X X X | R,u,HF,(Note 5) |
| *Luscinia megarhynchos* | X | U,HC |
| *Turdus pelios* | X X X X X X | S/R,u,DG |
| *Turdoides plebejus* | X X X X X X X X X X X X | S/R,u,HF |
| *T. reinwardii* | X X X X X X X X X X X | R,u,DG |
| *Acrocephalus schoenobaenus* | X | R/F,o,HF/HC |
| *A. rufescens* | X | R/F,o,CG |
| *Sphenoeacus mentalis* | X X X X X X X X X X X | F,u,CG |
| *Hippolais polyglotta* | X | U,o,DG |
| *H. pallida* | X X | U,o,DG |
| *Phylloscopus trochilus* | X | U,o,DG |
| *P. sibilatrix* | X | U,o,DG |
| *Cisticola erythrops* | X | F,DG |
| *C. cantans* | X | S,HC |
| *C. galactotes* | X X X X X X X X X X | F,c,HF |
| *C. natalensis* | X X | F,HF |
| *C. ruficeps* | X | S,o,HF/DG |
| *C. brachyptera* | X X | S,u,DG/AP |
| *C. eximia* | | DG |
| *Prinia subflava* | X X X X X X X X X | S,c,DG |
| *Apalis flavida* | X | R,r,DG |
| *Hypergerus atriceps* | X X X X X B B X X | br,R,u,DG |
| *Camaroptera brachyura* | X X X X X X X X | S/R,u,JL |
| *Eremomela pusilla* | X X X X X X X X X X X X | S/R,c,HF |
| *Sylvietta brachyura* | X X X X X X X X X X X | S/R,u,CG |
| *Muscicapa striata* | X X | U,o,HC |
| *M. aquatica* | X X X X X X X X X X X X | F/R,c,HF |
| *Myioparus plumbeus* | X X X X X X X X | R/S,u,DG |
| *Ficedula hypoleuca* | X X X | r,MS |
| *Melaenornis edolioides* | X X X X X X X X X X X | R/S,u,HF |
| *Bradornis pallidus* | X X X X X | R/S,o,CG |
| *Hyliota flavigaster* | X X X X X | R,u,CG |
| *Bias musicus* | X | R,AD |
| *Batis senegalensis* | X X X X X X X X X X X | S/R,u,CG |
| *Platysteira cyanea* | X X X X X X X X X X X | R,c,HF |
| *Terpsiphone viridis* | X X X X X X X X X X X | R,u,HF |
| *Parus leucomelas* | X X X X X X X X X X X X | S/R,u,HF |
| *Remiz parvulus* | X | S/R,r,HF/HC |
| *Anthreptes longuemarei* | X X | R,o,HC |



Hamerkop *Scopus umbretta*, Nigeria. Photo: Philip Blasdale

NOTES

(1) Ostrich was first reported by Alh. Jibirin Jia (now Senior Wildlife Officer) in 1962, quoted in Sikes (1964). C. Geerling saw tracks and a tail feather in May 1971 (Geerling 1976). Tugga Danladi and Ahmadu Makama (respectively Senior Game Guard and Game Ranger) saw one near Kariyo Hill (9°45'N, 10°39'E) in November 1979.

| SPECIES | MONTHS J | F | M | A | M | J | J | A | S | O | N | D | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *A. platura* | X | X | X | B | X | X | | | | X | X | X | *br,S,u,HF* |
| *Nectarinia verticalis* | X | | X | X | X | X | X | X | | | | | R,u,HF |
| *N. senegalensis* | | X | X | B | X | X | B | X | X | X | | | *br,S/R,c,CG* |
| *N. venusta* | | X | X | | | | | | | | | | JL |
| *N. cuprea* | | | | | | X | X | | | | | | U,*o*,JE |
| *N. pulchella* | | X | X | X | X | X | X | X | X | | | X | S/R,u,HF |
| *Zosterops senegalensis* | X | X | X | X | X | X | X | X | X | X | X | X | S/R,u,HF |
| *E. forbesi* | | | X | X | | | | X | | X | | | S,*c*,DG |
| *E. tahapisi* | X | X | X | X | X | | X | X | | X | X | X | S,*c*,HF |
| *Serinus mozambicus* | X | X | X | X | X | X | X | X | | X | X | X | U,u,CG |
| *S. leucopygius* | | X | | X | X | X | X | X | | X | | | S,*o*,JN |
| *S. gularis* | | | | X | | | | | | | | | S,*r*,HC |
| *Ploceus luteolus* | X | | X | X | B | B | B | X | X | X | X | X | *br*,S/F,u,JN |
| *P. velatus* | | | | | | | X | | | | | | F,DG |
| *P. cucullatus* | | | X | X | B | B | B | X | | X | X | | *br,F,c,CG* |
| *P. nigricollis* | | | X | | X | X | X | | | X | | | R/F,*o*,DG |
| *Malimbus rubriceps* | | | | | | | | | | | | X | HF |
| *Quelea erythrops* | | | | | | | | | X | | | | AD |
| *Q. quelea* | | | | | | | | | | | | | DG |
| *Euplectes afer* | | | | X | | X | X | X | | X | | | F,u,CG |
| *E. hordeaceus* | | | | | | | X | X | | X | | | F,*o*,HC |
| *E. orix* | | | | | | X | X | X | X | X | | | F,*c*,CG |
| *Plocepasser superciliosus* | | | | X | | | X | | | | | X | S,*o*,DG |
| *Passer griseus* | X | X | X | X | X | X | X | B | B | X | X | X | *br*,U,*c*,CG |
| *Petronia dentata* | X | X | X | X | X | X | X | X | X | X | X | X | *br,S,c,HF* |
| *Sporopipes frontalis* | | | | | | | | | | | | | S,*o*,DG |
| *Vidua macroura* | | | | | | | | X | | | | | S/F,PM |
| *V. chalybeata* | | | | | | | X | X | X | X | X | | F/S,u,CG |
| *V. wilsoni* | | | | | | | | | | | X | X | F,u,RP |
| *V. interjecta* | X | X | | | | | X | X | X | X | X | X | F,*c*,HF |
| *Nesocharis capistrata* | | | X | | | | | | | | | | JL |
| *Pytilia melba* | | | | | | | | | X | | | X | S,*r*,AD |
| *P. phoenicoptera* | | | | X | X | X | | | | X | X | X | F,u,HF |
| *Estrilda melpoda* | X | | X | | X | X | X | | X | X | X | | F,u,CG |
| *E. troglodytes* | | | | | | | X | X | X | | | | r,AD |
| *E. çaerulescens* | X | X | | X | | X | | X | | | | | F/R,*o*,DG |
| *E. bengala* | X | X | X | X | X | X | X | X | X | X | X | X | U,*c*,HF |
| *E. larvata* | | | | X | X | | X | | | | | X | R/F,*o*,HF |
| *Lagonosticta senegala* | X | X | X | X | X | X | X | X | X | X | X | X | U,*c*,CG |
| *L. rufopicta* | X | X | | | X | X | X | X | X | X | X | | R/F,u,DG |
| *Lonchura malabarica* | X | X | X | X | X | | | X | X | X | | | *br*,U,u,CG |
| *L. cucullata* | X | X | X | X | X | X | B | B | X | X | X | X | *br*,U,*u*,CG |

(2) The three largest vultures, *Aegypius tracheliotus*, *Trigonoceps occipitalis* and *Gyps rüppellii* are seldom seen except on large dead animals which are rarely visible to observers. Thus their monthly sightings are probably underestimated.

(3) We believe that *Burhinus vermiculatus* (Water Thick-knee) is also present in the reserve but we have not been able certainly to differentiate it from *B. senegalensis*.

(4) In the absence of netting the starlings *Lamprotornis chloropterus*, *L. chalcurus* and *L. chalybaeus* are difficult to distinguish in the field. We are therefore unable to give monthly records for these species.

(5) *Cossypha albicapilla* and *C. niveicapilla* are generally seen very briefly flying across the road in thick forest. Although *Cossypha* spp have been seen in every month it was not always possible to distinguish the species without netting.

(6) Three species recorded by Geerling (1976, 1978) are so far away from their normal distributional range of southern Nigerian rainforest (Hall & Moreau 1970, Snow 1978) that their inclusion in a definitive Yankari list must, we feel, await confirmation. They are the swift *Chaetura sabini*, the starling *Lamprocolius purpureiceps* and the flycatcher *Trochocercus nitens*. Geerling (1976) also recorded the moorhen *Gallinula chloropus* and the bunting *Emberiza flaviventris* as present in Yankari, although no other observer has ever claimed them, and he failed to record their quite common and similar congeners *C. angulata* and *E. forbesi*.

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## NOTES

ON THE DIETS OF WARBLERS, WEAVERS AND OTHER GHANAIAN BIRDS - In a study of blood parasites, about 300 Ghanaian birds, mostly passerines, were collected during the dry seasons of 1972 and 1973 (Wink & Bennett, 1976, *J. Wildl. Disease* 12: 587-590). Since data on the diets of African species are often limited, their stomach contents were studied and are summarized here. Birds were caught with mist nets near Accra, Bunso and Yeji in February-April. Gizzard contents were analyzed usually within one to four hours after killing them. Since food was digested to some extent it was generally possible to identify items only to ordinal level.

About 220 birds of 31 species, which included two kingfishers, five bulbuls and thrushes, 12 warblers and seven weaver birds, were analyzed for their gizzard contents; the findings are summarized in Table 1. The diet of the two kingfisher species consisted of insects. Pied Crows *Corvus albus* had been feeding on waste near human settlements. Whereas the various bulbuls and thrushes had eaten insects as well as fruits, all of the warblers had consumed only insects. Among the weavers seeds predominated but the percentage of insects was quite substantial in some species (but diets might well differ at other seasons).

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