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# BIRDS OF NORTHERN AND CENTRAL BORGU

David Wells and Frank Walsh

## Part 1. Introduction

### Residents

Observations were made on birds on the Borgu Division of Kawara State from September 1965 through November 1968. The working area (See map) comprised the Niger and its western catchment area from Bajibo rapids ( $9^{\circ}22'N$ ) to the border of North-Western State ( $10^{\circ}55'N$ ), plus the islands of the Niger and the valley of lower Kontagora river with its main tributary the Maingyara. Within this area are the Borgu Game Reserve and much of the now flooded Kainji Lake Basin.

One of us (F.W.) was based full time at New Bussa and collected data during many days of trekking and Landrover travel throughout the area. He also travelled extensively on the Niger, particularly the stretch between Kainji and Bussa. D.W. concentrated his main effort in the Shagunu region ( $10^{\circ}20'$ ) on the west bank of the Niger, with visits of 3-10 days in most months of the year (up to June 1967) during which trips were also made into the remote north and central parts of the area.

The environment: The entire area is classified by Keay (1953. An outline of Nigerian vegetation) as Northern Guinea savanna (woodland) but according to Clayton (1957. Soils Survey Reps., Min.Agr., Samaru) the vegetation of the Niger valley south of Awuru is Southern Guinea savanna and that of the area north of a line striking NE approximately through Dekala and across the northern tip of Foge Island Sub-Sudan savanna. Apart from the immediate fringe of the Niger and the northern border Borgu is one of the most sparsely populated areas of Nigeria. Most of its vegetation is undisturbed by settlement or agriculture though fires caused by man sweep through much of the region every dry-season. Primary habitats have not been complicated by human activity as in much of the rest of the country (cf. the Zaria area; Fry, 1966. Ostrich sup. 6:335-356) and those in which observations have been made are briefly described below.

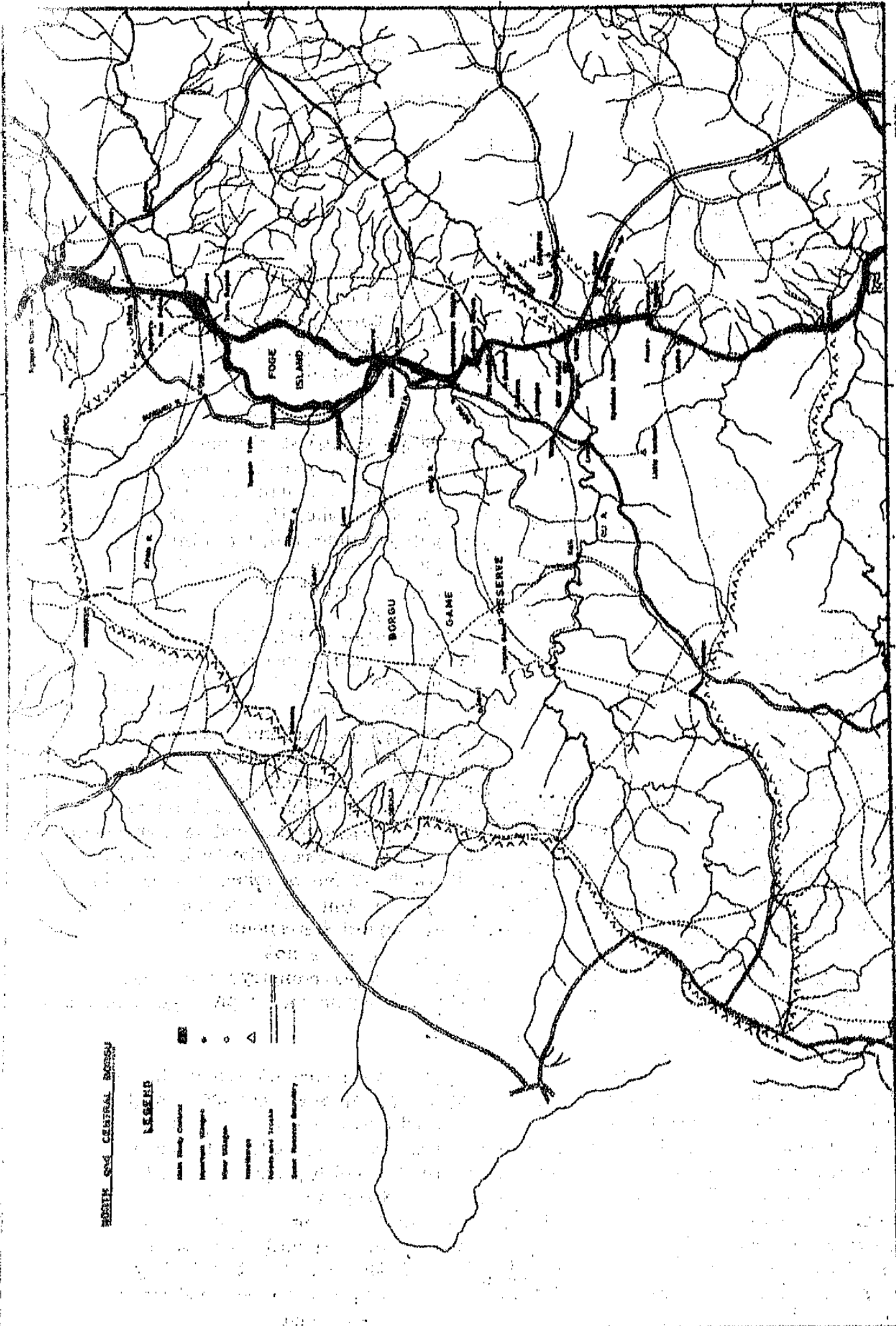
Aquatic: rivers, with associated sand-bars, rocks, islets; creeks and lagoons in the Niger flood-plain; the New Bussa sewerage lagoon and the Agwarra reservoirs.

South to Bussa the Niger is dotted with islands and flows through a wide flood-plain. Below Bussa its course is predominantly through a rock channel in which there are few islands but several important rapids (Bussa, Malamalapo, Bubar, Kainji-Awuru, Bajibo). The annual discharge curve of the river has a peak in September, falls to half max. by December then rises to a minor peak which is maintained into March. It then falls rapidly, to a very low level in May, June and July. In terms of habitat (prior to closure of the dam) this meant that from November to the beginning of April there was extensive open water but with some sandy bays and a few exposed rocks and sand-bars.

# NORTH AND CENTRAL BORGU

## LEGEND

- Main Study Contour
- Intersecting Contour
- Water Village
- Intersecting
- North and South
- State Reserve Boundary



North and Central Borgu Division of Niger State. Except where it follows the Niger the boundary of the State is indicated by a dashed line.

largely true e.g. Aerops albicollis.

The sub-groupings wet-season (wet-s.) and dry-season (dry-s.) are used to denote the season of presence/greatest abundance. Some riverine species evidently move according to the Niger water-level and availability of the sand-bar/rock habitat. They are referred to a water-level (water-l) sub-group.

3. Palearctic: where it is possible that both Palearctic and African individuals are present a species has been given a double status grouping. The decision on Palearctic status follows Elgood, Sharland and Ward (1966. Ibis 108:84-116). Over-wintering or passage status, where known, is given for each species separately and no special sub-groups have been erected.

4. Status uncertain: species recorded so sporadically, because they are rare, inconspicuous or because their habitat has not been fully worked, that it is not possible to give them a positive status.

#### Frequency of occurrence

The frequency rating adopted follows Fry (1966. loc. cit.) after Elgood and Sibley (1964. Ibis 106:221-245). In most cases, however, no more than a good estimate has been given since it was not possible to carry out regular, repeated transect counts except in one or two small areas, not representative of all habitats. But the four categories used are broad enough to accommodate this.

1. Rare - 5 or fewer records (individuals, or flocks in regularly gregarious species) per habitat during the observation period.
2. Occasional - frequency between 1 and 3.
3. Frequent - one record (individual or flock) per two hours per habitat to two records per hour per habitat.
4. Common - three or more records (individuals or flocks) per hour per habitat.

#### Abbreviations

Br = Breeding. Included only where there is definite or reasonably certain evidence of breeding in the study area. Obviously at least all resident species are presumed to breed in the area.

Roman numerals = months. In general October (x), the usual first month of the dry-season is used as the point of reference.

Resident Species

SPECIES

HABITAT

STATUS

Swamp-forest  
Rip/Kurimi woodl.  
Guinea woodl.  
Sub-sudan sav.  
Village  
Inselberg  
Fadama  
Aquatic

Phalacrocorax africanus

4 4 4

i-xii ?Res. Along the Niger and in flood-plain fadamas. Br. present in tree-top nesting colonies with ardeids in the Niger-side villages of Warra and Libate ix-ii.

Anhinga rufa

3

xi-v, viii, ix Widespread along the Niger but most frequent Bussa northward.

Ardea melanocephala

3 4 4

vii-v Sand-bars, river-banks and flood-plain fadamas along the Niger. A possible increase in numbers during the dry-season but not definite. Br. present in mixed tree-top nesting colonies in Warra and Libate villages ix-ii: also villages of Yauri emirate, north-east of the study area.

Casmerodius albus

4 3 4

i-xii Sand-bars, fringing swamp vegetation, flood-plain fadamas along the Niger. Br. present in mixed cormorant/ardeid tree-top nesting colonies in Warra and Libate villages ix-ii

Butorides striatus

3 3

i-xii Most water-ways with sufficient riparian cover to provide diurnal roosts; also swampy fadamas. Br.

Ixobrychus minutus

2

xi, xii, iv, v, viii, ix ?Res. Fringing swamp vegetation and flood-plain fadamas mainly along the Niger (very difficult to locate). (See also Palaearctic migrant).

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*Scopus umbretta*

3 3 3

i-xii Sand-bars and rocks along rivers; also savanna, particularly boggy spots, during the wet-s. Br. a nest in good condition at Garafini 7.v.66; one also reported from lower Oli valley (P. Mansfield).

*Dendrocygna viduata*

4 4

i-xii Mainly along the Niger but also up marshy streams some distance from the river during the wet-s. Br. a bird with very young ducklings on Agwarra reservoir 9.xi.67.

*Nettapus auritus*

2

x,xii,ii-vii,ix Creeks and lagoons of Niger flood-plain and Foge Island. New habitats created by Kainji construction works rapidly utilised.

*Sarkidiornis melanotos*

2 1

xi,i,ii,vi Mostly along the flood-plain sector of the Niger but one record of a bird over-flying savanna near Moca 22.vi.67. Br. nesting reported at Agwarra reservoir during the wet-s. (P. Mansfield.).

*Plectropterus gambensis*

4 4

i-xii Mainly along the flood-plain sector of the Niger, particularly Foge Island, but also along marshy streams some distance from the river during the wet-s. Gathers with *Dendrocygna viduata* in numbers on sand-bars iii,iv. Br. nesting reported in roadside fadama near Bussa during the wet-s. (P. Mansfield).

*Pseudogyps africanus*

1 2 2

x,i,ii,iv-vii,ix Rarely more than 2 or 3 together.

*Trigonoceps occipitalis*

2 3

x-xii,ii,iii,v-vii,xi Usually solitary. 6 together over guinea woodland in the Game Reserve is the largest group recorded.

*Necrosyrtes monachus*

4 4

i-xii Ubiquitous in villages and over nearby degraded savanna. Must also range widely as it rapidly locates the remotest camp. Br. occupied nests xi,ii.

A F I V SS GW RK SF

*Falco ardosiaceus*

3 3

x-iv,vi-ix Hunts from exposed perch overlooking open ground rather than by hovering. Probably commonest in sub-sudan, degraded and cultivated savanna. One seen stooping on a  $\frac{3}{4}$  grown ground squirrel Xerus near Moca 22.vi.67.

*Pandion haliaetus*

3

i-xiii ?Res. Most records from rocky, rapids areas along the Niger; only twice seen at Shagunu 26.iii.67 and 20.v.67 (see also Palaeartic migrant).

*Elanus caeruleus*

3 2

x-vi,viii,ix Much commoner in sub-sudan and cultivated savanna of the north than in the guinea woodland zone.

*Polemaetus bellicosus*

2 2

x-iii,v,vi,viii Most records from guinea woodland. On 21.v.67 a bird in the Game Reserve disturbed at its kill, a male Lissotis melanogaster, which it carried off.

*Lophoaelus occipitalis*

3 3

i-xii Possible slight increase in numbers x and iii, but no real evidence of movement.

*Kaupifalco monogrammicus*

2 2 3

i-xii Keeps mainly to riparian woodland and thickets, and kurimis but widely recorded also in more open habitats, to the extreme north of our area.

*Circaetus cinereus*

2 2 2

x-iv,vi,viii,ix Mostly over degraded savanna and guinea woodland but also recorded a fair number of times in Niger riparian woodland.

*Circaetus cinerascens*

1 1 3

x-vii,ix Almost all records from riparian woodland and thicket along the Niger and tributaries (Oli, Timu, Bunsuru).

*Terathopius ecaudatus*

2 3

i-xii Frequent in guinea woodland, ranging out over the Niger strip and cultivated areas mainly during the dry-s. Seen feeding on hares run over on the road and also on emerging winged termites. Commonness of such a large raptor may be due to wide range of acceptable food.

A F I V SS GN RK SF

*Cuculma vocifer*

3

3

i-xii Generally distributed along the Niger, preferring but not exclusive to, rapids areas. Br. perches and nests in tall riparian woodland trees. Building recorded ix, incubation xi,xii. Nests recorded at Bussa, Ilalamalapo, Bubaru, the Oli outfall.

*Gypohierax angolensis*

2

1

i-xii Riparian and kurimi woodland north to Shagunu; also the Shaffini swamp-forest. Br. an occupied nest in riparian woodland on Kpatachi Island early dry-s. 1966.

*Melierax metabates*

3

2

i-xii Typically hunts from exposed perch overlooking open ground, and commonest in sub-sudan, degraded and cultivated savanna. Recorded from riparian woodland near Shagunu, where that habitat abuts on to degraded savanna.

*Micronisus gabar*

3

i-xii Riparian woodland along the Niger. Both colour phases present.

*Gymnogenys typicus*

2

3

i-xii Probably commonest in riparian and kurimi woodland but fairly frequent also in guinea woodland.

*Francolinus bicalcaratus*

4

4

i-xii Very common. Br. in wet-s. At least one other francolin is suspected to occur but no positive identification.

*Ptilopachus petrosus*

4

4

4

i-xii Widespread in coveys of up to ca. 15, wherever there is cover, particularly in rocky areas and round inselbergs. Br. wet-s.

*Numida meleagris*

3

4

4

i-xii Widespread, commonest in guinea woodland and open riparian woodland. Coveys tend to be sedentary, at least along the Niger round Shagunu, but numbers increase from ca. 10-15 to up to 50 birds during the dry-s.

A F I V SS GW RK SF

*Limnocorax flavirostra*

3

ix-vii Marshy flood-plain fadamas and swamp vegetation fringing the Niger.

*Porphyryla alleni*

2

x,iv,vii,ix ?Res. Swampy fadamas on Foge Island. Status of this rail still not entirely certain. May prove to be a wet-s. migrant.

*Actophilornis africanus*

4 4

i-xii Flood-plain fadams, fringing swamp vegetation, rocks and sand-bars along the Niger and other rivers. A suggested dry-s increase almost certainly due to concentration into favourable habitats. Br. nesting in Niger-side fadama at Shagunu - young hatched 1.iv.66: two very young birds on pond at Menai village 2.xi.67.

*Cursorius temminckii*

2

x-i,viii,ix ?Res. Recorded from the golf-course and degraded savanna at New Bussa (8 present 5.xii.67) and along the lake-side but probably much overlooked.

*Columba guinea*

3

i-xii Confined to villages, and distribution seems linked to occurrence of baobabs Adansonia. Only one record away from this habitat - a bird flying up river at Shagunu, probably between villages. Common in the north of our area; less so south of the Sub-sudan zone. Br. nest in Borassus palm below Hooded Vulture's nest at Tungan Teku 14.ii.68. Young at Bussa i.68.

*Streptopelia semitorquata*

4

xii-viii ?Res. Common in riparian woodland and kurimis but apparently subject to local movements. A marked influx at Shagunu in v,vi.67.

*Streptopelia decipiens*

4

i-xii Riparian woodland and thickets. Apparently subject to some local movement. Common throughout dry-s at Shagunu but disappeared in vi.67, though concurrently abundant in dense thickets along the upper Bunsuru. No record of population fluctuations elsewhere in the study area. Br. nest-building at Awuru 5.i.68 (At Yelwa north of our area in ix and xi).

A F I V SS GH RK SF

*Streptopelia vinacea*

i-xii Subject to local movement and seasonal habitat change. Withdraws from riparian, kurimi and guinea woodland during the wet-s., to gather in flocks mainly in degraded and cultivated savanna areas.

4 4 4

*Stigmatopelia senegalensis*

i-xii Open ground, particularly in and around villages, though has been found nesting in habitats away from habitation, including riparian woodland (Foge Island). Br. nestlings 27.iii, 67; 7.iv.66; unsuccessful nests at New Bussa vii, ix-x.

4 3 1

*Turtur afer*

xii-iii, vi, vii, viii Shaffini swamp-forest; dense riparian and kurimi woodland north to Shagunu.

2 2

*Turtur abyssinica*

i-xii Commonest in riparian and kurimi woodland, and well grown guinea woodland, coming out to feed in more open areas in the evening. Br. a nest with eggs in riverine woodland near Shagunu 3.iii.67.

3 4 4

*Vinago waalia*

i-xii Probably commonest in riparian woodland (many roost in the habitat around Shagunu). Some seasonal habitat change recorded in the New Bussa area - absent from degraded savanna during the dry-s. Br. nest-building at Old Garafini 24.viii.67.

4 4

*Poicephalus senegalus*

i-xii Riparian, kurimi and well grown guinea woodland. Evening flights to roost in riparian woodland recorded at Shagunu. Normally solitary or in small groups but flock of 40 recorded in riparian woodland at New Bussa 8.viii.68

3 4

*Psittacula krameri*

i-xii Habitats as for Poicephalus. Normally in flocks of 5-15 but 300+ recorded in a grassy area by the Niger early ix.67 and 26 together in the same area 25.viii.68.

3 4

A F I V S S C W R K S F

*Agapornis pullaria*

4

xii-vi, ix ? Res. Very local distribution: common in riparian woodland along the Niger near Shagunu but elsewhere recorded only along the upper K'Pan river; Kontagora-Maingyara confluence (7.ii.68).

*Glaucidium perlatus*

2

xii, i, viii Guinea woodland - records for both wet-s. and dry-s.

*Bubo africanus*

3

x-vi, ix Common on roadside posts at night. Roosts in well grown woodland. Br. nesting in a stream-bank hole at Kainji, i-ii.68.

*Musophaga violacea*

3

i-xii Riparian, kurimi and well grown guinea woodland Br. a dead juvenile picked up in guinea woodland 4.xi.65.

*Crinifer piscator*

4

i-xii Riparian and kurimi woodland, and adjacent degraded and cultivated areas. Br. an occupied nest in a roadside tree near Wawa 5.xi.65; courtship feeding recorded 10.iv.66; nest-building at Kainji Island 22.iv.68.

*Centropus senegalensis*

3

i-xii Most frequent in grass and tangles along the Niger. Tends to withdraw into dense habitats in the dry-s. A facultative predator; has killed a number of birds (Indicator minor, Platysteira cyanea, Sitagra capitalis and Uraeginthus bengalus) in mist-nets set in riparian woodland near Shagunu. In every instance the skull was crushed. (cf. Brotherton, 1965. Niger. Orn. Soc. Bull. 2(6): 21). Similar report from Kainji (Pinarocorys erythropygia).

*Colleoptera affinis*

4

i-xii Commonest in the larger villages. Br. nests in village huts etc. and also under river bridges (Oli, Timu, Menai).

*Cypsiurus parvus*

i-xii Commonest in the vicinity of fan-palms  
Borassus etc.

*Coracias cyanogaster*

1 3

x,xii-vi,viii,ix Locally distributed in guinea woodland where it is recorded most frequently during the wet-s. May withdraw to some extent into denser, well grown areas in dry-s. but is probably present throughout the year. One record from sub-sudan savanna near Moca 22.vi.67.

*Phoeniculus erythrorhynchus*

3

i-xii Recorded only in well grown guinea woodland.

*Scoptelus aterrimus*

3 4 2

xi-viii Mainly guinea woodland and degraded savanna. Marked population fluctuations, indicating local movements.

*Ceryle rudis*

4

i-xii Common along the Niger and occasionally up the larger tributaries. Br. occupied nest-holes in exposed sandy banks of the Niger round Shagumu iii,iv (early low-water period) but records from Warra as early as xi.

*Megaceryle maxima*

3

xii-vii,xi Margins of the Niger, creeks and tributaries. Fairly often in dense riparian thickets overhanging inlets. One record from the Shaffini swamp-forest.

*Corythornis cristata*

4

x-vi,ix Common along the margins of the Niger and thickets over inlets. Records also from thickets along the upper Bunsuru, and the Shaffini swamp-forest. Br. nests in holes in river banks during the low-water season.

*Ispidina picta*

3 2

i-xii Widespread in riparian and kurimi woodland and also recorded from Shaffini swamp-forest.

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*Halcyon malimbicus*

3 2 i-xii Frequent in riparian and kurimi woodland, with records also from Shaffini swamp-forest

*Halcyon chelicuti*

3 3 i-xii Widely distributed in guinea woodland and sub-sudan savanna. Subject to local movements: appears along the Niger in degraded savanna at Shagumu only in the dry-s. but in similar habitat round New Bussa it is commonest during the wet-s. Paired during wet-s. Display and antiphonal calling at New Bussa 20.vi.68.

*Melittophagus pusillus*

3 i-xii Fadamas; riverside tangles of Mimosa pigra; grassy islands of the Niger. One unconfirmed record from sub-sudan savanna near Moca 22.vi.67. Br. nests solitarily, probably iii,iv. (For this and other bee-eaters see Walsh, 1968. Bull. Niger Orn. Soc. 5(17): 10-12).

*Melittophagus bullocki*

4 4 i-xii Common but subject to local movements and seasonal habitat shifts. Colonies in sandy river and stream beds, roadside drains, borrow-pits etc., some on virtually flat ground. Excavation begins x-xi and young in the nest iii-iv. (see Walsh, 1968. loc. cit.)

*Dicrocercus hirundinaceus*

3 3 i-xii Locally distributed in degraded savanna and guinea woodland (Shagumu area, Game Reserve, Little Konkou area). Usually 2-3 together, rarely up to 6. Apparently subject to local movements, which are not understood. Br. No nests discovered but young (juvenile birds have green throat) recorded late v-ix. (See Walsh, 1968. loc. cit.)

*Lophoceros erythrorhynchus*

3 2 x-xii, ii, iii, vi-ix Locally distributed in guinea woodland between Bussa and Wawa, and in the Game Reserve; commoner in sub-sudan savanna of the north.

*Bucorvus abyssinicus*

3 i-xii Fairly common in guinea woodland, in parties of 3-6.

*Pogonornis dubius*

3 3 3

i-xii Br. an occupied nest-hole in a dead snag at the top of a large Parkia in riparian woodland at Shagunu 22.v.67.

*Lybius vieilloti*

3

i-xii Abundance varies round Shagunu; may be subject to local movements.

*Pogoniulus chrysoconus*

3 3 4

i-xii Less noisy in the wet-s., thus inconspicuous.

*Indicator indicator*

3

1 3 3

i,iii-vii ?Res. Very easily overlooked when the males are not calling. Known to parasitise Merops nubicus and M. superciliosus, hence the Aquatic records. At the Shagunu nubicus colony in 1966 young honey-guides were on the wing in v, before the majority of young bee-eaters had left the next. A fledged young was found in a superciliosus hole 16.vii.67.

*Campethera punctuligera*

3 3 3

i-xii

*Dendropicos fuscescens*

2

ii-vii ?Res. Niger riparian woodland on Foge Island and round Shagunu, and kurimi woodland at Fellagi. A female feeding young in a nest-hole on the underside of a sloping dead branch (ca. 12' up) in Foge riparian woodland 7.iv.68 apparently constitutes the first West African breeding record (see Bannerman 1953).

*Dendropicos obsoletus*

2 2

x-vi,ix Locally distributed in degraded savanna and guinea woodland (Shagunu, Timu river, Game Reserve, Leshugbe, New Bussa). Pair seen inspecting hole in tree in degraded savanna at New Bussa 17.xii.66; birds suspected feeding young near Leshugbe 28.ii.66

*Mesopicos goertae*

3 3 2

i-xii Fairly frequent in guinea, riparian and kurimi woodland: also recorded from Shaffini swamp-forest.

*Mirafra buckleyi*

4

i,xii-ix Degraded savanna. Possibly some increase in numbers in the dry-s. but no record of influx or exodus.

A F I V SS GW RK SF

*Motacilla aguimp*

3 i-xii Rocks and sand-bars along the Niger. Moves about with availability of habitat.

*Turdoides plebeja*

4 i-xii Kurimis and riparian woodland, particularly along the Niger. Usually in parties.

*Hypergerus atriceps*

3 x-iii, v, vi ? Res. Riparian and kurimi woodland/thicket, particularly Raphia sudanica. Records from the Kontagora, the Ni, or round Kainji; the upper K'Pan and Bunsuru rivers; kurimis at Fellagi.

*Pycnonotus barbatus*

4 4 4 4 i-xii. Br. wet-s.

*Pyrrhurus flavicollis*

3 xi-v, vii-ix Riparian and kurimi woodland.

*Alseonax aquaticus*

4 i-xii ? Res. Riparian thickets, particularly where they overhang water. Apparently resident along the Kontagora river and the Niger at least round Garafini. May withdraw from the Oli during the wet-s. and at Shagunu it is present (and common) xii-i and iv-v only. Common on the upper Bunsuru ii, vi. 67. Movements ill understood but possibly withdraws to dense habitat and perennial water areas during the dry-s.

*Bradornis pallidus*

3 3 2 xi-vii, ix Degraded savanna, open guinea woodland, riparian and kurimi woodland (avoiding thickets). Br. nesting-building at New Bussa; round Shagunu; on Foge Island (5-20' up in exposed trees) iii, iv. Spotted juveniles at Shagunu 21.vi.67; New Bussa vii, ix.

*Melaenornis edolioides*

1 x-vii, ix Frequent in riparian and kurimi woodland. One record from Little Konkon inselberg.

*Batis senegalensis*

3 3 3 i-xii Probably most frequent in riparian and kurimi woodland. Seen carrying nest-material in Shagunu kurimi 28.v.66.

*Platysteira cyanea*

- 3 3 i-xii Frequent in riparian woodland along the Niger and Kontagora/Maingyara rivers; also in Shaffini swamp-forest. Br male feeding female at Shaffini 19.iv.67; juvenile male on Kontagora 23.iv.67.

*Erannornis longicauda*

- 2 4 x-vii, ix Riparian and kurimi woodland, particularly thickets by water. Also guinea woodland at Little Konkon.

*Tchitrea viridis*

- 3 3 xi-viii, ix Well grown riparian and swamp-side woodland along the Niger and its larger tributaries: also in Shaffini swamp-forest. Br. nest-building at Yangba 29.vii.66.

*Turdus libonyanus*

- 2 xi-vi, viii, ix Riparian woodland/thickets along the Niger and larger tributaries; also kurimi woodland.

*Cercomela familiaris*

- 2 2 2 x, xii, ii, iii, vi-viii Most frequent round inselbergs but also in rocky areas of degraded savanna and guinea woodland.

*Pentholaea albifrons*

- 1 3 i-xii Widespread in guinea woodland; rarely also in degraded savanna. Territorial behaviour in xii-i.

*Thamnolaea coronata*

- 2 ii-iv, viii ?Res. Recorded from both Little Konkon and Jekena inselbergs.

*Apalis caniceps*

- 3 x-i, iii-vi, viii, ix Riparian woodland along the Kontagora and the Niger north to Shagunu.

*Sylvietta brachyura*

- 2 2 2 4 x, xii, i, iii-vii ?Res. Numbers fluctuate in riparian and kurimi woodland round Shagunu but at New Bussa, where it occurs in degraded savanna, population apparently constant.

*Eremomela pusilla*

- 4 3 4 i-xii Widespread in guinea woodland., riparian and kurimi woodland; also in degraded savanna.

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17

*Camaroptera brevicaudata*

3 1 xi-ix Grass and Mimosa pigra tangles and thickets in riparian woodland. Also Shaffini swamp-forest.

*Cisticola cantans*

4 4 xii-vii, ix Tends to withdraw from degraded savanna etc. into dense vegetation during the dry-s. (riparian woodland along the Niger etc.).

*Cisticola erythropus*

3 xii-ii, iv-vii, ix Habitats virtually as for Camaroptera. Hardly ever leaves thickets.

*Cisticola galactotes*

3 ii-vi, viii, ix Marshy, flood-plain fadamas, small grassy islands, fringing swamp vegetation along the Niger; also along the upper Bunsuru.

*Cisticola brachyptera*

4 4 xi-vii, ix Open guinea woodland, degraded and sub-sudan savanna. Possibly some local dry-s. dispersal but no total withdrawal from open habitats.

*Heliolais erythroptera*

3 3 xii-vi, ix ?Res. Locally frequent in degraded savanna and guinea woodland. Several males singing from tops of tall trees along a stream course through degraded savanna near Shagunu 4.iii.67. Undetected vii, viii but probably unobtrusive in wet-s.

*Melocichla mentalis*

3 2 xii-ix Areas of damp, rank grass in open savanna; grass and Mimosa pigra tangles by water in riparian woodland. A skulker, noticeable only when singing (iv-ix).

*Prinia subflava*

3 4 xii-ix Tall grass in degraded savanna. Tends to withdraw into dense vegetation during the dry-s. and then common in grass and Mimosa pigra tangles in riparian woodland along the Niger etc.

*Hirundo aesthiopica*

4 4 4 4 4 i-xii Br. nests during the wet-s.

*Hirundo smithii*

3 i-xii Most records from river bridges (Oli, Doro) but also seen over rapids along the Niger.

*Hirundo rufula*

i-xii Br. nesting recorded in buildings and under culverts round Kainji and New Bussa vii-x.

*Hirundo senegalensis*

i-xii Most records from villages but also seen around inselbergs. Nowhere numerous.

*Hirundo semirufa*

x,ii,iv,v,vii,viii ?Res. Scattered records from various localities through most of the year.

*Pseudohirundo griseopygia*

i-xii Considerable local movement.

*Lecythoplastes preussi*

x-ii, v-vii ?Res. Br. large colony nests under the Oli river bridge at Lesu v-vii. Flocks move about at other times of year and are mostly recorded along the Niger.

*Ptyonoprogne rufigula*

ii-v,vii,viii ?Res. Frequent at both Little Konkon and Jekena inselbergs.

*Coracina pectoralis*

x-ii, iv-vi, vii, ix Fairly frequent in well grown guinea woodland. Two records from riparian woodland at Bubaru rapids.

*Dicrurus adsimilis*

i-xii Noticeably less common at the latitude of Shagunu than further south. Most frequent round cultivated land.

*Prionops plumata*

i-xii Locally frequent throughout the study area.

*Lanius gubernator*

i-iii, vi-x Recorded fairly regularly since ix.65 in small area of degraded savanna at New Bussa where very small population seems to be sedentary. Br. pair with young bird barely out of the nest 16.vi.68. (see Walsh, 1968. Bull. Niger. Orn. Soc. 5(17):26-27).

A F I V SS GW RK SF

*Corvinella corvina*

2 4 3 i-xii Recorded in *Mimosa pigra* tangles on Foge Island; guinea woodland; degraded savanna, but commonest in cultivated and sub-sudan savanna in the north.

*Laniarius barbarus*

4 i-xii Riparian and adjacent kurimi thickets along the Niger, Kontagora and the lower Oli. Br. nest (c/2) at Yangba 29.vii.66.

*Dryoscopus gambensis*

2 3 i-xii Well grown guinea woodland, riparian and kurimi woodland. Group of 5 males displaying at Little Konkou 17.iii.67.

*Nilaus afer*

3 3 x,xii-vii, ix Guinea woodland and degraded savanna with scattered trees. Status north of Luma and Shagunu unknown. Br. nesting at New Bussa i-ii.68.

*Tchagra senegalensis*

4 3 i-xii Open guinea woodland and degraded savanna. Possibly some dry-s. dispersal (increase in numbers in degraded savanna at New Bussa during wet-s.).

*Antichromus minutus*

1 ii, vii, viii ? Res. Recorded from rank grassland fringing the Niger near the Kontagora outfall, at Bubaru and at Awuru. Basically Southern Guinea zone species probably at northern limit of its range.

*Chlorophoneus sulphureopectus*

1 3 xii-vi, viii ? Res. Riparian woodland along the Niger and Kontagora. One record from thick bush near Little Konkou.

*Melaniparus niger*

3 3 i-xii Fairly frequent in guinea woodland; several records from degraded savanna near Shagunu and frequent in this habitat at New Bussa.

*Corvus albus*

4 i-xii In and around the larger villages. Most numerous in the north. Br. nesting recorded in iv.

*Ptilostomus afer*

i-xii Common in the larger villages and surrounding cultivated savanna of the sub-sudan zone (south to Dugga). Absent south of this but common again in Wawa and on Kpatachi Island. Br.

*Lamprocolius purpureus*

4 4 i-xii Common throughout the study area.

*Lamprotornis caudatus*

3 i-xii Local in Niger riparian woodland/thicket from Rofia south to Kpatachi Island (one record from between Awuru and Bajibo). Also present along lower reaches of Timu and Doro rivers.

*Buphagus africanus*

3 2 2 1 i-xii Widely distributed, from Kainji to northern border, including Foge Island. Associated with both domestic stock and wild ungulates (most records from cattle on flood-plain fadamas). One record from riparian thicket along the upper Bunsuru river.

*Zosterops senegalensis*

3 3 3 i-xii.

*Nectarinia pulchella*

2 4 i-xii Abundant in riparian woodland along the Niger and elsewhere; rarely forages far from this habitat. Br. nests during the wet-s.

*Chalcomitra senegalensis*

4 3 3 i-xii Commonest in degraded savanna and open guinea woodland. Populations apparently constant in Kainji-New Bussa area but some evidence of local movement at Shagunu where it is comparatively scarce in late dry-s (iii, iv). Br. nesting at New Bussa vii-ix.

*Cyanomitra verticalis*

2 2 xii, iii-vi, viii, ix ? Res. Kurimi woodland in the Fellaga area; also in Shaffini swamp-forest. The only record from further north is of a single bird mist-netted in riparian woodland at Shagunu 7 ix.65. . . .

A F I V SS GW PK SF

threptes longuemareii

3

xii-v, vii, ix Riparian and Kirimi woodland. Recorded from Shagunu (where it is fairly frequent), Fellagi, Yangba. Nesting at Shagunu and Fellagi ii (see Walsh; Wells. 1966. Bull.Niger.Orn.Soc. 3(11): 70-71 and 72-74).

SA

lpornis spilonotus

2 2

xii-vii, ix Guinea woodland and degraded savanna. Pairing behaviour (chasing, singing, soliciting) recorded at Shagunu 20-24.v.67. Status in the sub-sudan zone unknown.

PO

liosipiza gularis

3 2

xii-ix Frequent in degraded savanna in the Wawa-New Bussa area; widespread and locally frequent in guinea woodland, from Little Konkon to the northern border of the Game Reserve. Minor wet-s. increase round New Bussa may be due to local movements. 'Flycatching' for small insects recorded in several localities vii.68.

EM

beriza cabanisi

3 2

xii-viii ?Res. Fairly frequent in sub-sudan and degraded savanna. Occasional records from open riparian woodland round Shagunu in dry-s. (one record in xii of a bird at the flowers of Bombax, presumably after insects).

EM

beriza forbesi

3 2

iv-x, xii-ii Fairly frequent in degraded savanna and guinea woodland north to Shagunu-Luma region. Status further north unknown.

balornis albirostris

4 3

i-xii Villages and surrounding cultivated land in the sub-sudan zone (south to Tungan Teku). Southern-most recorded breeding colonies Agwarra.

BU

esser griseus

4 2 2

i-xii Common in and around most settlements. A few records from Niger riparian woodland near Shagunu but none more than  $\frac{1}{4}$  mile from the Field Station, which acquired a small population. Br. nesting in

PAS

A F I V SS GW RK SF

*Plocepasser supervilliosus*

4 4 4 3  
i-xiii Guinea woodland and degraded savanna. Status in the sub-sudan zone uncertain. Br. nesting at New Bussa iv,v.

*Sitagra luteola*

2 3  
x,iii-vii,ix Riparian woodland (Niger and lower Kontagora); kurimi woodland (Fellagi); degraded savanna adjacent to these habitats. Br. nests 5-10' up mainly in thorny acacias bordering woodland, solitarily or in small colonies. Nest containing egg-shells at Shagumu 6.iv.66 could have been previous season's but breeding certainly occurs vi-ix. Males moult into breeding plumage by iii.

*Sitagra capitalis*

4  
i-xiii Abundant in riparian woodland along the Niger. Records also from the upper Bunsuru. Br. males moult into breeding plumage late vi-vii at Shagumu but no extreme dates for nesting available (in full swing in ix). Recorded 'flycatching' for aerial insects v.

*Plesiositagra heuglini*

3 2  
x,ii-ix Widely distributed but not common in degraded and sub-sudan savanna to extreme north, with occasional records from guinea woodland. Br. males in breeding plumage iii-x; small nesting colonies in degraded savanna New Bussa/Wawa area vii-x, some associated with hymenopterian nests. Several records of birds in Euteo auguralis nest trees (Kainji and Shagumu areas) but only one instance of nest-building.

*Plesiositagra vitellinus*

3 4  
x-vii,ix Riparian woodland along the Niger south to the Oli (also at Yangba). Common round Shagumu. During wet-s. invades adjacent degraded savanna, particularly boggy areas (often tends to nest in areas which are marshy and difficult of access). Br. males in breeding plumage vi-xi; nests vii- at least ix in riparian woodland and degraded savanna thickets south to Yangba (? extreme limit of range of this typically sudan savanna species).

A F I V SS GW RK SF

*Plesiositagra cucullatus*

xii, ii, iv-vii, ix Mostly in and around villages; also in degraded savanna with scattered trees; riparian and kurimi woodland. Br. males in breeding plumage ii-at least x; nesting in villages and riverine woodland at least iv-ix.

*Hyphanturgus brachypterus*

x-vi, ix ?Res. Solitary or in pairs but fairly frequent in riparian and kurimi woodland to extreme north (upper Bunsuru river).

*Euplectes hordeacea*

i-xii Degraded savanna and adjacent riparian woodland. Male territories in open, often boggy areas of tall grass. Br. males in breeding plumage mid vii-late x.

*Euplectes orix*

i-xii Habitats broadly as for *E. hordeacea*. Br. males in breeding plumage late vi/early vii-late xi.

*Euplectes afra*

x, xi, vi, vii, ix ?Res. Reed-beds and tall grass in swampy fadamas along the Niger; open sedge-marsh on the upper K'Pan river. Some evidence of dry-s. movements but nothing proved. Males in breeding plumage vi-ix (?x).

*Coliuspasser macrourus*

i-xii Mainly degraded savanna but also recorded from swampy fadama on the upper K'Pan. Br. male territories in areas of tall grass; males in breeding plumage v/vi-ix (early as iv in south of our area).

*Spermestes cucullatus*

i-xii Mainly degraded savanna, particularly areas of dense grass. Enters riparian and kurimi woodland with other estrildids during dry-s. Br. nests during the wet-s., solitarily or in small colonies. At New Bussa building recorded vi-mid x. Wasp association frequent.

*Pytilia phoenicoptera*

x-vii, ix Widespread in degraded and sub-sudan savanna, guinea, riparian and kurimi woodland; also recorded from Shaffini swamp-forest. A female with an oviducal egg collected in a grassy area on the edge of riverine woodland near Shagunu 8.ix.65.

A F I V SS GW RK SF

*Lagonosticta rara* x,xii-vii,ix Common in riparian woodland/thickets (Niger, Oli, Kontagora, Bunsuru); also recorded from areas of dense grass in degraded savanna.

*Lagonosticta senegala* i-xii Degraded and sub-sudan savanna; villages; riparian and kurimi woodland (where it is common in mixed estrildid flocks particularly during dry-s).

*Lagonosticta rufopicta* x,xii-vi ?Res. Tends to stick to thickets in riparian woodland though occasionally recorded in damp, grassy areas in adjacent degraded savanna.

*Lagonosticta nigricollis* i-xii Riparian woodland thickets and degraded savanna.

*Lagonosticta caerulescens* i-xii Frequent in kurimis, and riparian woodland along the Kontagora, Oli and the Niger in the southern part of the study area. Has also been recorded along small streams through degraded savanna between New Bussa and Wawa. Probably occurs in well grown guinea woodland, but no records to date.

*Estrilda troglodytes* i-xii Common in riparian and kurimi woodland, particularly in dry-s., moving out into degraded savanna and along roadsides etc. in wet-s. Local abundance varies; less common round Kainji and New Bussa than in the Garafini and Shagunu areas. Status in the sub-sudan zone uncertain.

*Estrilda melpoda* i-xii Habitats as for *E. troglodytes*. During dry-s. particularly fond of *Mimosa pigra* thickets fringing the Niger. Present on the upper Bunsuru 22.vi.67.

*Nesocharis capistrata* x,xii,i,iii,iv,vii-ix Within the study area confined to dense riparian woodland/thicket: records from the Maingyara-Kontagora system: Lesu on the Oli; Kainji and Shagunu on the Niger.

A F I V SS GW RK SF

*Uraeginthus begalus*

i-xii Particularly common in degraded and sub-sudan savanna and, during dry-s., riparian and kurimi woodland. Br. wet-s. (wasp-association frequent).

4 4 4

*Hypochoera (chalybeata)*

x-i,iii-ix The common combassou of Borgu. Commonest in riparian woodland but often in adjacent degraded savanna. Also recorded from sub-sudan savanna near Moca. Males in bright plumage recorded vi,ix,xii,i,iii. They have steel-blue sheen to head/body, black remiges and retrices, a pink bill and coral-pink legs. Specimens tentatively identified as *H. chalybea neumanni* by R.D. Payne. Payne (1968. in litt.) states that this form parasitizes Lagonosticta senegalensis.

4 4

*Vidua macroura*

x,xii,i,iii,iv,vi-ix Mostly in riparian woodland and thickets, and adjacent degraded savanna. Males in breeding plumage early vi-early xi. Apparently some local movements.

4 4

*Steganura orientalis*

x-ii,vi-ix ? Res. Males in breeding plumage recorded late vii-early ii.

2 2