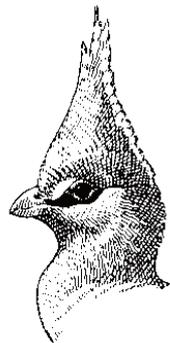


**Ornithological surveys in Bia National Park
and Resource Reserve, Ghana
(January 2005, December 2009 and September 2010)**

Françoise Dowsett-Lemaire & Robert J. Dowsett

A report prepared for the Wildlife Division, Forestry Commission, Accra





Dowsett-Lemaire F. & Dowsett R.J. 2011. Ornithological surveys in Bia National Park and Resource Reserve, Ghana (January 2005, December 2009 and September 2010). *Dowsett-Lemaire Misc. Rep. 73*: 27 pp.

***E-mail:* Dowsett@aol.com**

Ornithological surveys in Bia National Park and Resource Reserve, Ghana

(January 2005, December 2009 and September 2010)

by Françoise Dowsett-Lemaire & Robert J. Dowsett

Table of Contents

ACKNOWLEDGEMENTS	1
SUMMARY	2
1. INTRODUCTION	2
2. VEGETATION	3
3. THE AVIFAUNA	4
3.1. References and unpublished reports	4
3.2. Ecological considerations	5
3.3. Biome-restricted species	5
3.4. Globally-threatened species	6
3.5. Breeding records	7
4. ANNOTATED SPECIES LIST	9
4.1. Main species list.....	9
4.2. Marginal species.....	18
4.2. Species requiring confirmation or considered unlikely	19
5. OBSERVATIONS ON LARGER MAMMALS	20
6. CONSERVATION ASPECTS	21
7. REFERENCES	21
APPENDIX. GAZETTEER OF LOCALITIES	22
ADDENDUM	22
CHECKLIST OF THE BIRDS OF BIA NATIONAL PARK & RESOURCE RESERVE	23

Acknowledgements

For the 2005 visit, we thank the then Executive Director of the Wildlife Division, Forestry Commission (Y. Ofori-Frimpong) and the Regional Director of IUCN (I. Thiaw) for inviting us to undertake this survey. Wildlife Division staff at Accra (especially Mike Adu-Nsiah and Kodjo Menka) and IUCN/WDSP advisors Peter Howard and Phil Marshall provided logistical help and supervision. Park staff at Bia provided assistance in various ways. James Oppong was a helpful companion in the field. In 2009-10, Nana (Mike) Adu-Nsiah, Executive Director of the Wildlife Division, kindly allowed us access to the park; local staff (especially Frederick at Kunkumso, 2009) accompanied us in the field. Lars Holbech kindly sent his unpublished data from his MSc.

Summary

The forests of Bia National Park (78 km²) and Bia Resource Reserve (228 km²) belong to the category of moist semi-evergreen (or semi-deciduous) rain forest, with an open canopy. The Resource Reserve was logged selectively but heavily from 1977-98. We visited Bia N.P. on 1-5 January 2005, Bia N.P. and Bia R.R. on 1-9 December 2009 and 20-24 September 2010, during which we recorded 175 bird species within the reserves. From past surveys some more species are known, and the tentative total is 215 birds, with about 144 Guineo-Congolian biome species. Details are given of c. 55 breeding records. The avifauna is typical of open-canopy semi-evergreen forest, with good numbers of wood hoopoes, sunbirds, starlings, weavers and malimbes, and various flycatchers like Bioko Batis *Batis poensis* and the little-known Tessmann's Flycatcher *Muscicapa tessmanni*; Congo Serpent Eagle *Dryotriorchis spectabilis* is fairly common; White-throated Greenbul *Phyllastrephus albigularis* is more widespread than Icterine Greenbul *P. icterinus*. On the other hand, birds of shaded understorey under closed canopy are very local, e.g. the illadopsis *Illadopsis rufipennis* and *I. rufescens*, and Shining Drongo *Dicrurus atripennis*. Of Globally-threatened species, the White-breasted Guineafowl *Agelastes meleagrides* appears extinct (there is a single record, in 1953). It is not clear whether Hartlaub's Duck *Pteronetta hartlaubi* is still present in the pools in the centre of the reserve. All of the five large frugivorous hornbills of Ghana have disappeared from Bia, four of them since the 1990s (*Bycanistes cylindricus* and *B. fistulator*; *Ceratogymna elata* and *C. atrata*) and one from even earlier (*B. subcylindricus*). Grey Parrot *Psittacus erithacus* has not been reported since 1997, and Great Blue Turaco *Corythaëola cristata* has become very rare or perhaps extinct. Other species of global concern that do occur in small numbers are Green-tailed Bristlebill *Bleda eximius* and Copper-tailed Glossy Starling *Lamprotornis cupreocauda*. There is a very possible record of Rufous Fishing Owl *Scotopelia ussheri* (January 2009) from the south. Uncontrolled hunting has been a big problem at Bia, as also the increasing isolation of the park in a sea of farmland.

1. INTRODUCTION

Bia National Park (78 km²) and Bia Resource Reserve (228 km²) to the south form a contiguous block of forest whose western edge coincides with the international border with Côte d'Ivoire. This block is entirely surrounded with farmland, particularly in the form of cocoa farms. Bia lies on a low plateau at 150-300 m a.s.l., receiving an annual rainfall of around 1500 mm. The forest is typically semi-evergreen rain forest and is characterized by a broken, open canopy and dense understorey. The whole area (306 km²) was established as a national park in 1974. Unfortunately, in 1977, what is now the "Resource Reserve" was de-gazetted and selectively logged for several years. Logging was still in progress in the early 1990s and continued illegally until 1998 when it was stopped by the first PADP (Protected Areas Development Programme) project (Oates 2006). Logging trails have not been kept open, but the second PADP project in 2006-09 re-opened one main track crossing the reserve from east (starting at Camp 15) to west, with a branch going south to reach Bongo Camp. Unfortunately, instead of just clearing the old road course, earth was moved and vegetation cleared (including the felling of large trees) for several metres on either side of the road, creating a swathe of destruction through the forest (as described by Oates 2006). Some paths are maintained in the National Park for tourism and anti-poaching activities.

We first explored the Bia forests from 1-5 January 2005. We used the Kunkumso rest house near New Debiso as a starting point, on the northern edge of the forest. From there we explored Bia N.P. along the main loop walk from the rest house (Apaaso trail) and the Colobus path (from Chimps' Camp to Colobus Camp). On 3 January we moved to the Bia Research Centre (now empty) or Camp 15 on the eastern edge and explored the forest mainly along the boundary path (situated between the National Park and Resource Reserve).

On our second visit in 2009, we spent 1-5 December in the north, with FDL exploring the Apaaso trail and Colobus path, while RJD mist-netted and ringed birds near the rest house (on 2-4 December). On 5 December we drove to Camp 15 for overnight stay and drove into the interior of the park and Resource Reserve on the 6th, checking pools on the way to Bongo Camp. Early on 7 December, we drove to Camp 7 after spending the night near Camp 5. From Camp 7 we looked at forest in the south-east corner of the Resource Reserve on 7-9 December.

On our third visit (20-24 September 2010), we were again based at the Kunkumso rest house for a couple of days, from where FDL spent two mornings on the Colobus path and a late morning on the Apaaso trail; RJD mist-netted birds in the same area as in 2009. Late on 22 September we moved to Camp 15, and drove into the park and Resource Reserve (as far as Bongo Camp) on the 23rd.

We recorded 151 species on our first visit, and a total of 175 after three visits. Bia was the subject of brief surveys in the past, the main works being those of Taylor & Macdonald (1978), and Dyer (1997) who each

spent about a week in the forest. L. Holbech (in Ms) spent just over five months in the forest in 1990-91. Guy Savornin (*in litt.* 2009) visited the north and south of Bia for two weeks in January 2009. After a review of the literature, some considerations on the vegetation and ecology of the forest, on biome-restricted species, species of conservation concern and breeding records, we present an annotated consolidated list of 215 “accepted” species for the park. A list is also included of “marginal” species recorded from just outside in farm bush or around the park’s rest house at Kunkumso. Reasons are given for rejection of some past records. Coordinates of localities and a simple check-list are given in the Appendix.

There is one main rainy season at Bia, from March or April to November or December, with a short dry season centred on July or August. In January 2005 the weather was remarkably dry and cool, with a noticeable Harmattan influence. December 2009 was very humid and often very cloudy: there was no rain during the first decade of the month, and indeed the rains had stopped early, on 13 November; Harmattan had not arrived. In September 2010 there was an hour’s drizzle at dawn on the 22nd, then very heavy rain on the 24th, starting in the night and continuing until the afternoon, making field work impossible.

2. VEGETATION

Hall & Swaine (1976) show the boundary between evergreen and semi-evergreen rain forest as crossing Bia, but we consider that the whole of Bia falls within the moist semi-evergreen (syn. semi-deciduous) forest zone. Generally, the forest structure is typical of semi-evergreen forest, with a broken canopy and tall emergents. Emergents reach a height of 50-60 m. Medium-sized trees do not as a rule form a closed canopy, although there are some sections of denser forest. The lower strata of trees form a closed canopy only locally at heights varying between 10 and 20 m. Thus the understorey is usually very dense, with many tangles of lianes around medium-sized trees. Clearings within the forest can be quite large, and some may be in part occupied by the invasive *Chromolaena odorata* (even in the National Park), perhaps through invasion by bush fires as on the eastern boundary.

The forest was heavily logged in the Resource Reserve, and recovery appears to be slow. Hawthorne & Abu-Juam (1995) gave “Condition 4” to the conservation status of Bia N.P. meaning “mostly degraded”, with 25-50% of the forest seriously degraded. This is quite unjustified as the forest is in much better condition than in the Resource Reserve, to which they gave “Condition 3” (“slightly degraded”). There was probably a confusion of locations, the Resource Reserve deserving Condition 3 to 4, and the National Park 2 to 3 (2 meaning “good, less than 10% heavily disturbed, logging damage restricted”). Sections of closed forest can be found in the National Park along the path to Colobus Camp (from Chimps’ Camp) and on the boundary path between the National Park and the Resource Reserve.

Overall, emergents are dominated by species of Sterculiaceae (*Pterygota macrocarpa*, *Triplochiton*), Ulmaceae (*Celtis* spp.), *Ceiba pentandra*, *Entandrophragma* spp., *Terminalia superba*. In this respect the forest at Bia is very similar to the Sterculiaceae semi-evergreen forests of Cameroon (cf. Letouzey 1968) and in particular to a typical example of this in south-east Cameroon, Lobéké Reserve, now a national park (Dowsett-Lemaire & Dowsett 2000). The same Sterculiaceae (*Pterygota macrocarpa*, *Triplochiton*), *Ceiba pentandra* and *Terminalia superba* are dominant emergents in Lobéké, alongside an *Entandrophragma* (*cylindricum* in Lobéké, the common ones in Bia N.P. being *angolense* and *utile*).

In the denser forest on the path to Colobus Camp there are pockets of *Lophira alata* and *Berlinia tomentella*; *Alstonia boonei* and *Ceiba* are very common. *Entandrophragma utile*, *Pterygota macrocarpa* and *Triplochiton* are some of the commoner emergents in the eastern section of the Park (near New Debiso), with also *Antiaris*, *Ceiba*, *Entandrophragma angolense*, *Guibourtia ehie*, *Mansonia altissima*, *Piptadeniastrum*, *Pouteria aningeri* (*Aningeria robusta*), *Pycnanthus*, *Terminalia superba*, *Tieghemella*, etc.

Typical large trees in the southern section of the Resource Reserve (Bongo Camp, Camp 7) include *Ceiba*, *Celtis mildbraedii*, *Chrysophyllum giganteum*, *Cola gigantea*, *Cordia platythyrsa*, *Daniellia ogea*, *Entandrophragma utile*, *Parkia bicolor*, *Piptadeniastrum*, *Pterygota macrocarpa*, *Sterculia oblonga*, *Terminalia superba* and *Triplochiton*. Hawthorne (1998) includes a detailed count of trees (over 30 cm DBH) identified in 59 1-ha plots across Bia R.R. in 1987. The ten most numerous, of varying heights, were *Chrysophyllum* spp., *Corynanthe pachyceras*, *Pycnanthus angolensis*, *Piptadeniastrum africanum*, *Celtis* spp., *Triplochiton scleroxylon*, *Nesogordonia papaverifera*, *Terminalia superba* and *Dialium aubrevillei*. Several of these species are

characteristic of semi-evergreen forest, and we see no significant difference in forest type from north to south (i.e. from the Park to the Resource Reserve).

3. THE AVIFAUNA

3.1. References and unpublished reports

The first publication on Bia was that of Taylor & Macdonald (1978): the authors spent one week in the National Park and in secondary growth from 4-11 April 1977. During that time, they recorded 132 species and list another 11 noted by M. Rucks. Their list does not include several fairly common species (such as the francolin *Francolinus achantensis*, pigeon *Columba (delegorguei) iriditorques*, cuckoo *Cercococcyx olivinus*, owllet *Glauucidium tephronotum*, wood hoopoe *Phoeniculus castaneiceps*, tinkerbird *Pogoniulus atroflavus*, flycatcher *Batis poensis*, illadopsis *Illadopsis fulvescens*, several sunbirds, the starling *Lamprotornis splendidus*). On a brief, earlier visit in August 1975, Davidson (1978) had recorded three species not in Taylor & Macdonald's list (Narina's Trogon *Apaloderma narina*, Forest Wood Hoopoe *P. castaneiceps* and Rufous-sided Broadbill *Smithornis rufofateralis*).

Collar & Stuart (1985: 188) mention an old record (1953) of White-breasted Guineafowl *Agelastes meleagris* from Bia, which has otherwise never been published properly. It is mentioned without a date from Bia Forest Reserve (M. Horwood in Grimes 1987); this is apparently from what is now the National Park (L. Grimes in Collar & Stuart 1985). Grimes did not give the coordinates in his gazetteer, and Horwood never published on this or other observations from this locality.

L. Holbech spent just over five months in 1990-91 (28 November-9 May) doing transect surveys in logged and unlogged forest; this led to an MSc. degree. Results have not been published but the author sent us a preliminary draft (in 2005): the total of 129 species recorded in that period (or 131 claimed by him in the text, but 129 are listed in the Appendix) seems low. A number of species are missing and a few seem misidentified. Thus several common warblers, flycatchers (e.g. *Myioparus griseigularis*), sunbirds (e.g. *Nectarinia adalberti*) and the conspicuous Splendid Starling *Lamprotornis splendidus* are not listed. He records both drongos *Dicrurus atripennis* and *D. ludwigii*, but these birds replace each other geographically, *D. ludwigii* being absent from the rain forest zone. Another example of confusion concerns the sibling tinkerbirds: Yellow-rumped Tinkerbird *Pogoniulus bilineatus* and Yellow-throated *P. subsulphureus*. The race *chrysopyga* of *P. subsulphureus* is inseparable from *P. bilineatus* on plumage and the two taxa are best separated on voice (see also Borrow & Demey 2001: 539). In the rain forest zone *P. bilineatus* is absent; it occurs at the periphery of the forest zone in farmbush whereas *P. subsulphureus* is very common in the forest zone in both forest and farmbush. The two have been widely confused and no doubt the presence of *P. bilineatus* in Holbech's list (and also in Dyer 1997) is in error. The high numbers of *Indicator maculatus* recorded (in Appendix) is also surprising for such a discreet species, especially when none of the other two honeyguide species known (*I. minor*, *I. willcocksi*) is recorded by him, and mist-nets were not used.

Mike Dyer spent 6 days in the field (15-20 November 1997), recording 120 species (Dyer 1997, Appendix 5 to 7). Dyer (1997) presented a table which, in theory, includes all other records as well, but there are a number of omissions and typing errors, and sources are not given. For some records, it has been impossible to trace a source, i.e. they are not his personal records nor those of any other observers known to us, including L. Holbech.

Ntiamoa-Baidu *et al.* (2001) include Bia as an Important Bird Area. They list 114 Guineo-Congolian biome species. This list has a number of omissions (although they are found in the references they quote, Taylor & Macdonald 1978 and Holbech's thesis), and a few of the species included appear doubtful. For example they mention the swallow *Hirundo nigrita* for which there is no suitable habitat at Bia (i.e. wide rivers).

Andrew Hester (*in litt.*) visited Bia on 14-17 April 2006. From 11-28 January 2009, Guy Savornin (*in litt.* 2009) visited the north and south of Bia, especially the logging trail from Camp 15 to Bongo Camp; he noted nearly 100 species, some not identified with certainty.

In May 2009 L. Holbech and N. Dauphine (*in litt.*) spent four days searching for frugivorous hornbills, with the help of tape playback. They did more than 40 point counts, in the National Park as well as the Resource Reserve (using the internal road system): they did not find any *Bycanistes* or *Ceratogymna* hornbills.

The Park Manager's office at Asempanaye holds a bird list apparently produced as an Appendix to the final report for the first PADP. This seems to have been prepared subsequent to Dyer (1997) and contains so many errors that it is best ignored altogether. Some species have been added which seem to come from Dyer's table for Ankasa, others come from Bui or savanna areas to the north (with species like White Helmet Shrike *Prionops plumatus*, Grey-headed Bush Shrike *Malaconotus blanchoti*, Lavender Waxbill *Estrilda caerulescens*, etc.).

3.2. Ecological considerations

The avifauna of Bia is typical of the broken-canopy semi-evergreen rain forest zone: Congo Serpent Eagle *Dryotriorchis spectabilis* is common (more so than in evergreen rain forest) — not surprising as this raptor needs clearings for hunting, catching lizards and other prey on the ground or among tree crowns. The open canopy and emergents have a rich avifauna with good numbers of wood hoopoes, starlings, sunbirds, weavers (*Ploceus tricolor* and *Malimbus rubricollis* are very common), tits (*Parus funereus* is also locally common); of the flycatchers the tiny *Batis poensis* is also much more common here than in evergreen rain forest (with the exception of Atewa), and the open sub-canopy is also, it seems, optimal habitat for the little-known Tessmann's Flycatcher *M. tessmanni*.

By contrast, the avifauna of shaded understorey under closed canopy is impoverished: there are only small sections of such forest, and as a result characteristic species such as the kingfisher *Halcyon badia*, drongo *Dicrurus atripennis* or illadopsis *Illadopsis rufipennis* are very local. Other species like the woodpecker *Campethera caroli* and bulbul *Criniger olivaceus* appear to be absent. They may have existed locally in the past, before logging took place.

Understorey species which have taken advantage of the opening-up of the habitat and thrive in tangles low down include the longbill *Macrosphenus kempii* (occurring throughout the forest whereas it is only at edges in the evergreen zone), warbler *Camaroptera superciliaris*, flycatchers *Myioparus griseigularis* and *Trochocercus nitens* (far more common here than, for instance, in Ankasa). The greenbul *Phyllastrephus albigularis* is also very common in this forest type, and more so than its congener *P. icterinus* (more restricted to shaded, undisturbed forest, and more numerous in evergreen rain forest).

A number of large trees were in flower in January 2005 and December 2009, attracting many nectarivorous species: especially *Bombax* (parrots, barbets, bulbuls, sunbirds, orioles and starlings, weavers and malimbes), *Ceiba*, also *Alstonia* and (rocky clearings on the Apaaso trail) *Hildegardia*. The red tubular flowers of *Hildegardia* are so popular with sunbirds that the larger species (*N. olivacea*, *N. adelberti*) defend sections of the trees against conspecific and congeneric competitors.

The mauve flowers of *Daniellia ogea* are also pollinated by birds: in December 2009 they attracted many bird species, including Speckled Tinkerbird, Slender-billed Greenbul, Collared and Buff-throated Sunbirds, Western Black-headed Oriole, Copper-tailed and Splendid Glossy Starlings, Yellow-mantled Weaver and Red-headed Malimbe.

3.3. Biome-restricted species

Bia holds a rich Guineo-Congolian assemblage, totalling c. 144 species but large hornbills and Grey Parrot are now apparently extinct, as also White-breasted Guineafowl:

Tigriornis leucolopha, *Bostrychia rara*, *Pteronetta hartlaubi* (extinct?), *Dryotriorchis spectabilis*, *Accipiter erythropus*, *Urotriorchis macrourus*, *Francolinus lathamii*, *F. ahantensis*, *Agelastes meleagrides* (extinct), *Himantornis haematopus*, *Sarothrura pulchra*, *Columba uncinata*, *C. (delegorguei) iriditorques*, *Turtur brehmeri*, *Psittacus erithacus* (old records), *Agapornis swindernianus* (old record), *Tauraco macrorhynchus*, *Cercococcyx mechowi*, *C. olivinus*, *Chrysococcyx flavigularis*, *Centropus leucogaster*, *Bubo leucostictus*, *Glauucidium tephronotum*, *Caprimulgus binotatus*, *Telacanthura melanopygia*, *Rhaphidura sabini*, *Neafrapus cassini*, *Apus batesi*, *Alcedo leucogaster*, *Ceyx lecontei*, *Halcyon badia*, *Merops gularis*, *Eurystomus gularis*, *Phoeniculus castaneiceps*, *Tropicranus albocristatus*, *Tockus hartlaubi*, *T. camurus*, *T. fasciatus*, *Bycanistes fistulator* (extinct?), *B. cylindricus* (extinct), *B. subcylindricus* (extinct), *Ceratogymna atrata* (extinct), *C. elata* (extinct),

Gymnobucco calvus, *G. peli*, *Pogoniulus scolopaceus*, *P. subsulphureus*, *P. atroflavus*, *Tricholaema hirsuta*, *Trachylaemus purpuratus*, *Indicator maculatus*, *Campethera maculosa*, *C. nivosa*, *Dendropicos gabonensis*, *Thripias pyrrhogaster*, *Smithornis rufolateralis*, *Psalidoprocne nitens*, *Coracina azurea*, *Andropadus gracilis*, *A. ansorgei*, *A. curvirostris*, *Calyptocichla serina*, *Baeopogon indicator*, *Ixonotus guttatus*, *Thescelocichla leucopleura*, *Phyllastrephus baumanni* (very marginal), *P. icterinus*, *P. albigularis*, *Bleda syndactylus*, *B. eximius*, *B. canicapillus*, *Criniger barbatus*, *C. calurus*, *Nicator chloris*, *Neocossyphus poensis*, *Stizorhina fraseri*, *Alethe diademata*, *Stiphornis erythrothorax*, *Cossypha cyanocampter*, *Erythropygia leucosticta* (old record), *Eremomela badiceps*, *Sylvietta virens*, *S. denti*, *Macrosphenus concolor*, *M. kempi*, *Hyliota violacea*, *Hylia prasina*, *Apalis nigriceps*, *A. sharpii*, *Camaroptera superciliaris*, *C. chloronota*, *Fraseria ocreata*, *Muscicapa olivascens*, *M. cassini*, *M. epulata*, *M. comitata*, *M. tessmanni*, *M. ussheri*, *Myioparus griseigularis*, *Megabyas flammulatus*, *Batis poensis*, *Dyaphorophya blissetti*, *D. castanea*, *Erythrocerus mcallii*, *Trochocercus nitens*, *Elminia nigromitrata*, *Terpsiphone rufiventer*, *Illadopsis fulvescens*, *I. cleaveri*, *I. rufescens*, *Parus funereus*, *Anthoscopus flavifrons*, *Pholidornis rushiae*, *Deleornis fraseri*, *Anthreptes rectirostris*, *Nectarinia seimundi*, *N. batesi*, *N. cyanolaema*, *N. adelberti*, *N. minulla*, *N. johannae*, *N. superba*, *Oriolus brachyrhynchus*, *O. nigripennis*, *Dryoscopus sabini*, *Prionops caniceps*, *Dicrurus atripennis*, *D. (adsimilis) modestus*, *Poeoptera lugubris*, *Onychognathus fulgidus*, *Lamprotornis cupreocauda*, *Ploceus tricolor*, *P. albinucha*, *P. preussi*, *Malimbus nitens*, *M. malimbicus*, *M. scutatus*, *M. rubricollis*, *Nigrita bicolor*, *N. luteifrons*, *N. fusconota*, *Spermophaga haematina*. The eagle *Spizaetus africanus* and owl *Bubo poensis* are no longer considered Guineo-Congolian, as found to occur in the Tanzanian mountains; the honeyguide *Indicator willcocksii* extends too far into the Sudanian biome to be included. On the other hand the turaco *Corythaeola cristata* may be added as a Guineo-Congolian near-endemic.

3.4. Globally-threatened species

Following BirdLife International (2008), at least eight species of global conservation concern have been recorded in Bia:

White-breasted Guineafowl *Agelastes meleagrides* (Vulnerable), for which there is a single record (in 1953: Collier & Stuart 1985). Given the amount of hunting in the National Park, and a combination of logging and hunting in the Resource Reserve, it is most likely to have become extinct; none of the wildlife guards interviewed has come across it;

Grey Parrot *Psittacus erithacus* (Near Threatened). We have never recorded this species in Bia, and possibly it is also extinct. The last dated records are from 1997 (M. Dyer); this species has decreased everywhere in south-west Ghana due to poaching for the pet trade;

Brown-cheeked Hornbill *Bycanistes cylindricus* and Yellow-casqued Hornbill *Ceratogymna elata* (both Near Threatened) have not been recorded since 1991 (L. Holbech);

Green-tailed Bristlebill *Bleda eximius* (Vulnerable, but should be downgraded to Near Threatened). This widespread species occurs in small numbers;

Rufous-winged Illadopsis *Illadopsis rufescens* (Near Threatened). Very rare or local in Bia;

Copper-tailed Glossy Starling *Lamprotornis cupreocauda* (Near Threatened) is widespread in small numbers;

Tessmann's Flycatcher *Muscicapa tessmanni* (Data Deficient) is widespread or even locally common, as elsewhere in semi-evergreen rain forest in south-west Ghana.

It is possible that the Rufous Fishing Owl *Scotopelia ussheri* (Endangered) occurs in the south, near ponds (see text), and L. Holbech may have recorded Yellow-bearded Greenbul *Criniger olivaceus* (Vulnerable). We searched for the bulbul several times, especially in the densest forest on the Colobus path, with the help of tape playback, but to no avail.

3.5. Breeding records

The following records include those obtained in adjacent Krokosua and Ayum in Jan 2005, but come from Bia unless otherwise stated. They are based on pers. obs. unless otherwise stated:

- Tambourine Dove *Turtur tympanistria*. Nest-building high up, 2 Jan.
- Red-eyed Dove *Streptopelia semitorquata*. Nest-building on 13 Jan 2009 (G. Savornin *in litt.*).
- ?Klaas's Cuckoo *Chrysococcyx klaas*. A *Chrysococcyx* juvenile, probably this species, fed by a Collared Sunbird, 26 Jan 2009 (G. Savornin *in litt.*).
- White-headed Wood Hoopoe *Phoeniculus bollei*. Frequent feeding at nest in tree hole, 6-7 Jan (Krokosua); eggs laid probably Nov.
- Forest Wood Hoopoe *Phoeniculus castaneiceps*. One coming and going with food (to nest?), 26 Jan 2009 (G. Savornin *in litt.*).
- Naked-faced Barbet *Gymnobucco calvus*. Occupied nest (3 Jan) from where a *Poeoptera* starling was chased. Several feeding at nests at Krokosua, 6-7 Jan (eggs laid probably in Nov and Dec, some noisy nestlings).
- Bristle-nosed Barbet *Gymnobucco peli*. Adult feeding a fledgling (in a flowering *Bombax*), 10 Jan (Ayum); from eggs laid Nov.
- Speckled Tinkerbird *Pogoniulus scolopaceus*. Adult taking red fruit to nest-hole in a dead stump (hole at a height of 2 m), 4 Jan (eggs laid Dec).
- Cameroon Sombre Greenbul *Andropadus curvirostris*. A female, in very worn plumage and with an old brood patch (21 Sep 2010) had bred earlier in the rains.
- Icterine Greenbul *Phyllastrephus icterinus*. One feeding a fledgling, 8 Dec; from eggs Oct.
- Red-tailed Bristlebill *Bleda syndactylus*. A female with a wrinkled brood patch, mist-netted on 4 Dec 2009 (eggs laid in Oct or Nov).
- Grey-headed Bristlebill *Bleda canicapillus*. A female mist-netted on 20 Sep 2010 was in full primary moult, with an old brood patch (thus had bred earlier in the rains).
- Common Bulbul *Pycnonotus barbatus*. Pair feeding nestlings (in a mango tree, New Debiso) 3-4 Dec; from eggs laid Nov.
- Fire-crested Alethe *Alethe diademata*. A female with an old brood patch, 21 Sep 2010, had laid earlier in the rains.
- Rufous-crowned Eremomela *Eremomela badiceps*. Pair feeding at least one fledgling (without a collar) in canopy, 9 Jan (Ayum); from eggs laid Nov.
- Grey Longbill *Macrosphenus concolor*. Feeding two fledglings, 7 Dec; from eggs laid Oct. Pair with fledgling(s) 22 Sep; from eggs Jul.
- Green Hylia *Hylia prasina*. Adult feeding fledgling, 7 Jan (Krokosua), 8 Jan (another site), 10 Jan (Ayum); eggs laid Nov in all three cases.
- Sharpe's Apalis *Apalis sharpii*. Macdonald & Taylor (1977) saw a pair feeding two fledged young 7 Apr 1977 (i.e. eggs laid Feb).
- Grey-throated Flycatcher *Myioparus griseigularis*. Alarm-calling and carrying food (to nest?), Ayum, 9 Jan (eggs probably laid Dec). Similar behaviour on 22 Sep (eggs probably Aug) and 7 Dec (eggs Nov).
- Chestnut-capped Flycatcher *Erythrocerus mccallii*. Pair with fully grown fledglings (still begging intermittently), 9 Jan (Ayum); eggs laid Nov.
- Tit-hylia *Pholidornis rushiae*. Taylor & Macdonald (1978) reported nest-building on 10 Apr.
- Fraser's Sunbird *Deleornis fraseri*. Pair feeding at least two fledglings, 3 Dec; eggs laid Oct.
- Collared Sunbird *Anthreptes collaris*. Feeding big fledgling, 10 Jan (Ayum); eggs laid Nov. Feeding fledgling 3 Dec, from eggs laid Oct. Feeding fledgling, 24 Jan 2009 (G. Savornin *in litt.*), from eggs laid Nov or Dec.
- Olive Sunbird *Nectarinia olivacea*. Fledgling begging and fed, Krokosua, 6 Jan; eggs laid Nov. A female with an active (watery) brood patch mist-netted on 21 Sep 2010 (eggs Sep).
- Superb Sunbird *Nectarinia superba*. Female feeding at nest in a medium-sized leafless tree (farmbush near Camp 15), 3-4 Jan; eggs laid Dec.
- Western Black-headed Oriole *Oriolus brachyrhynchus*. Occupied nest, with female feeding and brooding small

young, 3 Jan (eggs laid Dec). Nest at mid-levels, in shady tree.

Black-winged Oriole *Oriolus nigripennis*. Feeding at nest in open canopy, Krokosua, 7 Jan (eggs laid Dec).

Forest Chestnut-winged Starling *Onychognathus fulgidus*. Female nest-building in a hole in a tall broken branch, 2 Jan. Pair feeding at tree hole, 6-7 Jan (Krokosua), thus eggs laid probably late Nov.

Splendid Glossy Starling *Lamprotornis splendidus*. Female nest-building (tree hole), Krokosua, 8 Jan.

Yellow-mantled Weaver *Ploceus tricolor*. 2005: pair nest-building in a very tall *Entandrophragma*, 4 Jan (isolated nest in this case); pair at Krokosua discreetly feeding at one nest (of a cluster of 8), 6-7 Jan (eggs laid Dec). Another nest of a group of 6-7 occupied, stage uncertain. 2009: occupied nest with female brooding, male singing or displaying nearby (3 Dec; eggs Nov). Other birds were still nest-building or consolidating old nests (Dec).

Blue-billed Malimbe *Malimbus nitens*. Pair feeding nestlings (nest over pond), 6 Dec; from eggs laid Nov. On 23 Sep some still nest-building, several (4+) other nests with brooding female (thus egg-laying starting Sep in several pairs). Overall egg-laying Sep to Nov.

Crested Malimbe *Malimbus malimbicus*. Pair with full-grown begging juvenile, 20-21 Sep; eggs laid Jul.

Red-vented Malimbe *Malimbus scutatus*. Up to four birds working on a well-advanced nest attached to a tall *Raphia* frond, 23 Sep. One or two birds lining the chamber, others taking very fine material to lengthen the funnel.

Red-headed Malimbe *Malimbus rubricollis*. Nest-building in a tall tree (nest c. 40 m high, tip of branch in a *Pterygota macrocarpa*), 2 Jan.

Grey-crowned Negrofinch *Nigrita canicapillus*. Nest-building (Krokosua) 6 Jan.

Chestnut-breasted Negrofinch *Nigrita bicolor*. Two separate individuals nest-building, 23 Sep.

Black-bellied Seed-cracker *Pyrenestes ostrinus*. A male tearing grass blades and nest-building in low tangle on edge of pond, 23 Sep.

Western Bluebill *Spermophaga haematina*. Very young fledgling (barely flying), 3 Dec (eggs late Oct).

Moult. On 2-4 Dec 2009, 45 birds were examined for moult, of which only four Olive Sunbirds had just started (primary score 1) or were in full moult (three with primary scores 26 to 40) and one Bluebill had started moult (score 13). Totals of birds caught and ringed: 1 *Accipiter erythropus*, 1 *Ceyx pictus*, 1 *Tockus hartlaubi*, 3 *Campethera nivosus*, 1 *Andropadus virens*, 8 *Andropadus latirostris*, 2 *Phyllastrephus albigularis*, 1 *Bleda syndactylus*, 6 *Bleda canicapillus*, 1 *Nicator chloris*, 1 *Stizorhina fraseri (finschi)*, 3 *Alethe diademata*, 1 *Stiphornis erythrothorax*, 1 *Hylia prasina*, 5 *Terpsiphone rufiventer*, 2 *Illadopsis fulvescens*, 4 *Nectarinia olivacea*, 2 *Malimbus nitens*, 1 *Spermophaga haematina*.

On 20-22 Sep 2010, 30 birds were mist-netted (including four retraps from Dec 2009), of which two of seven Grey-headed Bristlebills were in moult (one male had just started with a score of 6, one female was in full moult with a score of 23), a female Forest Robin was in advanced moult (score of 36), two of three Fire-crested Alethes were in moult (one female with a score of 5 and a male with a score of 22). One other Grey-headed Bristlebill female was very fresh, suggesting it had just completed moult. Totals of birds caught and ringed: 2 *Andropadus virens*, 3 *Andropadus latirostris*, 1 *Andropadus curvirostris*, 7 *Bleda canicapillus* (1 re-trap), 1 *Bleda eximius*, 2 *Neocossyphus poensis*, 3 *Alethe diademata* (2 retraps), 1 *Stiphornis erythrothorax*, 1 *Trochocercus nitens*, 4 *Nectarinia olivacea* (1 re-trap), 1 *Malimbus malimbicus*, 4 *Spermophaga haematina*.

Conclusion. Some species breed in the dry season, e.g. doves, wood hoopoes, barbets, Green Hylia, some flycatchers, some sunbirds, orioles and starlings. Most bulbuls probably breed in the rains, and by September some Grey-headed Bristlebills had started primary moult (including one female with an old brood patch). Turdididae probably breed in the early rains, as by September 2 of 3 Fire-crested Alethes were in moult, and so was a female Forest Robin. On the other hand, seed-eaters (Bluebill and Seed-cracker) and Blue-billed Malimbos breed in the late rains.

4. ANNOTATED SPECIES LIST

4.1. Main species list

We present an annotated list of species occurring at Bia. An * indicates those recorded by ourselves; additional records by other observers are by MD (Dyer 1997), AH (A. Hester *in litt.*), LH (L. Holbech, *in litt.*), T&M (Taylor & Macdonald 1978) and GS (G. Savornin *in litt.*). Kunkumso is on the northern edge of the National Park (rest house area), and Colobus Camp in the centre of the National Park. Camps 5 and 7, and Bongo Camp are in the south-east and south of the Resource Reserve respectively; Camp 15 is on the eastern edge, at the boundary between the park and the reserve. The distance by road between Camp 15 and Bongo is 16 km. For coordinates, see Appendix.

White-crested Tiger Heron *Tigriornis leucolopha*. Reported by wildlife guard Appiah from surroundings of pools in centre of reserve.

Green-backed Heron *Butorides striata*. GS saw one on the edge of a pond, 18 Jan 2009, near Bongo Camp. No more than an irregular visitor, of a species that can also be seen just outside the reserve (pond in farm-bush, east of Camp 15).

Spot-breasted Ibis *Bostrychia rara*. Reported by several members of staff (who know the voice) for the area of pools in the centre of the reserve, between Camp 15 and Bongo Camp.

Hartlaub's Duck *Pteronetta hartlaubii*. There is a sight record of this species by M. Rucks (in T&M), c. mid-1970s. In 2005 a guard at Camp 15 informed us that the species was occasionally encountered on pools near the old logging trail in the Resource Reserve. In 2009-10 there was no sign of this duck on any of the pools visited between Camp 15 and Bongo Camp, and guards could not remember any recent sightings.

*African Cuckoo Hawk *Aviceda cuculoides*. Observed near Camp 15 (a pair, 2005) and also at forest edges near Kunkumso, where one singing on 2 Dec 2009 (9h) and one singing in display flight on 21 Sep 2010 (10h30). There are a few earlier records (e.g. MD).

European Honey Buzzard *Pernis apivorus*. Palaearctic migrant recorded on 17-18 Nov 1997 (MD), 11 Jan 2009 (GS), 5 Apr 1977 (T&M) and mid-Apr 2006 (AH).

Bat Hawk *Macheiramphus alcinus*. Crepuscular species recorded by AH (Apr 2006), but the details of location have been lost (A. Hester *in litt.* 2011).

Palm-nut Vulture *Gypohierax angolensis*. Recorded by T&M, AH and GS.

Hooded Vulture *Necrosyrtes monachus*. A few soaring over a clearing, T&M. Common commensal species in the region, not usually in forest.

*Congo Serpent Eagle *Dryotriorchis spectabilis*. Listed by MD without a source, and apparently overlooked by other observers. In Jan 2005 rather noisy on Apaaso trail and near Camp 15, calling morning (mostly 8-9h15, dawn being about 5h50) and late afternoon. Less noisy in Dec 2009: on 3rd one singing 10h50 (Apaaso trail) for at least 10 minutes, with a second one nearby. Singing Kunkumso 6h25-6h28 on 4 Dec, and a few minutes 7h57 near Camp 7 on 8 Dec. No songs heard in Sep 2010.

*African Harrier Hawk (Gymnogene) *Polyboroides typus*. A few scattered records.

Black Sparrowhawk *Accipiter melanoleucus*. Noted by LH and GS.

*Red-thighed Sparrowhawk *Accipiter erythropus*. One previous record by LH. Pair at Kunkumso in Dec 2009, of which the male was mist-netted. One chased by a pair of Velvet-mantled Drongos.

*African Goshawk *Accipiter tachiro*. Jan 2005: common and noisy throughout, with much display flight early morning and just before dusk (occasionally a second bird was singing perched nearby, presumably the female). Similarly singing early morning, on a daily basis, in Dec 2009 and Sep 2010. May sing later after morning rain (9h on 21 Sep).

*Long-tailed Hawk *Urotriorchis macrourus*. Noted by T&M, LH and MD. Apparently rarer than elsewhere in south-west Ghana, as we encountered it only once: one immature calling (series of 5 notes) in the rocky area on the Apaaso trail on 22 Sep 2010. MD recorded it in the south of the Resource Reserve (near Camp 5).

*Red-necked Buzzard *Buteo auguralis*. Noted by several observers, at least Nov-Apr. Mainly outside forest, ob-

served at Kunkumso on 3 Dec. None in Sep 2010, when largely absent from Ghana.

Ayres's Hawk Eagle *Hieraaetus ayresii*. Two singles reported by T&M over forest.

Cassin's Hawk Eagle *Spizaetus africanus*. Rare in Bia: identified by MD only, in the Resource Reserve.

*Crowned Eagle *Stephanoaetus coronatus*. Previously recorded by T&M and MD. One singing at 11h40 near Colobus Camp, 4 Dec 2009, and one singing on the way to Colobus Camp (from Chimps) at 11h20 on 21 Sep 2010. MD recorded it in the same area in 1997, and also in the south of the Resource Reserve (near Camp 5).

*Latham's Forest Francolin *Francolinus lathamii*. Throughout, much evening song in the dry season (e.g. Dec-Jan) and also Sep 2010. Occasional songs during the day (Dec).

*Ahanta Francolin *Francolinus achantensis*. In the more degraded sections, near Camp 15 and Camp 7 and at Kunkumso (not very noisy in the dry season, calling mostly at night).

White-breasted Guineafowl *Agelastes meleagrides*. There is an old record from the National Park, from 1953 (details in Collar & Stuart 1985). None since, and according to wildlife guards it must be extinct.

Crested Guineafowl *Guttera pucherani*. Recorded from the Resource Reserve by MD and from an unknown locality by T&M (all based on feathers). By all accounts very rare: wildlife guard Appiah saw it once (about 2004) near Camp 3 (south of Camp 15) near the boundary; guard Anthony Amoateng saw it once only, near Chimps Camp (date uncertain).

*Nkulengu Rail *Himantornis haematopus*. A few heard at night on shaded stream near Kunkumso rest house, disturbed forest near Camps 15 and 7.

*White-spotted Flufftail *Sarothrura pulchra*. Throughout forest near small streams and ponds.

African Jacana *Actophilornis africanus*. Occasional visitor to central pools, reported by staff and seen by GS near Bongo Camp on 12 and 18 Jan 2009.

*Afep Pigeon *Columba uncinata*. Fairly local: song heard (Dec and Jan visits) on the Colobus path, along the road to Bongo Camp (Dec), once on the Apaaso trail (Jan). Display flight noted by T&M in Apr 1977. Few records by other observers.

*Western Bronze-naped Pigeon *Columba (delegorguei) iriditorques*. More common than last, recorded in small numbers at all localities. Singing frequently in Dec-Jan (also Nov, MD), and perhaps less so in Sep. Missed by T&M, perhaps because not singing in Apr 1977? but AH had it in Apr 2006.

*Red-eyed Dove *Streptopelia semitorquata*. Mainly at forest edges, but found locally in open forest, for example common along the old logging road from Camp 15 to Bongo Camp. Present in forest clearings near Camp 7.

*Blue-spotted Wood Dove *Turtur afer*. Common at forest edges all along the park's boundaries.

*Tambourine Dove *Turtur tympanistria*. In forest understorey, throughout. Missed by T&M, presumably silent in Apr.

*Blue-headed Wood Dove *Turtur brehmeri*. In forest understorey, throughout, but less common than Tambourine in disturbed areas.

*African Green Pigeon *Treron calvus*. Widespread, in small numbers.

Grey Parrot *Psittacus erithacus*. There are earlier records, by T&M, LH and MD. But none reported since Nov 1997, when MD recorded it in the south near Camp 5. In 1990-91 LH (*in litt.* 2011) found them far more often in the Resource Reserve, especially in *Raphia* swamps.

*Brown-necked Parrot *Poicephalus robustus*. One (or a pair) flying over Apaaso trail on 22 Sep 2010. First record for Bia, of no doubt an irregular visitor.

*Red-fronted Parrot *Poicephalus gularis*. Small numbers at a few localities (especially Colobus path and Bongo trail), on most days. In Apr 1977 T&M noted as many as 30 in flocks moving in the evenings over Bia.

Black-collared Lovebird *Agapornis swindernianus*. Small flocks of 5-10 noted by T&M in early Apr 1977, but none reported since.

*Yellow-billed (Verreaux's) Turaco *Tauraco macrorhynchus*. Common throughout forest.

*Great Blue Turaco *Corythaëola cristata*. Previously recorded by T&M, LH and MD. One pair seen near Camp 15, Jan 2005. No observations in 2009-10, and very rarely reported by wildlife guards, possibly no records in recent years.

- Levaillant's Cuckoo *Clamator levaillantii*. A dry-season visitor from the northern savannas, with two records: MD saw one on 17/18 Nov 1997, and GS one on 16 & 26 Jan 2009 (near Camp 15).
- *Red-chested Cuckoo *Cuculus solitarius*. Heard in Nov by MD, in Apr by AH, and also T&M, who heard several (T&M), but none noted by us in Jan 2005. Reduced vocal activity in Dec 2009: one heard briefly on 4 Dec (Colobus path), and a single bird singing occasionally near Camp 7 (8-9 Dec). In Sep 2010 heard mid-morning on Colobus path and on the Bongo track.
- *Black Cuckoo *Cuculus clamosus*. Heard at all localities, and some individuals were very noisy in Dec and Jan. Also heard (less persistently) in Sep.
- Common (European) Cuckoo *Cuculus canorus*. T&M saw one in early Apr 1977, which they believed to be this species on date (as, otherwise could be confused with African Grey Cuckoo *C. gularis*, an intra-African migrant).
- Dusky Long-tailed Cuckoo *Cercococcyx mechowii*. MD recorded both *Cercococcyx* cuckoos in Nov 1997 (Dusky in both National Park and Resource Reserve), and this species was also noted by LH, but much less frequently than Olive Long-tailed (14 contacts against 49 for the latter). All of these were in the middle and south of the Resource Reserve, singing in Feb, Mar and Apr 1991 (L. Holbech *in litt.* 2011).
- *Olive Long-tailed Cuckoo *Cercococcyx olivinus*. Heard in Nov 1997 (MD) but not by T&M nor AH in Apr. Heard one bird in Jan 2005 near Colobus Camp and one near Camp 15. None singing in the north in Dec 2009, when only a single bird was singing occasionally in the south-east (near Camp 7). One singing briefly (two long songs) on 22 Sep 2010 near Colobus path.
- *African Emerald Cuckoo *Chrysococcyx cupreus*. Widespread and vocal, Dec-Jan. Only a couple heard in Sep 2010 (Colobus path, Bongo trail).
- *Yellow-throated Cuckoo *Chrysococcyx flavigularis*. First reported to us by AH (Apr 2006), FDL heard this species near Chimps' Camp on 4 Dec 2009. Another heard north of Bongo Camp on 6 Dec; each time the call was the typical two-note whistle, not the full song.
- *Klaas's Cuckoo *Chrysococcyx klaas*. Mainly at forest edges (e.g. Kunkumso), but also in forest with large clearings, near Colobus Camp, Bongo trail etc.
- *Didric Cuckoo *Chrysococcyx caprius*. Mainly in farmbrush outside the reserve, up to forest edges (Kunkumso, Camps 7 and 15).
- *Yellowbill (Green Coucal) *Ceuthmochares aereus*. Common throughout, dense understorey or mid-level tangles.
- *Black-throated Coucal *Centropus leucogaster*. Widespread, especially in degraded forest.
- *Blue-headed Coucal *Centropus monachus*. In low growth on the edge of pools along the road from Camp 15 to Bongo Camp (Dec 2009).
- *Senegal Coucal *Centropus senegalensis*. In secondary growth on the edge of the park (Kunkumso, 2009, not earlier), and also in low growth on the edge of the road from Camp 15 to Bongo Camp. GS saw one of the black morph *epomidus* near Camp 15, Jan 2009.
- *Fraser's Eagle Owl *Bubo poensis*. Purrs heard once on the edge of forest at Kunkumso (3 Dec 2009) and family (purrs and high whistles) heard middle of night at Camp 15 (24 Sep 2010). More surprisingly purrs heard by day in forest near Camp 7, at 10h45 in dull weather (7 Dec).
- *Akun Eagle Owl *Bubo leucostictus*. One pair calling (duet of short roulades, deep "rro"), in secondary forest next to Camp 15, Jan 2005.
- *Red-chested Owlet *Glaucidium tephronotum*. Appears common (all sites visited), often calling midday (when it can react strongly to tape playback), as well as in the evening. Keeps to mid-stratum or canopy, although Jeffrey (1970) caught one in a small mammal trap on the ground; she did not give an exact locality, but it was clearly from what is now Bia N.P. (Jeffrey 1975).
- *African Wood Owl *Strix woodfordii*. Widespread, heard on all visits.
- *Brown Nightjar *Caprimulgus binotatus*. One singing in an area of fairly closed forest about 100 m from the Kunkumso rest house, Jan 2005; still present in exactly the same spot in 2009-10. At least two singing in degraded forest on either side of the track near Camp 15, 5 Dec 2009, over several hours (from dusk at 18h11 until at least 21h25). None heard there in Sep 2010, but it was drizzling. Also two counter-singing in forest near Camp 7, 7 Dec 2009. No records prior to 2005, but heard also by AH in Apr 2006.

- *Black Spinetail *Telacanthura melanopygia*. A pair over dense forest near Camp 15, and several over the old logging trail in the evening, Jan 2005. Up to 14 birds flying in the same area, over a large clearing in the valley below Camp 15, evening of 22 Sep 2010, often forming small groups chasing each other and calling. Several also over water of the largest pond (logging track to Bongo Camp), in both Dec 2009 and Aug 2010. One pair over forest clearing near Camp 7, Dec 2009.
- *Sabine's Spinetail *Rhaphidura sabini*. A couple in the north (Jan 2005). On 6 Dec 2009 exceptional concentrations of several dozen were flying low over water, around several of the larger pools along the road from Camp 15 to Bongo; several in the same area in Sep 2010. On 7 Dec 2009 three were seen leaving the forest near Camp 7, flying south across farmbush! This suggests inter-forest movements.
- *Cassin's Spinetail *Neafrapus cassini*. In Jan 2005 one near Colobus Camp. Otherwise recorded in some numbers over water of some of the ponds along the logging track between Camp 15 and Bongo Camp (Dec 2009 and Sep 2010); seen drinking and dipping their belly into water (Sep).
- *African Palm Swift *Cypsiurus parvus*. Not a forest species; only near the rest house at Kunkumso (2005), and Camp 7.
- *Common (European) Swift *Apus apus*. A few in Jan 2005 over forest canopy; also noted early Apr by T&M.
- *African White-rumped Swift *Apus caffer*. At least 7 birds present around a culvert along the road from Camp 15 to Bongo Camp, together with several pairs of Lesser Striped Swallow, 6 Dec 2009. This site was deserted in Sep 2010.
- Bates's Swift *Apus batesi*. A single record, by MD (1997).
- *Narina's Trogon *Apaloderma narina*. A few singing in Jan 2005 (Apaaso and Colobus trails). Only one heard in the north (Colobus path) in Dec 2009, and a single also singing 7-9 Dec near Camp 7. One singing briefly on 22 Sep 2010 (Colobus path).
- Malachite Kingfisher *Alcedo cristata*. GS saw one on the edge of a pond, near Bongo Camp, 18 Jan 2009. No more than an irregular visitor, more often encountered on pools in farmbush.
- White-bellied Kingfisher *Alcedo leucogaster*. There is apparently one sight record of this discreet species from Bia by M. Rucks (in T&M).
- African Dwarf Kingfisher *Ceyx lecontei*. One was mist-netted in Bia by M. Rucks (in T&M).
- *African Pygmy Kingfisher *Ceyx pictus*. Present on the edge of forest at Kunkumso in Dec 2009, including one mist-netted there.
- *Chocolate-backed Kingfisher *Halcyon badia*. Rather uncommon; isolated birds heard north and south, from Kunkumso to Bongo Camp. Inactive vocally in Dec 2009 (only two heard in 9 days); but still only one heard in four days in Sep 2010.
- *Blue-breasted Kingfisher *Halcyon malimbica*. Another local species, one observation in Jan 2005 (patch with *Raphia*) near Camp 15. One singing in cocoa farm at forest edge, Camp 7, Dec 2009.
- *Woodland Kingfisher *Halcyon senegalensis*. Common in farmbush and at forest edges, and several territorial pairs also noted around large ponds near the logging track from Camp 15 to Bongo Camp (at both seasons).
- *Black Bee-eater *Merops gularis*. Very local: one pair in a large forest clearing near Camp 7, Dec 2009. Previous records by T&M and MD.
- *White-throated Bee-eater *Merops albicollis*. This Sahel non-breeding visitor occurs in small flocks in the dry season, especially in farmbush, also around forest clearings, hunting from large trees, e.g. Apaaso trail, forest near Camp 7. Recorded from at least Nov (MD) to Apr (T&M).
- *Broad-billed Roller *Eurystomus glaucurus*. At least one pair seemed to occupy a territory inside forest near Kunkumso, Dec 2009. Thus it competes with its forest congener.
- *Blue-throated Roller *Eurystomus gularis*. Widespread in open canopy. Occasional concentrations in the evening: e.g. over 15 hunting insects together over large clearing near Camp 15, Jan 2005.
- *White-headed Wood Hoopoe *Phoeniculus bollei*. Common and widespread in forest canopy; in pairs or small groups.
- *Forest Wood Hoopoe *Phoeniculus castaneiceps*. Widespread in forest canopy.
- *White-crested Hornbill *Tropicranus albocristatus*. Widespread.
- *Black Dwarf Hornbill *Tockus hartlaubi*. Several observations, including Apaaso and Colobus Camp, on the

edge of Camp 15, and near Camp 7.

- *Red-billed Dwarf Hornbill *Tockus camurus*. Somewhat local, favours areas of denser forest, as between Chimps and Colobus Camp, and north of Bongo Camp.
- *African Pied Hornbill *Tockus fasciatus*. Widespread and common.
- Piping (White-tailed) Hornbill *Bycanistes fistulator*. Recorded in the past by several observers (T&M, LH), last in 1997 (MD), one observation in the Resource Reserve.
- Brown-cheeked Hornbill *Bycanistes cylindricus*. There are past records of this rare hornbill by T&M and LH. None since 1991. Likely hunted out.
- Black-and-white-casqued Hornbill *Bycanistes subcylindricus*. There is only one old record of this species of secondary forest (or farmbush) from Bia: that of M. Rucks in T&M, without details. That would have been in the mid-1970s (J. Oates *in litt.* 2011).
- Black-casqued Hornbill *Ceratogymna atrata*. There are records by T&M (common in 1977) and LH (uncommon in 1991), but none since 1991.
- Yellow-casqued Hornbill *Ceratogymna elata*. There are records by T&M (common in 1977) and LH (fairly common still, in 1991), but none in later years.
- *Naked-faced Barbet *Gymnobucco calvus*. Common in canopy. Seen feeding on fruit of *Discoglyprena*, *Trichilia* and flowers (nectar) of *Bombax* and *Ceiba*.
- *Bristle-nosed Barbet *Gymnobucco peli*. Appears less common than congener. A few well seen, coming to flowers of *Ceiba* (north of Bongo Camp), Dec 2009; same area in Sep 2010. Seen along the same road by GS, Jan 2009.
- *Speckled Tinkerbird *Pogoniulus scolopaceus*. Common, all forest types and at all levels; takes nectar from flowers of *Daniellia ogea*.
- *Yellow-throated Tinkerbird *Pogoniulus subsulphureus*. Common.
- *Red-rumped Tinkerbird *Pogoniulus atroflavus*. Canopy species, less common than other congeners. Appeared silent in Sep 2010 (none heard in 4 days).
- *Hairy-breasted Barbet *Tricholaema hirsuta*. Common; comes to arillate fruits of *Pycnanthus*.
- *Vieillot's Barbet *Lybius vieilloti*. Species of savanna woodland, that penetrates marginally into farmbush in forest zone. No records until Dec 2009, when we heard two pairs duetting at forest edges at Kunkumso. Also heard in Sep 2010. This is likely a consequence of the increase of deforestation around Bia.
- *Yellow-billed Barbet *Trachyphonus purpuratus*. Widespread in small numbers.
- Spotted Honeyguide *Indicator maculatus*. There are records by T&M, LH and MD, but we never came across this species, which must be rare.
- *Lesser (Thick-billed) Honeyguide *Indicator minor conirostris*. Seen in 2005 (near Camp 15); one song post located near the path between Chimps and Colobus Camp (near a clump of *Lophira*), 4-5 Dec 2009 (singing at 8h45 until at least 12h40) and 21 Sep 2010 (singing 8h50 until at least 12h). No previous records.
- *Willcocks's Honeyguide *Indicator willcocksii*. One singing in a tall leafless *Ceiba* (8h50), on the Apaaso trail, 2 Jan 2005, and heard in the same tree again on 2-3 Dec 2009 and on 22 Sep 2010 (mid-morning). Also seen on Colobus path. Only one previous record, by MD.
- *Little Green (Golden-backed) Woodpecker *Campethera maculosa*. Heard once on the Apaaso trail, Jan 2005. No records on later visits. One old record, by T&M, and a recent one (2006) by AH.
- *Buff-spotted Woodpecker *Campethera nivosus*. Widespread (Kunkumso to Camp 7), usually in bird parties, low down.
- *Gabon Woodpecker *Dendropicos gabonensis*. Small numbers in broken forest (canopy), from Kunkumso to Bongo Camp.
- *Fire-bellied Woodpecker *Thripias pyrrhogaster*. Widespread, canopy or upper mid-stratum.
- *Rufous-sided Broadbill *Smithornis rufolateralis*. Silent during our Jan visit, but one displaying briefly at dawn on 4 Dec 2009 (Kunkumso) and mid-morning (in dull weather) on Colobus path, 5 Dec. One alarm-calling and displaying near Colobus path, 22 Sep (7h30).
- *Square-tailed Saw-wing *Psalidoprocne nitens*. Rare: one seen at forest edges at Kunkumso on 5 Jan 2005. One previous record by MD.

- *Lesser Striped Swallow *Hirundo abyssinica*. Several pairs apparently nesting under culvert, on the old logging trail between Camp 15 and Bongo Camp, Dec 2009. Not present there in Sep 2010.
- *Barn (European) Swallow *Hirundo rustica*. Small groups over canopy, or clearings, evidently wintering in the area, Sep, Dec-Jan; but mostly outside forest. Also recorded Nov (MD) and Apr (T&M).
- House Martin *Delichon urbicum*. One on 8 Apr 1977 (T&M), and recorded mid-April (AH).
- *Purple-throated Cuckoo-shrike *Campephaga quiscalina*. Uncommon: one in open canopy on Apaaso trail and another (male, singing) near Camp 15 (Jan 2005); otherwise recorded in farmbush (Kunkumso: 2009). One previous record by MD.
- *Blue Cuckoo-shrike *Coracina azurea*. Common in canopy, occasionally coming down to mid-levels in bird parties.
- *Little Greenbul *Andropadus virens*. Common in forest understorey and farmbush.
- *Little Grey Greenbul *Andropadus gracilis*. Fairly common, mid-levels in degraded forest.
- *Ansorge's Greenbul *Andropadus ansorgei*. This rare species was located (from the dry trill call) in dense forest next to Colobus Camp, 4 Dec 2009.
- *Cameroon Sombre Greenbul *Andropadus curvirostris*. Widespread in dense understorey.
- *Slender-billed Greenbul *Andropadus gracilirostris*. Common canopy species; visits flowers of *Daniellia ogea* for nectar.
- *Yellow-whiskered Greenbul *Andropadus latirostris*. Common in shaded understorey, very vocal on all visits.
- *Golden Greenbul *Calyptocichla serina*. The occasional pair in canopy. More vocal in the dry season (Dec-Jan) than in the rains, as not heard in Sep.
- *Honeyguide Greenbul *Baeopogon indicator*. Widespread, in small numbers.
- Spotted Greenbul *Ixonotus guttatus*. There are previous records by T&M (two groups in a week, Apr 1977, in the National Park), MD, but only a single record by LH in five months (1990-91); GS saw it once, in the Resource Reserve (Jan 2009).
- *Swamp Palm Bulbul *Thescelocichla leucopleura*. Rather local at Bia: encountered at forest edges at Camp 5 (Dec 2009); previous records by T&M, MD, LH. Normally near streams or *Raphia* palms.
- *Baumann's Greenbul *Phyllastrephus baumanni*. Single and pair located in two places in large forest clearings with some *Chromolaena* on Apaaso trail, 2 Jan 2005, near the eastern edge of the forest. The birds were not singing but alarm-calling and they came to tape playback. Already recorded from Bia by H. Kahl in Mar 1994 (*Bull. Afr. Bird Club* 2: 63), but without details; hence it was not mentioned by Fishpool (2000) as he failed to get any further information from the observer (L.D.C. Fishpool *in litt.*). The area was revisited in 2010 but the vegetation had partly recovered and the bulbul was not detected.
- *Icterine Greenbul *Phyllastrephus icterinus*. Somewhat local as confined to areas of dense forest (especially between Chimps and Colobus Camp), also near Camp 7.
- *White-throated Greenbul *Phyllastrephus albigularis*. More common than Icterine, in dense understorey, throughout.
- *Red-tailed Bristlebill *Bleda syndactylus*. Somewhat local, although widespread (Kunkumso to Camp 7); often at ant swarms with other Bristlebills and Alethes. Not very vocal in Dec-Jan, more so in Sep.
- *Green-tailed Bristlebill *Bleda eximius*. Rare or difficult to find (this species is not very noisy): one pair well seen in a mixed party in a section of closed forest at the boundary between the Resource Reserve and the National Park, 5 Jan 2005. One or two singing between Chimps and Colobus Camp, Dec 2009 and Sep 2010. One male mist-netted at Kunkumso in Sep was not heard singing there. Previous records by T&M and LH.
- *Grey-headed Bristlebill *Bleda canicapillus*. Commonest *Bleda*, throughout and very noisy.
- *Western Bearded Greenbul *Criniger barbatus*. Widespread and common, in fairly closed forest or with small clearings.
- *Red-tailed Greenbul *Criniger calurus*. Widespread and common; may come to tapes of Yellow-bearded Greenbul *C. olivaceus*.
- *Common Bulbul *Pycnonotus barbatus*. Common in farmbush, forest edges or even broken canopy as it penetrates logged forest or very large clearings (as in rocky area on the Apaaso trail).
- *Western Nicator *Nicator chloris*. Common.

- *White-tailed Flycatcher Thrush *Neocossyphus poensis*. Local, in the densest sections of forest, particularly between Chimps and Colobus Camps; also near Camp 7.
- *Rufous (Finsch's) Ant Thrush *Stizorhina fraseri finschi*. Fairly common, throughout.
- *Fire-crested (White-tailed) Alethe *Alethe diademata*. Widespread and fairly common.
- *Forest Robin *Stiphrornis erythrothorax*. Fairly common in shaded understorey. Not very active vocally in Sep-Jan (brief snatches of song only).
- Blue-shouldered Robin Chat *Cossypha cyanocampter*. Only one record, by M. Rucks (in T&M), based on mist-netting. Normally in low thickets or farmbush, this bird was caught south of Colobus Camp (M. Rucks MS).
- Forest Scrub Robin *Erythropygia leucosticta*. Only one record, by M. Rucks (in T&M), said to be based on mist-netting; no details of location. M. Rucks (MS) however mentions only one sight record.
- *Rufous-crowned Eremomela *Eremomela badiceps*. Fairly widespread in tall and medium-sized trees.
- *Green Crombec *Sylvietta virens*. Mainly outside in farmbush and at edges, but does penetrate along the wide logging trail between Camp 15 and Bongo Camp.
- *Lemon-bellied Crombec *Sylvietta denti*. Pair seen at close range at mid-levels (tangles below open canopy), Colobus path, Jan 2005. Previous record only by T&M.
- *Grey Longbill *Macrosphenus concolor*. Common, tangles in semi-shaded forest.
- *Kemp's Longbill *Macrosphenus kempii*. Fairly common, tangles under broken canopy.
- *Wood Warbler *Phylloscopus sibilatrix*. One in canopy (including *Piptadeniastrum*) on Colobus path, 3 Jan 2005. None located on 1-9 Dec 2009. Several in early Apr 1977 (T&M) and recorded mid-Apr 2006 (AH).
- *Violet-backed Hyliota *Hyliota violacea*. A few seen and heard in tall trees, from Kunkumso to Camp 7. Also at forest edges (farmbush near Camp 7).
- *Green Hylia *Hylia prasina*. Common understorey species.
- *Black-capped Apalis *Apalis nigriceps*. Rare: located on Apaaso trail in Jan 2005, but not in 2009-10. Previous records by LH only.
- *Sharpe's Apalis *Apalis sharpii*. Widespread, but not very vocal in Dec 2009 (on some days not heard before late morning, and only one heard in nearly three days spent near Camp 7). T&M saw a pair feeding young in Apr.
- *Grey-backed Camaroptera *Camaroptera brachyura*. Marginal species of farmbush and forest edges.
- *Yellow-browed Camaroptera *Camaroptera supercilialis*. Common in tangles throughout forest.
- *Olive-green Camaroptera *Camaroptera chloronota*. Widespread, but not very vocal in Dec 2009 and even less in Sep 2010 (when heard on only one day). Appears common in low tangles of Marantaceae and *Aframomum* near ponds, between Camp 15 and Bongo Camp.
- *Fraser's Forest Flycatcher *Fraseria ocreata*. A few (pairs or family groups) in forest canopy, from Kunkumso to Camp 7.
- *Olivaceous Flycatcher *Muscicapa olivascens*. One or two singing early morning in fairly closed canopy (north).
- *Cassin's Flycatcher *Muscicapa cassini*. In the absence of wide streams was not expected to occur in Bia, but one individual was observed on the edge of a pond north of Bongo Camp, 6 Dec 2009. Caught a dragonfly over water. This and other ponds were examined again on 23 Sep 2010 but there was no sign of this bird. Probably an unmated wanderer, in suboptimal habitat.
- *Little Grey Flycatcher *Muscicapa epulata*. Uncommon, but easily overlooked as normally silent. One unusually noisy bird in a big *Ceiba* in a forest clearing near rocky area (Apaaso trail) produced a sort of song "tsip, tsip, tsrreerr" and high-pitched calls (22 Sep 2010). This is our only record, and there are two previous records, by LH and MD.
- *Dusky-blue Flycatcher *Muscicapa comitata*. Jan 2005: two pairs low down in forest clearing near Colobus Camp, including one of a pair singing at 10 m high on the edge of tangles, and responding angrily to the song of *M. tessmanni* perched above. Also some in low tangles on the edge of ponds south-west of Camp 15, one producing a rather elaborate song (6 Dec 2009), of a few simple or double whistles followed by a trill, "peetwee, peetwee, peetwee, tjee-tjee" or "tsee-tsee-tsee-tsee" followed by trill.
- *Tessmann's Flycatcher *Muscicapa tessmanni*. Widespread in Bia, from Kunkumso and Colobus Camps south

to Camps 15 and 7, at mid-levels in fairly open forest. Has a loud, very musical, far-carrying song of 6-7 notes (tape-recorded), often uttered in early to mid-mornings, sometimes in late afternoon. Vocal in Dec-Jan, when a display song (longer and more scratchy) could also be heard. In Sep 2010, one singing midday on Apaaso trail (12h50), and another singing also midday (12h20), after heavy rain (24 Sep, Camp 15).

- *Ussher's Flycatcher *Muscicapa ussheri*. Occasional, in very tall trees. Seen most easily from the logging trail north of Bongo Camp, or in forest clearings on the Apaaso trail.
- *Grey-throated Flycatcher *Myioparus griseigularis*. Common flycatcher of dense understorey, throughout.
- *Shrike-Flycatcher *Megabyas flammulatus*. Heard in a canopy party near Colobus Camp, 5 Dec 2009 (the characteristic dialect of south-west Ghana, with 2-3 ascending high-pitched notes, followed by clicking "tic-tic-tic"). There was one unconfirmed record in Dyer's list (no source traced).
- *Black-and-white Flycatcher *Bias musicus*. Normally marginal, present in farmbrush on the northern edge of the park (near Kunkumso) in Dec 2009. By Sep 2010 one had established a territory in very degraded forest in front of the rest house.
- *Bioko (Fernando Po) Batis *Batis poensis*. Fairly common species of tall trees, throughout, from Kunkumso to Camp 7. Located from its very high-pitched trilled song (descending "trriuuurrr", followed by fast "tsi-tsi-tsi-tsi"). No previous records.
- *Red-cheeked Wattle-eye *Dyaphorophya blissetti*. Very local: one singing in thicket on the edge of forest, near Camp 15, Jan 2005. Heard in exactly the same spot in Dec 2009.
- *Chestnut Wattle-eye *Dyaphorophya castanea*. Fairly common in shaded forest.
- *Chestnut-capped Flycatcher *Erythrocercus mccallii*. Fairly common at mid-levels.
- Dusky Crested Flycatcher *Elminia nigromitrata*. T&M saw this small flycatcher three times in the National Park in Apr 1977. There are no other records. This is a species of shaded understorey under closed canopy, and the habitat at Bia is at best marginal. Could it be that the extensive logging that took place from 1977 in three quarters of the area, and the increasing isolation of Bia due to deforestation all around, leading perhaps to a decrease in rainfall, have made conditions unsuitable for this species?
- *Blue-headed Crested Flycatcher *Trochocercus nitens*. Fairly common in tangles and thick understorey, where located mainly by voice, but seen occasionally.
- *African Paradise Flycatcher *Terpsiphone viridis*. Single males in breeding dress in forest canopy on 2 and 4 Jan 2005 (Apaaso trail, and near Camp 15) were presumably dry-season visitors from the savanna zone. One male (near Bongo Camp) and one female also seen by GS in Jan 2009.
- *Red-bellied Paradise Flycatcher *Terpsiphone rufiventer*. Common and throughout.
- *Brown Illadopsis *Illadopsis fulvescens*. The commonest illadopsis, in disturbed or tangled understorey. The most frequently recorded illadopsis on transects (LH).
- *Pale-breasted Illadopsis *Illadopsis rufipennis*. Very local, in sections of closed, shaded forest: heard near Colobus Camp (song in Jan, alarm calls in Sep) and in one area of dense forest near Camp 15 (Jan). Other records by MD and AH.
- *Blackcap Illadopsis *Illadopsis cleaveri*. More widespread than last, and singing (a few) at all seasons. The second most frequent illadopsis on transects (LH).
- *Rufous-winged Illadopsis *Illadopsis rufescens*. One persistent songster in dense forest between Chimps and Colobus Camp, 4-5 Dec 2009. Did not respond to tape playback and was probably unmated. This is our only record, of a species also reported (rarely) by LH.
- *Dusky Tit *Parus funereus*. Met a few times in canopy in the north of Bia (National Park), 2005 and 2009.
- *Forest Penduline Tit *Anthoscopus flavifrons*. Res. Three seen together in upper mid-stratum, Apaaso trail, Jan 2005. A possible, but brief, observation in 2010.
- *Tit-hylia *Pholidornis rufiae*. Observed occasionally in the north (e.g. Colobus Camp) and south-east (Camp 7, Dec 2009). T&M saw one nest-building on 10 Apr.
- *Fraser's Sunbird *Deleornis fraseri*. Widespread, and a common member of mixed bird parties in fairly shaded forest. May feed right in the open too (rocky clearing on Apaaso trail). Often located in the early morning by its song of 3-4 high-pitched, sibilant, detached notes.
- *Green (Yellow-chinned) Sunbird *Anthreptes rectirostris*. Small discreet species, often overlooked as feeds

- predominantly in very tall trees. Seen lower down on Apaaso trail, where attracted by the red *Hildegardia* flowers in rocky clearings (Jan). Also on *Ceiba* flowers (Dec). Not noted by any other observers.
- *Collared Sunbird *Anthreptes collaris*. Common throughout. Insectivorous, but also takes nectar from flowers of *Hildegardia*, *Alstonia*, *Daniellia ogea*, and *Bombax* (which it pierces at the base).
 - *Little Green Sunbird *Nectarinia seimundi*. Seen at close range feeding on red *Hildegardia* flowers in rocky clearings (Apaaso trail); also on *Alstonia* and *Bombax* flowers. Otherwise insectivorous, often in creepers at mid-levels. Widespread, from Kunkumso to Camp 7.
 - *Bates's Sunbird *Nectarinia batesi*. Very small species, difficult to identify: in 2005 some well seen entering the huge flowers of *Bombax buonopozense*, along the boundary path between the Park and the Resource Reserve. Tiny sunbird disappearing entirely inside the flower.
 - *Olive Sunbird *Nectarinia olivacea*. Common or even numerous, throughout. On flowers of *Alstonia*, *Bombax*, *Ceiba*, *Hildegardia*; often very aggressive, defending sections of *Hildegardia* tree against conspecifics and other sunbirds. Nectar of *Bombax* flowers is taken frontally, or by piercing the base.
 - *Blue-throated Brown Sunbird *Nectarinia cyanolaema*. Widespread canopy species; takes nectar from flowers of *Alstonia* and *Bombax* (inserting bill at base between large petals).
 - *Buff-throated Sunbird *Nectarinia adelberti*. Widespread canopy species. On flowers of *Alstonia*, *Bombax*, *Daniellia*, *Hildegardia*. Like Olive Sunbird, defends patches of *Hildegardia* flowers. Noted as more common than *N. cyanolaema* in open or previously logged forest; by far the commonest canopy sunbird along the old logging trail between Camp 15 and Bongo Camp.
 - *Olive-bellied Sunbird *Nectarinia chloropygia*. In farmbrush, at forest edges and also locally in large clearings, e.g. on *Hildegardia* flowers in rocky clearings (Apaaso trail). Seen also on *Bombax* flowers.
 - *Tiny Sunbird *Nectarinia minulla*. Some well seen, and several heard singing (especially early morning); thus widespread from Kunkumso to Camp 7; locally common in the National Park. Already recorded from Bia by H. Kahl (*Bull. Afr. Bird Club* 1995, 2: 63).
 - *Johanna's Sunbird *Nectarinia johannae*. A widespread canopy species, in small numbers, from Kunkumso to Camp 7. A mistletoe specialist, also seen on flowers of *Bombax*.
 - *Superb Sunbird *Nectarinia superba*. More local than the other very large sunbird (Johanna's), and found perhaps only at forest edges: nesting in an isolated tree in Camp 15 (Jan); coming to *Bombax* flowers at Camp 7 (Dec).
 - *Western Black-headed Oriole *Oriolus brachyrhynchus*. Widespread, slightly more of an understorey species than its congener and more often in closed forest. Attending nest at Bia in Jan. Coming to flowers of *Daniellia ogea* (Dec).
 - *Black-winged Oriole *Oriolus nigripennis*. Common in tall and medium-sized trees. Feeding on fruit of *Disco-glypsemna* and nectar (flowers of *Bombax*).
 - *Sabine's Puffback *Dryoscopus sabini*. Common in the upper strata, throughout.
 - *Red-billed Helmet Shrike *Prionops caniceps*. Fairly widespread, Kunkumso to Camp 7.
 - *Shining Drongo *Dicrurus atripennis*. A species of shaded understorey in fairly closed forest, thus rare or local: found on the boundary between the National Park and Resource Reserve (near Camp 15, Jan 2005), and locally near Camp 7 (Dec 2009). No records by T&M, nor AH in four days, but noted by MD and LH.
 - *Velvet-mantled Drongo *Dicrurus (adsimilis) modestus*. Common in open canopy, coming down in mixed parties to lower levels, perhaps because of the local absence of Shining Drongo.
 - *Narrow-tailed Starling *Poeoptera lugubris*. Uncommon: one chased by a *Gymnobucco* barbet from a tree hole, near Colobus Camp, Jan 2005. There is one previous record by MD (from the south of the Resource Reserve, near Camp 5), and a subsequent one by AH (2006).
 - *Forest Chestnut-winged Starling *Onychognathus fulgidus*. Widespread canopy species, Kunkumso to Camp 7. Nesting in the dry season.
 - *Copper-tailed Glossy Starling *Lamprotornis cupreocauda*. Uncommon, usually in pairs. Seen once near Kunkumso (Jan), on the Apaaso trail (Sep), near Camp 15, Bongo Camp and Camp 7 (Dec). One pair coming to flowers of *Daniellia ogea*, another to flowers of *Ceiba* (Dec).
 - *Splendid Glossy Starling *Lamprotornis splendidus*. Common canopy species, throughout and more numerous than last. Forms flocks in the non-breeding season (rains): thus over 100 birds coming in from the north,

Kunkumso, morning of 22 Sep 2010 (had apparently roosted in farmbush) and several small groups going to roost flying north, evening of 22 Sep (Camp 15). Pair coming to flowers of *Daniellia ogea* and *Bombax* (both Dec).

- *Yellow-mantled Weaver *Ploceus tricolor*. Common species of tall and medium-sized trees. Nests are often in small clusters of half a dozen or so, but we have not seen more than one pair in attendance (some of the nests are obviously old, disused ones). Feeds mainly on insects (often searching young foliage of *Pycnanthus*), also takes fruit (of *Discoglyprena*) and nectar (of *Bombax*, *Ceiba*, *Daniellia ogea*).
- *Maxwell's Black Weaver *Ploceus albinucha*. Widespread canopy species, in small or large (over 20) groups. Sings in groups too, producing quite a distinctive noise in the canopy (Dec-Jan). Seen taking nectar from flowers of *Bombax* and *Daniellia* (Dec). At Camp 7, some travelled outside forest (over 100 m) to reach flowering *Bombax* in farmbush.
- *Preuss's Weaver *Ploceus preussi*. Rare species of tall trees (a bark-probing specialist), perhaps under-recorded as practically silent: one male seen at boundary of National Park and Resource Reserve (Camp 15), preening and calling ("tsitsitsuee"), Jan 2005. A male seen near Colobus Camp (Sep 2010).
- *Blue-billed Malimbe *Malimbus nitens*. Fairly widespread in understory mixed parties. Breeds over water, and very common at all the ponds by logging trail between Camp 15 and Bongo Camp. Nests situated end of branches at low heights (mostly 1-3 m, sometimes lower); frantic nesting activities in Sep, finishing in Dec.
- *Crested Malimbe *Malimbus malimbicus*. Solitary species (pairs or small families), typically in tangles in the mid-stratum. Overall more common than Blue-billed Malimbe.
- *Red-vented Malimbe *Malimbus scutatus*. Local canopy species in pairs or small groups, often rather noisy, encountered near Colobus Camp, near Camp 15, along road to Bongo Camp (locally common near ponds), and near Camp 7. Nest-building in a *Raphia* frond in Sep, up to four birds working together. A pair taking nectar from *Bombax* flowers (Dec, Camp 7), probing frontally.
- *Red-headed Malimbe *Malimbus rubricollis*. A common canopy species, throughout, in pairs. Bark-probing specialist of tall trees, singing a lot in Jan, nest-building etc. Also seen feeding on flowers of *Bombax* (Dec-Jan) and *Daniellia ogea* (Dec); one systematically picking something (insect?) at base of *Entandrophragma* leaflets, causing the fall of the leaves.
- *Grey-crowned Negrofinch *Nigrita canicapillus*. Common and throughout, at all levels. One came to flowers of *Bombax* (Dec) for nectar, probing frontally.
- *Chestnut-breasted Negrofinch *Nigrita bicolor*. Widespread, from Kunkumso to Camp 7, but less common than Grey-crowned. In forest canopy, or understory tangles, perhaps more common in the vicinity of water (track from Camp 15 to Bongo Camp).
- Pale-fronted Negrofinch *Nigrita luteifrons*. There is one record of this rare bird: one was seen by H. Kahl near Kunkumso (*Bull. Afr. Bird Club* 2: 63), presumably at forest edge.
- *White-breasted Negrofinch *Nigrita fusconotus*. More of a canopy species than Grey-crowned, but uncommon. One came to flowers of *Bombax* (Dec), probing frontally.
- *Black-bellied Seed-cracker *Pyrenestes ostrinus*. One male nest-building in moist tangle on the edge of a large pond, west of Camp 15, Sep 2010.
- *Western Bluebill *Spermophaga haematina*. In thick low growth at forest edges (e.g. Kunkumso), in large clearings (as on Apaaso trail) and on the edge of ponds (several encountered along old logging track between Camp 15 and Bongo Camp). Songs heard in Sep and Dec.
- Green Twinspot *Mandingoa nitidula*. A species of low thickets, recorded from Bia by M. Rucks (in T&M), mist-netted, near Colobus Camp stream (M. Rucks, MS).
- *Black-and-white Mannikin *Spermestes bicolor*. Some flocks on seeding grass along old logging road between Camp 15 and Bongo Camp. Otherwise outside the reserves, in farmbush.

4.2. Marginal species

A few species of the above list might as well have been included here, as it is not certain they were recorded within the boundaries of the park, or because they are present right on the boundary (e.g. Vieillot's Barbet). At

least the following can be seen in the garden or around Kunkumso rest house, or in farmbush just outside the boundaries. They are not forest species and are not included in the park's list; this list is not exhaustive.

- *Yellow-billed Kite *Milvus migrans*. Recorded by T&M for Bia, but more of a commensal species in the forest zone.
- Long-crested Eagle *Lophaetus occipitalis*. There is one sight record of this rare raptor by M. Rucks (in T&M), on the boundary road (M. Rucks, MS). Not a forest species, and evidently not resident at Bia.
- Plain Nightjar *Caprimulgus inornatus*. A savanna species, with poorly documented movements. In 2005 we queried a record by MD (Nov), who had flushed one on a forest trail. GS examined a dead one outside the park near Camp 15, Jan 2009.
- Long-tailed Nightjar *Caprimulgus climacurus*. A savanna species, listed by MD, presumably from farmbush.
- *Little Bee-eater *Merops pusillus*. Present in derived grassland and farmbush, a pair breeding in a man hole near Kunkumso rest house (Dec 2009).
- Swallow-tailed Bee-eater *Merops hirundineus*. A savanna species, seen once by MD in farmbush near the forest edge (M. Dyer *in litt.*), 17 or 18 Nov 1997. An exceptional vagrant.
- *Rufous-chested (Red-breasted) Swallow *Hirundo semirufa*. A small flock on the edge, passing by Camp 15, 4 Jan 2005.
- *African Pied Wagtail *Motacilla aguimp*. One around the new staff buildings, Kunkumso, Dec 2009.
- *Plain-backed Pipit *Anthus leucophrys*. One singing in grassy clearing, new staff houses at Kunkumso, Dec 2009.
- *Simple Leaflove *Chlorocichla simplex*. Recorded from farmbush, just outside reserve, including Kunkumso.
- Common Nightingale *Luscinia megarhynchos*. One on passage, in camp clearing 7 Apr (T&M). A late date for this Palaearctic migrant.
- Whinchat *Saxicola rubetra*. Very marginal, as recorded on passage in camp clearing, 8 Apr (T&M).
- *Whistling Cisticola *Cisticola lateralis*. Present in farmbush.
- *Red-faced Cisticola *Cisticola erythrops*. Common in low farmbush.
- *Tawny-flanked Prinia *Prinia subflava*. Farmbush and secondary grass.
- Lead-coloured Flycatcher *Myioparus plumbeus*. Farmbush species recorded by MD outside forest (M. Dyer *in litt.*).
- *Splendid Sunbird *Nectarinia coccinigaster*. A pair in tall trees in the garden of the rest house, Dec 2009.
- *Yellow White-eye *Zosterops senegalensis*. Marginal species of forest edges seen in gardens, farmbush, e.g. Camps 7 and 15, and Kunkumso.
- *Pied Crow *Corvus albus*. Commensal species, occasional at the rest house (Kunkumso), Camp 15 etc.
- *Northern Grey-headed Sparrow *Passer griseus*. Occasional visitor to the rest house (Dec 2009).
- *Vieillot's Black Weaver *Ploceus nigerrimus*. Common in farmbush.
- *Village Weaver *Ploceus cucullatus*. Common in farmbush.
- *Orange-cheeked Waxbill *Estrilda melpoda*. Common in farmbush.
- *Bronze Mannikin *Spermestes cucullata*. Farmbush and forest edges.

4.3. Species requiring confirmation or considered unlikely

White-backed or Black-crowned Night Heron *Gorsachius leuconotus* or *Nycticorax nycticorax*. An immature seen very briefly on the edge of a pond, 18 Jan 2009, by GS. The author considers the former more likely, but the observation was too short to be certain.

Goliath Heron *Ardea goliath*. Large heron of wide rivers, included in Dyer (1997) but source not traced (not his own record) and no doubt in error, as there is no suitable habitat at Bia.

[Hadada Ibis *Bostrychia hagedash*. Listed by Grimes (1987) as occurring "along major rivers" in the forest zone, including the Bia; but this river flows well outside the park. This species is now extinct in south-west Ghana.]

Rufous Fishing Owl *Scotopelia ussheri*. There is a very possible record (based on size and colour) of one flushed by day by G. Savornin on 15 Jan 2009, on the path south-west of Bongo Camp. The bird was seen some

way from any water (the nearest pond might be 2 km away).

Yellow-spotted Barbet *Buccanodon duchaillui*. This species is very common in the evergreen rain forest zone but is scarce or absent north of 6°N, with the exception of Atewa Range (where common). There is a single record (by T&M, 1977) based on one bird “singing”. The voice of this barbet was poorly known at the time. Chappuis (2000) published the vocal dialect of West African *Buccanodon* under the wrong species (*Gymnobucco calvus*). Our intensive surveys of 2008-10 in the forest zone show this barbet to reach its northern limit of distribution on the Tano Ofin plateau, above the altitude of 600 m.

Yellow-rumped Tinkerbird *Pogoniulus bilineatus*. Listed by MD and LH, no doubt as a result of confusion with its sibling *P. subsulphureus*. The two tinkerbirds are inseparable on plumage but can be told apart on voice. *P. bilineatus*, is, however, absent from south-west Ghana and is recorded in farmbush only at the periphery of the forest zone.

Brown-eared Woodpecker *Campethera caroli*. Recorded only by Ntiamoa-Baidu *et al.* (2001), but this requires confirmation. Species of closed-canopy forest.

African Pitta *Pitta angolensis*. Listed by MD, but without an identifiable source. M. Dyer (*in litt.* 2005) could not provide one, so best left out.

White-throated Blue Swallow *Hirundo nigrita*. Listed by Ntiamoa-Baidu *et al.* (2001), but considered erroneous: there are no wide rivers in the forest at Bia that would be suitable for this species.

Red-shouldered Cuckoo-shrike *Campephaga phoenicea*. Savanna species, listed by MD without a source. Might turn up in farmbush as a dry-season visitor, but this needs confirmation.

Yellow-bearded Greenbul *Criniger olivaceus*. Species of undisturbed, closed-canopy forest listed by Ntiamoa-Baidu *et al.* (2001), possibly based on LH. But due to identification problems, best left out as requiring confirmation. We failed to find this bulbul despite systematic searches in bird parties, with the help of tape playback.

Brown-chested Alethe *Alethe poliocephala*. Listed only by LH (but repeated by MD in his 1997 report), with high numbers recorded on transects. However, the author never saw the species, and may have confused the calls with those of a longbill (L. Holbech *in litt.* 2011). As no-one else has ever reported this species, it is best left unconfirmed or even rejected.

Square-tailed Drongo *Dicrurus ludwigii*. Listed only by LH (but repeated by MD in his 1997 report), apparently through confusion with Shining Drongo *Dicrurus atripennis*. *D. ludwigii* is absent from the rain forest zone, replacing its sibling in drier forests of the transition (and Sudanian) zone.

In addition, there are many errors in the PADP Appendix, as mentioned in the introductory sections.

5. OBSERVATIONS ON LARGER MAMMALS

We did not include a section on mammals in 2005, as we encountered no duikers nor any monkeys. The situation had improved slightly by 2009-10, when we heard and saw two Black-and-white Colobus *Colobus vellerosus* in forest close to the Kunkumso rest house (2-3 Dec 2009); we also heard Campbell's and Spot-nosed Monkeys *Cercopithecus (mona) campbelli* and *C. petaurista* near Camp 7. Sylvain Gatti (Gatti n.d., 2009) did not apparently find any Colobus in his surveys, but they are also well known to staff, from at least the north of the Park. Olive Colobus *Procolobus verus* is also recorded, and Chimpanzee *Homo (Pan) troglodytes* is known to survive in very small numbers in the south-east of the Resource Reserve (Gatti n.d.).

Elephants *Loxodonta africana* are still fairly common in Bia. There were numerous tracks near the ponds (between Camp 15 and Bongo Camp) in December 2009, and some also in forest between Chimps and Colobus Camps.

Demidoff's Galago *Galagoides demidovii* and Tree Hyrax *Dendrohyrax dorsalis* are very common, as elsewhere in south-west Ghana.

We heard Bushbuck *Tragelaphus scriptus* at the edge of forest at Kunkumso in the evening (2009), and on the Apaaso trail near the big rocky clearing (then by day, 2010).

6. CONSERVATION ASPECTS

Bia and other forests in the region have suffered from much illegal hunting. All large frugivorous hornbills seem to have completely disappeared in the 1990s, most of them between 1991 and 1997 while Piping Hornbill was last seen in 1997. Great Blue Turaco seems to be very rare now if not extinct. Grey Parrot is probably extinct (no records since 1997). Crested Guinea fowl is very rare and there are no records of the endangered White-breasted Guinea fowl since the 1950s. Hartlaub's Duck may have disappeared from the pools in the centre and south.

There was much evidence of poaching in 2005. Cartridges were encountered right on the main tourist path leading from the Bia rest house; two poachers with guns and head loads were met by us when we entered the forest near the Bia Research Centre (on the boundary path), and shots were heard. In 4 days spent we saw no mammals larger than a squirrel (and one semi-tame Royal Antelope *Neotragus pygmeus* at the rest house). Things seemed to have improved a little by 2009-10, when we encountered some monkeys, of three species (see relevant section), and Crowned Eagle has indeed survived in the national park.

However, poaching remains the biggest problem in Bia today. The reserve *sensu lato* is surrounded by cocoa farms on all sides and wildlife guards are completely outnumbered by hunters, who can also be intimidating (they recently destroyed some of the old buildings of the Research Centre at Camp 15, N. Dauphiné pers. comm. May 2010). There is little hope for the survival of mammals and larger birds in Bia. The increasing isolation of Bia forests is problematic for the future. Even if anti-poaching patrols were sufficient to tip the balance, it is unlikely that Bia could be re-colonized from outside, as all other forest reserves have also been over-hunted, and indeed large hornbills and Grey Parrots have disappeared from further afield.

7. REFERENCES

- BirdLife International 2008. *Threatened birds of the World*. CD-ROM. Cambridge, UK: BirdLife International.
- Borrow N. & Demey R. 2001. *Birds of Western Africa*. London: Christopher Helm.
- Borrow N. & Demey R. 2004. *Field guide to the Birds of Western Africa*. London: Christopher Helm.
- Collar N.J. & Stuart S.N. 1985. *Threatened birds of Africa and related islands*. Cambridge: I.C.B.P. & I.U.C.N.
- Davidson N.C. 1978. Additions to local avifaunas: Bia National Park. *Bull. Nigerian Orn. Soc.* 14: 88.
- Dowsett-Lemaire F. & Dowsett R.J. 2000. Birds of the Lobéké Faunal Reserve, Cameroon, and its regional importance for conservation. *Bird Cons. Int.* 10: 67-87.
- Dyer M. 1997. Ornithological perspectives, Annex 4 in *Ankasa Conservation Area Management Plan*. 62 pp. Durham: ULG Northumbrian Ltd.
- Fishpool L.D.C. 2000. A review of the status, distribution and habitat of Baumann's Greenbul *Phyllastrephus baumanni*. *Bull. Brit. Orn. Club* 120: 213-229.
- Gatti S. n.d., c. 2009. Status of primate populations in protected areas targeted by the Community Forest Biodiversity Project. Accra: WAPCA & Wildlife Division.
- Grimes L.G. 1987. *The birds of Ghana*. London: B.O.U. Check-list no. 9.
- Hall J.B. & Swaine M.D. 1976. Classification and ecology of closed-canopy forest in Ghana. *J. Ecol.* 64: 913-951.
- Hawthorne W. 1998. *Plants in Ankasa, Nini-Suhien, and Bia* (Review of existing knowledge, results from a new survey and recommendations for management plans). PADP, Western Region, Ghana. Durham: ULG Northumbrian Ltd. in association with AGRER.
- Hawthorne W. & Abu-Juam M. 1995. *Forest protection in Ghana*. Gland: IUCN, and Cambridge, UK.
- Holbech L. in Ms. *Low-extraction selective logging and conservation of bird diversity in a moist forest of southwest Ghana*. (Based on MSc thesis carried out at Bia 1990-91).
- Jeffrey S.M. 1970. Yellow-legged Owlet from western Ghana. *Bull. Nigerian Orn. Soc.* 7: 61-62.
- Jeffrey S.M. 1975. Ghana's new forest National Park. *Oryx* 13: 34-36.
- Letouzey R. 1968. *Etude phytogéographique du Cameroun*. Paris: P. Lechevalier.
- Macdonald M.A. & Taylor I.R. 1977. Notes on some uncommon forest birds in Ghana. *Bull. Brit. Orn. Club* 97: 116-120

- Ntiamoa-Baidu Y., Owusu E.H., Daramani D.T. & Nuoh A.A. 2001. Ghana. Pp. 367-389, in Fishpool L.D.C. & Evans M.I. (eds). *Important bird areas in Africa and associated islands*. Newbury & Cambridge, UK: Pisces Publications & BirdLife International.
- Oates J.F. 2006. Primate conservation in the forests of western Ghana: field survey results, 2005-2006. A report to the Wildlife Division, Forestry Commission, Accra.
- Taylor I.R. & Macdonald M.A. 1978. The birds of Bia National Park, Ghana. *Bull. Nigerian Orn. Soc.* 14: 36-41.

APPENDIX. GAZETTEER OF LOCALITIES

Asempanaye (Bia National Park Headquarters).....	6°30'N, 2°54'W
Bongo Camp (Bia Resource Reserve).....	6°28'N, 3°06'W
Camp 5 (Bia R.R.).....	6°22'N, 2°59'W
Camp 7 (Bia R.R.).....	6°21'N, 3°01'W
Camp 15 (= old Bia Research Centre).....	6°32'N, 3°02'W
Chimps Camp (= Camp 11, Bia N.P.).....	6°36'N, 3°06'W
Colobus Camp (= Camp 1, Bia N.P.).....	6°34'N, 3°05'W
Kunkumso rest house (= Camp 12, Bia N.P.).....	6°37'N, 3°03'W

ADDENDUM

A copy of an unpublished report on the birds of Bia by Meredith Rucks (dated April 1976, with a short addendum in May) was sent to us by Murdo Macdonald. The list of *c.* 75 species, recorded over a period of about two years (J. Oates *in litt.*), includes a significant proportion of unlikely species. Nevertheless, the following breeding or feeding records are worthy of mention:

- Crowned Eagle: seen actively hunting Diana (Roloway), Spot-nosed, Mona (= Campbell's) and Red Colobus monkeys. Note that Diana and Red Colobus have long been extinct in Bia.
- Latham's Forest Francolin: a nest with 3 eggs was incubated for at least two weeks in December.
- Yellowbill: a fledgling was fed with green grasshoppers by the adult, February.
- Grey Parrot: "seen in large vocal groups". Fed on seeds from unripe pods of *Parkia bicolor* every December-February.
- Red-fronted Parrot: a flock of 40+ feeding on seeds of *Alstonia boonei*, October.
- Yellow-casqued Hornbill: feeding extensively on the nuts of Oil Palm.
- Red-billed Dwarf Hornbill: a dependent but full-grown juvenile in late March.
- Velvet-mantled Drongo (apparently misidentified as Shining Drongo): a pair feeding young in nest, over 100 feet high, late March.
- Olive Sunbird: dependent fledglings late March.

The few birds mist-netted by M. Rucks were all caught somewhere south of Colobus Camp.

In 2011 we also received an unpublished report on the birds of Bia by James S. Pender. The author worked as a VSO in 1999-2001. The list (without details or dates, except for the cuckoo-shrike below) includes species from various sources and several are misidentifications (e.g. the wattle-eye *Dyaphorophya tonsa*, which does not occur in West Africa). Species new to Bia are Dwarf Bittern *Ixobrychus sturmi*, Green Sandpiper *Tringa ochropus*, African Piculet *Verreauxia africana* and Western Wattled Cuckoo-shrike *Lobotos lobatus*. The last was seen by the author on the Apaaso trail on 13 April 2001. This rare cuckoo-shrike was also mentioned by M. Rucks (as occasionally seen in the canopy), but Taylor & Macdonald (1978) had dropped the record, believing it "likely confused with an oriole" (M. Macdonald in MS). The piculet and cuckoo-shrike are Guineo-Congolian endemics.

CHECKLIST OF THE BIRDS OF BIA NATIONAL PARK & RESOURCE RESERVE

Compiled by R.J. Dowsett & F. Dowsett-Lemaire (2011) (e-mail. Dowsett@aol.com)

The English names used generally follow the main field guides available (Borrow & Demey 2001, 2004. *Birds of Western Africa*. London. Christopher Helm). Abbreviations used. Res = Resident; PM = Palearctic (Eurasian) migrant; AM = Intra-African migrant.

Species	Status	Observations
White-crested Tiger Heron <i>Tigriornis leucolopha</i>	Res.....	
Dwarf Bittern <i>Ixobrychus sturmii</i>	AM (rare).....	
Green-backed Heron <i>Butorides striata</i>	Res (rare).....	
Spot-breasted Ibis <i>Bostrychia rara</i>	Res.....	
Hartlaub's Duck <i>Pteronetta hartlaubii</i>	Res (rare, extinct?).....	
African Cuckoo Hawk <i>Aviceda cuculoides</i>	Res.....	
European Honey Buzzard <i>Pernis apivorus</i>	PM.....	
Bat Hawk <i>Macheiramphus alcinus</i>	Res.....	
Palm-nut Vulture <i>Gypohierax angolensis</i>	Res.....	
Hooded Vulture <i>Necrosyrtes monachus</i>	Res.....	
Congo Serpent Eagle <i>Dryotriorchis spectabilis</i>	Res.....	
African Harrier Hawk (Gymnogene) <i>Polyboroides typus</i>	Res.....	
Black Sparrowhawk <i>Accipiter melanoleucus</i>	Res.....	
Red-thighed Sparrowhawk <i>Accipiter erythropus</i>	Res.....	
African Goshawk <i>Accipiter tachiro</i>	Res.....	
Long-tailed Hawk <i>Urotriorchis macrourus</i>	Res.....	
Red-necked Buzzard <i>Buteo auguralis</i>	AM.....	
Ayres's Hawk Eagle <i>Hieraaetus ayresii</i>	Res.....	
Cassin's Hawk Eagle <i>Spizaetus africanus</i>	Res.....	
Crowned Eagle <i>Stephanoaetus coronatus</i>	Res.....	
Latham's Forest Francolin <i>Francolinus lathamii</i>	Res.....	
Ahanta Francolin <i>Francolinus achantensis</i>	Res.....	
White-breasted Guineafowl <i>Agelastes meleagrides</i>	Res (extinct).....	
Crested Guineafowl <i>Guttera pucherani</i>	Res.....	
Nkulengu Rail <i>Himantornis haematopus</i>	Res.....	
White-spotted Flufftail <i>Sarothrura pulchra</i>	Res.....	
African Jacana <i>Actophilornis africanus</i>	Visitor.....	
Green Sandpiper <i>Tringa ochropus</i>	PM.....	
Afep Pigeon <i>Columba unicincta</i>	Res.....	
Western Bronze-naped Pigeon <i>Columba (delegorguei) iriditorques</i>	Res.....	
Red-eyed Dove <i>Streptopelia semitorquata</i>	Res.....	
Blue-spotted Wood Dove <i>Turtur afer</i>	Res.....	
Tambourine Dove <i>Turtur tympanistris</i>	Res.....	
Blue-headed Wood Dove <i>Turtur brehmeri</i>	Res.....	
African Green Pigeon <i>Treron calvus</i>	Res.....	
Grey Parrot <i>Psittacus erithacus</i>	Res (extinct?).....	
Brown-necked Parrot <i>Poicephalus robustus</i>	Visitor.....	
Red-fronted Parrot <i>Poicephalus gulielmi</i>	Res.....	
Black-collared Lovebird <i>Agapornis swindernianus</i>	Res (rare).....	
Yellow-billed Turaco <i>Tauraco macrorhynchus</i>	Res.....	
Great Blue Turaco <i>Corythaeola cristata</i>	Res (rare).....	
Levaillant's (Crested) Cuckoo <i>Clamator levaillantii</i>	AM.....	
Red-chested Cuckoo <i>Cuculus solitarius</i>	Res.....	
Black Cuckoo <i>Cuculus clamosus</i>	Res.....	
Common (European) Cuckoo <i>Cuculus canorus</i>	PM (rare).....	
Dusky Long-tailed Cuckoo <i>Cercococcyx mechowi</i>	Res (rare).....	
Olive Long-tailed Cuckoo <i>Cercococcyx olivinus</i>	Res.....	

Species	Status	Observations
African Emerald Cuckoo <i>Chrysococcyx cupreus</i>	Res	
Yellow-throated Cuckoo <i>Chrysococcyx flavigularis</i>	Res	
Klaas's Cuckoo <i>Chrysococcyx klaas</i>	Res	
Didric Cuckoo <i>Chrysococcyx caprius</i>	Res	
Yellowbill (Green Coucal) <i>Ceuthmochares aereus</i>	Res	
Black-throated Coucal <i>Centropus leucogaster</i>	Res	
Blue-headed Coucal <i>Centropus monachus</i>	Res	
Senegal Coucal <i>Centropus senegalensis</i>	Res	
Fraser's Eagle Owl <i>Bubo poensis</i>	Res	
Akun Eagle Owl <i>Bubo leucostictus</i>	Res	
Red-chested Owlet <i>Glaucidium tephronotum</i>	Res	
African Wood Owl <i>Strix woodfordii</i>	Res	
Brown Nightjar <i>Caprimulgus binotatus</i>	Res	
Black Spinetail <i>Telacanthura melanopygia</i>	Res	
Sabine's Spinetail <i>Rhaphidura sabini</i>	Res	
Cassin's Spinetail <i>Neafrapus cassini</i>	Res	
African Palm Swift <i>Cypsiurus parvus</i>	Res	
Common (European) Swift <i>Apus apus</i>	PM	
African White-rumped Swift <i>Apus caffer</i>	Res?	
Bates's Swift <i>Apus batesi</i>	Res (rare)	
Narina's Trogon <i>Apaloderma narina</i>	Res	
Malachite Kingfisher <i>Alcedo cristata</i>	Visitor	
White-bellied Kingfisher <i>Alcedo leucogaster</i>	Res	
African Dwarf Kingfisher <i>Ceyx lecontei</i>	Res	
African Pygmy Kingfisher <i>Ceyx pictus</i>	AM	
Chocolate-backed Kingfisher <i>Halcyon badia</i>	Res	
Blue-breasted Kingfisher <i>Halcyon malimbica</i>	Res	
Woodland Kingfisher <i>Halcyon senegalensis</i>	Res	
Black Bee-eater <i>Merops gularis</i>	Res	
White-throated Bee-eater <i>Merops albicollis</i>	AM	
Broad-billed Roller <i>Eurystomus glaucurus</i>	AM	
Blue-throated Roller <i>Eurystomus gularis</i>	Res	
White-headed Wood Hoopoe <i>Phoeniculus bollei</i>	Res	
Forest Wood Hoopoe <i>Phoeniculus castaneiceps</i>	Res	
White-crested Hornbill <i>Tropicranus albocristatus</i>	Res	
Black Dwarf Hornbill <i>Tockus hartlaubi</i>	Res	
Red-billed Dwarf Hornbill <i>Tockus camurus</i>	Res	
African Pied Hornbill <i>Tockus fasciatus</i>	Res	
Piping Hornbill <i>Bycanistes fistulator</i>	Res (extinct)	
Brown-cheeked Hornbill <i>Bycanistes cylindricus</i>	Res (extinct)	
Black-and-white-casqued Hornbill <i>Bycanistes subcylindricus</i>	Res (extinct)	
Black-casqued Hornbill <i>Ceratogymna atrata</i>	Res (extinct)	
Yellow-casqued Hornbill <i>Ceratogymna elata</i>	Res (extinct)	
Naked-faced Barbet <i>Gymnobucco calvus</i>	Res	
Bristle-nosed Barbet <i>Gymnobucco peli</i>	Res	
Speckled Tinkerbird <i>Pogoniulus scolopaceus</i>	Res	
Yellow-throated Tinkerbird <i>Pogoniulus subsulphureus</i>	Res	
Red-rumped Tinkerbird <i>Pogoniulus atroflavus</i>	Res	
Hairy-breasted Barbet <i>Tricholaema hirsuta</i>	Res	
Vieillot's Barbet <i>Lybius vieillotii</i>	Res (rare)	
Yellow-billed Barbet <i>Trachylaemus purpuratus</i>	Res	
Spotted Honeyguide <i>Indicator maculatus</i>	Res	
Lesser (Thick-billed) Honeyguide <i>Indicator minor conirostris</i>	Res	
Willcocks's Honeyguide <i>Indicator willcocksii</i>	Res	

Species	Status	Observations
African Piculet <i>Verreauxia africana</i>	Res	
Little Green Woodpecker <i>Campethera maculosa</i>	Res	
Buff-spotted Woodpecker <i>Campethera nivosa</i>	Res	
Gabon Woodpecker <i>Dendropicos gabonensis</i>	Res	
Fire-bellied Woodpecker <i>Thripias pyrrhogaster</i>	Res	
Rufous-sided Broadbill <i>Smithornis rufolateralis</i>	Res	
Square-tailed Saw-wing <i>Psalidoprocne nitens</i>	Res	
Lesser Striped Swallow <i>Hirundo abyssinica</i>	Res	
Barn (European) Swallow <i>Hirundo rustica</i>	PM	
Common House Martin <i>Delichon urbicum</i>	PM	
Purple-throated Cuckoo-shrike <i>Campephaga quisicalina</i>	Res	
Western Wattled Cuckoo-shrike <i>Lobotos lobatus</i>	Res (rare)	
Blue Cuckoo-shrike <i>Coracina azurea</i>	Res	
Little Greenbul <i>Andropadus virens</i>	Res	
Little Grey Greenbul <i>Andropadus gracilis</i>	Res	
Ansorge's Greenbul <i>Andropadus ansorgei</i>	Res (rare)	
Cameroon Sombre Greenbul <i>Andropadus curvirostris</i>	Res	
Slender-billed Greenbul <i>Andropadus gracilirostris</i>	Res	
Yellow-whiskered Greenbul <i>Andropadus latirostris</i>	Res	
Golden Greenbul <i>Calyptocichla serina</i>	Res	
Honeyguide Greenbul <i>Baeopogon indicator</i>	Res	
Spotted Greenbul <i>Ixonotus guttatus</i>	Res (rare)	
Swamp Palm Bulbul <i>Thescelocichla leucopleura</i>	Res	
Baumann's Greenbul <i>Phyllastrephus baumanni</i>	Res (rare)	
Icterine Greenbul <i>Phyllastrephus icterinus</i>	Res	
White-throated Greenbul <i>Phyllastrephus albigularis</i>	Res	
Red-tailed Bristlebill <i>Bleda syndactylus</i>	Res	
Green-tailed Bristlebill <i>Bleda eximius</i>	Res	
Grey-headed Bristlebill <i>Bleda canicapillus</i>	Res	
Western Bearded Greenbul <i>Criniger barbatus</i>	Res	
Red-tailed Greenbul <i>Criniger calurus</i>	Res	
Common Bulbul <i>Pycnonotus barbatus</i>	Res	
Western Nicator <i>Nicator chloris</i>	Res	
White-tailed Ant Thrush <i>Neocossyphus poensis</i>	Res	
Rufous (Finsch's) Flycatcher Thrush <i>Stizorhina fraseri finschi</i>	Res	
Fire-crested (White-tailed) Alethe <i>Alethe diademata</i>	Res	
Forest Robin <i>Stiphornis erythrothorax</i>	Res	
Blue-shouldered Robin Chat <i>Cossypha cyanocampter</i>	Res (rare)	
Forest Scrub Robin <i>Erythropgyia leucosticta</i>	Res (rare)	
Rufous-crowned Eremomela <i>Eremomela badiceps</i>	Res	
Green Crombec <i>Sylvietta virens</i>	Res	
Lemon-bellied Crombec <i>Sylvietta denti</i>	Res	
Grey Longbill <i>Macrosphenus concolor</i>	Res	
Kemp's Longbill <i>Macrosphenus kempii</i>	Res	
Wood Warbler <i>Phylloscopus sibilatrix</i>	PM	
Violet-backed Hylia <i>Hylia violacea</i>	Res	
Green Hylia <i>Hylia prasina</i>	Res	
Black-capped Apalis <i>Apalis nigriceps</i>	Res (rare)	
Sharpe's Apalis <i>Apalis sharpii</i>	Res	
Grey-backed Camaroptera <i>Camaroptera brachyura</i>	Res	
Yellow-browed Camaroptera <i>Camaroptera superciliaris</i>	Res	
Olive-green Camaroptera <i>Camaroptera chloronota</i>	Res	
Fraser's Forest Flycatcher <i>Fraseria ocreata</i>	Res	
Olivaceous Flycatcher <i>Muscicapa olivascens</i>	Res	

Species	Status	Observations
Cassin's Flycatcher <i>Muscicapa cassini</i>	Res (rare)	
Little Grey Flycatcher <i>Muscicapa epulata</i>	Res	
Dusky-blue Flycatcher <i>Muscicapa comitata</i>	Res	
Tessmann's Flycatcher <i>Muscicapa tessmanni</i>	Res	
Ussher's Flycatcher <i>Muscicapa ussheri</i>	Res	
Grey-throated Flycatcher <i>Myioparus griseigularis</i>	Res	
Shrike-Flycatcher <i>Megabyas flammulatus</i>	Res (rare)	
Black-and-white Flycatcher <i>Bias musicus</i>	Res (rare)	
Bioko Batis <i>Batis poensis</i>	Res	
Red-cheeked Wattle-eye <i>Dyaphorophya blissetti</i>	Res (rare)	
Chestnut Wattle-eye <i>Dyaphorophya castanea</i>	Res	
Chestnut-capped Flycatcher <i>Erythrocerus mccallii</i>	Res	
Dusky Crested Flycatcher <i>Elminia nigromitrata</i>	Res (rare, no recent records)	
Blue-headed Crested Flycatcher <i>Trochocercus nitens</i>	Res	
African Paradise Flycatcher <i>Terpsiphone viridis</i>	AM (rare)	
Red-bellied Paradise Flycatcher <i>Terpsiphone rufiventer</i>	Res	
Brown Illadopsis <i>Illadopsis fulvescens</i>	Res	
Pale-breasted Illadopsis <i>Illadopsis rufipennis</i>	Res	
Blackcap Illadopsis <i>Illadopsis cleaveri</i>	Res	
Rufous-winged Illadopsis <i>Illadopsis rufescens</i>	Res (rare)	
Dusky Tit <i>Parus funereus</i>	Res	
Forest Penduline Tit <i>Anthoscopus flavifrons</i>	Res	
Tit-hylia <i>Pholidornis rushiae</i>	Res	
Fraser's Sunbird <i>Deleornis fraseri</i>	Res	
Green (Yellow-chinned) Sunbird <i>Anthreptes rectirostris</i>	Res	
Collared Sunbird <i>Anthreptes collaris</i>	Res	
Little Green Sunbird <i>Nectarinia seimundi</i>	Res	
Bates's Sunbird <i>Nectarinia batesi</i>	Res	
Olive Sunbird <i>Nectarinia olivacea</i>	Res	
Blue-throated Brown Sunbird <i>Nectarinia cyanolaema</i>	Res	
Buff-throated Sunbird <i>Nectarinia adelberti</i>	Res	
Olive-bellied Sunbird <i>Nectarinia chloropygia</i>	Res	
Tiny Sunbird <i>Nectarinia minulla</i>	Res	
Johanna's Sunbird <i>Nectarinia johannae</i>	Res	
Superb Sunbird <i>Nectarinia superba</i>	Res (rare)	
Western Black-headed Oriole <i>Oriolus brachyrhynchus</i>	Res	
Black-winged Oriole <i>Oriolus nigripennis</i>	Res	
Sabine's Puffback <i>Dryoscopus sabini</i>	Res	
Red-billed Helmet Shrike <i>Prionops caniceps</i>	Res	
Shining Drongo <i>Dicrurus atripennis</i>	Res (rare)	
Velvet-mantled Drongo <i>Dicrurus (adsimilis) modestus</i>	Res	
Narrow-tailed Starling <i>Poeoptera lugubris</i>	Res	
Forest Chestnut-winged Starling <i>Onychognathus fulgidus</i>	Res	
Copper-tailed Glossy Starling <i>Lamprotornis cupreocauda</i>	Res	
Splendid Glossy Starling <i>Lamprotornis splendidus</i>	Res	
Yellow-mantled Weaver <i>Ploceus tricolor</i>	Res	
Maxwell's Black Weaver <i>Ploceus albinucha</i>	Res	
Preuss's Weaver <i>Ploceus preussi</i>	Res	
Blue-billed Malimbe <i>Malimbus nitens</i>	Res	
Crested Malimbe <i>Malimbus malimbicus</i>	Res	
Red-vented Malimbe <i>Malimbus scutatus</i>	Res	
Red-headed Malimbe <i>Malimbus rubricollis</i>	Res	
Grey-crowned Negrofinch <i>Nigrita canicapillus</i>	Res	
Chestnut-breasted Negrofinch <i>Nigrita bicolor</i>	Res	

Species	Status	Observations
Pale-fronted Negrofinch <i>Nigritya luteifrons</i>	Res (rare)	
White-breasted Negrofinch <i>Nigritya fusconotus</i>	Res	
Black-bellied Seed-cracker <i>Pyrenestes ostrinus</i>	Res	
Western Bluebill <i>Spermophaga haematina</i>	Res	
Green Twinspot <i>Mandingoa nitidula</i>	Res	
Black-and-white Mannikin <i>Spermestes bicolor</i>	Res	

Marginal species (farmbush, park's boundaries, and Kunkumso rest house): Yellow-billed Kite *Milvus migrans*, Long-crested Eagle *Lophaetus occipitalis* (vagrant), Plain Nightjar *Caprimulgus inornatus*, Long-tailed Nightjar *Caprimulgus climacurus*, Little Bee-eater *Merops pusillus*, Swallow-tailed Bee-eater *Merops hirundineus* (vagrant), Rufous-chested Swallow *Hirundo semirufa* (rare), African Pied Wagtail *Motacilla aguimp*, Plain-backed Pipit *Anthus leucophrys*, Simple Leaflove *Chlorocichla simplex*, Common Nightingale *Luscinia megarhynchos*, Whinchat *Saxicola rubetra*, Whistling Cisticola *Cisticola lateralis*, Red-faced Cisticola *Cisticola erythrops*, Tawny-flanked Prinia *Prinia subflava*, Lead-coloured Flycatcher *Myioparus plumbeus*, Splendid Sunbird *Nectarinia coccinigaster*, Yellow White-eye *Zosterops senegalensis*, Pied Crow *Corvus albus*, N. Grey-headed Sparrow *Passer griseus*, Vieillot's Black Weaver *Ploceus nigerrimus*, Village Weaver *Ploceus cucullatus*, Orange-cheeked Waxbill *Estrilda melpoda*, Bronze Mannikin *Spermestes cucullata*.